

**Workload, Work Satisfactions and Psychological
Well-being
Among Nurses in Turkish Hospitals.**

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Workload, Work Satisfactions and Psychological Well-being Among Nurses in Turkish Hospitals*

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Abstract:

This exploratory study examined the relationship between self-reports of workload and indicators of work satisfaction and engagement, perceptions of hospital functioning and quality of nursing care, and psychological well-being of nursing staff. Data were collected from 224 staff nurses using anonymously completed questionnaires, a 37% response rate. . Four indicators of workload were considered: length of work shift, frequency of working longer than 12 hours, frequency of working two shifts back-to-back and nurse-to-patient ratio. Hierarchical regression analyses, controlling for both personal demographic and work situation characteristics, indicated that workload accounted for significant increments in explained variance on most outcome measures. Frequency of working more than 12 hours was particularly important in this regard. Explanations for the association of workload with various outcomes are offered along with potentially practical implications.

Keywords: Workload, work satisfactions, psychological well-being, nurses

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People rate health care as one of their important priorities in most countries and it will become more important as populations age. In response to this need, national and local governments devote significant amounts of their budgets to funding the health care system. Increases in funding for health care have also generally risen faster than inflation rates in several countries highlighting both the importance and costs of health care.

Nurses occupy a central role in the delivery of health care in all countries. There is considerable evidence, however, that nurses in several countries are dissatisfied with their jobs, report high levels of burnout, and would like to leave nursing (Aiken, Clarke, Sloane, & Sochalski, 2001). In addition, fewer young women and men are interested in pursuing careers in nursing. Some countries are now reporting a shortage of nurses, compounded by the fact that richer nations are luring nurses away from poorer ones. The health care system has also undergone significant change over the past decade. These stem from the greater use of new technologies, off-shoring some services to developing countries, advances in medical knowledge, an aging population, more informed and critical users of the health care system, and efforts by governments to further control health care expenditures.

It is not surprising then that considerable research has been undertaken to understand the work experiences of nurses, particularly as they relate to nurse satisfaction and well-being and patient care (Aiken, Clarke, Sloane, Sochalski & Silber, 2002). It has concentrated on issues of workload, lack of resources, overtime work, and increases in abuse experienced in the work place by nursing staff as these affect burnout, depression, psychosomatic symptoms, absenteeism and intent to leave the profession. The bulk of this nursing research has used a stressor-strain framework and has contributed a great deal to our understanding of the experiences of nurses in their workplaces.

Recent research has increasingly considered workload as an important work demand found to be associated with adverse psychological and physical health of employees and lower levels of job performance (Carayon & Alvarado, 2007; Carayon & Gurses, 2005). Spector (1987) reported positive correlations of excessive workload and anxiety, frustration and health symptoms. Workload has been found to be associated with negative emotional reactions in different samples of workers (McDonald & Korabik, 1991; Himle, Jayarantne & Thyness, 1991; Lee and Ashforth, 1996).

Workload among nursing staff has also been examined (Greenglass, Burke, & Moore, 2003). Workload among nurses has increased due to staff reductions, more use of part-time nursing staff, increasing nurse-to-patient ratios, and sicker patients (van Dam, 1990). Zeytinoglu, Denton, Davies, Baumann, Blythe and Boos (2007), in a study of Canadian nurses, found that nurse perceptions of a deteriorated external work environment and a heavy workload were associated with low job satisfaction and increased turnover intentions. Workload among nurses has been associated with levels of workplace stress (Moore, Kuhrik, Kuhrik & Katz, 1996), burnout (Armstrong-Stassen, Cameron & Horsburgh, 1996), negative mental health outcomes (Tyler & Cushway, 1995), stress (Kaufman & Beehr, 1986; Gray-Toft & Anderson, 1983; Moore et al, (1996), and less job satisfaction (Schaefer & Moos, 1999). Greenglass, Burke and Moore (2003) found that quantitative workload predicted depression and distress (burnout and anger) in a sample of Canadian nurses whose hospitals had been restructured. Nurses workload increased because of fewer resources and increased demands for hospital services. Greenglass, Burke and Fiksenbaum (2001) reported that quantitative workload also was associated with higher levels of burnout which in turn increased psychological symptoms in the same Canadian nursing sample.

Burke (2003) found that three work shift characteristics (length of shift, working more than 8 hours, working double shifts) were significantly related to frequency of nursing errors and injuries in the same Canadian sample of nurses. Exhaustion and psychosomatic symptoms were positively and significantly associated with both shift and working 8 hours or more. Nurses working shifts of 8 hours or more had less time for patients. None of the measures of workload however were related to nurses perceptions of quality of patient care in this study.

There is also evidence that higher patient-to-staff ratios are associated with lower quality patient care, increased workload, and higher levels of job dissatisfaction (Aiken, Clarke, Sloane, Sochalski & Silber, 2002). In addition, a nursing skill mix that reduces the proportion of highly skilled RNs was associated with lower levels of patient care (Aiken, Smith & Lake, 1994).

The present exploratory study considers the relationships of measures of nurses' workload and a variety of work satisfaction, indicators of psychological well-being, and perceptions of quality of nursing care among nurses working in Turkish hospitals. No other research on work experiences of nurses in Turkey, to our knowledge, has considered these issues. The general hypothesis underlying the research was that higher levels of workload would be associated with more negative work outcomes, lower levels of psychological health, and perceptions of lower levels of hospital functioning and diminished nursing satisfaction.

Method

Procedure

This study was carried out in research hospitals in Ankara Turkey, research sites being randomly selected from the 15 research hospitals in that city. The Health Ministry sent a cover letter to the Chief Physicians of these hospitals requesting their cooperation. Six hundred questionnaires were administered

to staff nurses in the hospitals. Measures originally in English were translated into Turkish using the back translation method. Data were collected in March 2009. Two hundred and twenty-four nurses anonymously completed the surveys, a 37% response rate.

Respondents

Table 1 presents the personal demographic and work situation characteristics of the sample (n=224). There was considerable diversity on each item. The sample ages ranged from under 25 to over 46, with 128 (60%) being between 26 and 35. Most were married (77%), had children (70%), worked full-time (79%), wanted to work full-time (99%), were female (88%), worked between 41-45 hours per week (43%), had a high school or vocational school education (58%), did not have supervisory responsibilities (68%), had not changed units in the past year (74%), had five years or less of nursing tenure (59%), five years or less of hospital tenure (57%), and worked in a variety of nursing units.

Measures

Personal and work situation characteristics

These were measured by single items (e.g., age, sex, level of education, unit tenure, hospital tenure).

Workload

Four items measuring nurse workload were included (Burke, 2003)

1. "How many hours per shift do you usually work?" (Under 5 hours =1, more than 12 hours =4).
2. "During the past month, approximately how many times did you work more than 8 hours?" (Not at all = 1, Quite a lot = 3).
3. "During the past month, how often did you work two shifts back to back?" (Not at all= 1; Quite a lot = 3).
4. "What is the patient-to-nurse ratio in your nursing unit?" (1 to 1 =1; More than 10 to 1 = 7)

Table 1
Demographic Characteristics of Sample

<u>Age</u>	N	%	<u>Sex</u>	N	%
25 or less	18	8.4	Female	180	87.8
26-30	76	35.3	Male	25	12.2
31-35	52	24.4			
36-40	44	21.5			
41-45	17	8.3	<u>Marital Status</u>		
46 or more	8	3.9	Married	168	77.4
			Single	49	22.6
<u>Parental Status</u>			<u>Number of Children</u>		
Children	151	70.3	1	70	46.4
Childless	64	29.7	2	76	50.3
			3	5	3.3
<u>Education</u>			<u>Work Status</u>		
High school	75	34.6	Full-time	160	79.4
Vocational school	50	23.0	Part-time	54	20.6
Bachelor's degree	70	32.2			
Master's degree	2	0.9	<u>Supervisory duties</u>		
Faculty	20	9.2	Yes	69	31.8
			No	148	68.2
<u>Hours worked</u>			<u>Preferred work status</u>		
40 or less	39	19.8	Full-time	197	99.5
41-45	84	42.6	Part-time	1	0.5
46-50	38	18.3			
51-55	9	4.6	<u>Hospital Tenure</u>		
56 or more	27	13.7	5 years of less	118	57.6
<u>Changed Units Past Year</u>			6-10	49	23.9
Yes	53	26.0	11-15	14	6.8
No	151	74.0	16-20	15	7.3
			21 or more	9	4.4
<u>Nursing Tenure</u>					
5 years or less	119	59.1			
6-10 years	41	20.4			
11-15 years	14	7.0			
16-20 years	18	9.0			
21 years or more	9	4.5			

Work Outcomes

Nine work outcomes were included.

Job satisfaction was measured by a five-item scale ($\alpha=.79$) developed by Quinn and Shepard (1974). One item was, "All in all, how satisfied would you say you are with your job?" Respondents indicated their respon-

ses on a four-point Likert scale (1-Very satisfied, 4=Not at all satisfied).

Absenteeism

Nurses indicated first how many days they had been absent from work during the past month, and then how many of these days of absenteeism were due to sickness

Intent to quit ($\alpha=.76$) was measured by two items used previously by Burke (1991). An item was, "Are you currently looking for a different job in a different organization?"

Work engagement

Three dimensions of work engagement were assessed using scales developed by Schaufeli et al. (2002) and Schaufeli and Bakker (2004). Respondents indicated their agreement with each item on a five-point Likert scale (1= Strongly disagree, 3=Neither agree nor disagree, 5=Strongly agree).

Vigor was measured by six items ($\alpha=.82$) "At my work, I feel bursting with energy."

Dedication was measured by five items ($\alpha=.79$) "I am proud of the work that I do."

Absorption was assessed by six items ($\alpha=.85$). I am immersed in my work."

Burnout

Three dimensions of burnout were measured by the Maslach Burnout Inventory (Maslach, Jackson & Leiter, 1996). Respondents indicated how often they experienced each item on a seven-point scale (0= never, 3= a few times a month, 6= every day).

Exhaustion was measured by a five-item scale ($\alpha=.86$). One item was "I feel burned out from my work."

Cynicism was assessed by a five-item scale ($\alpha=.58$). A sample item was "I have become more cynical about whether my work contributes anything."

Efficacy was measured by six items ($\alpha=.77$). One item was "I have accomplished many worthwhile things in this job."

Psychological Well-being

Six aspects of psychological well-being were included.

Positive Affect was measured by a ten-item scale ($\alpha=.91$) developed by Watson, Clark and Tellegen (1988). Respondents indicated how often they experienced these items during the past week (e.g., excited, proud, excited) on a five-point Likert scale (1=not at

all, 5=extreme).

Negative affect was also measured by a ten-item scale ($\alpha=.86$) developed by Watson, Clark and Tellegen (1988). Respondents indicated how often they experienced these (e.g., irritable, nervous, distressed) on the same frequency scale.

Psychosomatic symptoms was measured by nineteen items ($\alpha=.91$) developed by Quinn and Shepard (1974). Respondents indicated how often they had experienced each physical condition (e.g., headaches, having trouble getting to sleep) during the past year. Responses were made on a seven-point Likert scale (1=never, 4=often).

Medication use was measured by a five-item scale ($\alpha=.75$) developed by Quinn and Shepard (1974). Respondents indicated how often they took listed medications (e.g., pain medication, sleeping pills) on a five point scale (1=never, 5=a lot). The nature of this scale makes it difficult to achieve a higher level of reliability however; it is unlikely that respondents would be taking all medications listed.

Physical fitness

Self-reported physic fitness was measured by one item. "How would you rate your level of physical fitness?" Responses ranged from (1) "I am not very physically fit" to (4) "I am exceptionally physically fit.."

Life satisfaction was assessed by a five-point scale ($\alpha=.90$) developed by Quinn and Shepard (1974). Respondents indicated their agreement with each item (e.g., In most ways my life is close to ideal) on a seven-point Likert agreement scale (1=Strongly agree, 4=neither agree not disagree, 7=Strongly disagree).

Perceptions of Hospital Functioning and Health Care

Three measures were included here assessing perceptions of hospital functioning in terms of health and safety climate, hospital errors and accidents, and one assessing perceptions of patient care quality.

Health and Safety Climate

Nurses indicated their agreement with eight items ($\alpha=.64$) developed by the authors based on an extensive review of the accident and safety climate literature. . An item was, "I feel free to report safety problems where I work." Again a five point Likert scale anchored by Strongly agree (5) and Strongly disagree (1) was used.

Workplace Errors and Accidents

Nurses indicated how frequently they observed six hospital incidents ($\alpha=.64$) on a four-point scale (1=never, 4=frequently). Incidents included, "Patient received wrong medication or dose," "patient falls with injuries"). This scale was created by the researchers,

Patient care

Nurses indicated on a single item their views on the quality of patient care provided ("In

general, how would you describe the quality of nursing care delivered to patients on your unit?" (1=excellent, 4=poor)). This item was created by the researchers. Single items have been found to be highly reliable (Wanous & Hudy, 2001)

Results

Descriptive Information

Nurse responses to the various workload measures are shown in Table 2. The following comments are offered in summary. First, 90% of nurses worked shifts of 8 hours or more, with 46% working shifts longer than 12 hours. Second, 36% of nurses worked more than 8 hours "quite a lot". Third, 21% of nurses worked two shifts back-to-back "quite a lot". Fourth, 72% of nurses had a patient ratio of 5 to 1. Turkish nurses had a higher percentage working double shifts a lot (21.3% versus 9.7%) and a higher

Table 2

Workload measures-Descriptive information

<u>Length of work shift</u>	<u>N</u>	<u>%</u>
Under 5 hours	7	3.8
7.5 hours	12	6.3
8-12 hours	83	43.9
More than 12 hours	87	46.0
	189	
<u>Work more than 8 hours</u>		
Not a lot	54	26.8
A few times	75	37.1
Quite a lot	73	36.1
	202	
<u>Work double shifts</u>		
Not at all	61	30.2
A few times	98	48.5
Quite a lot	43	21.3
	202	
<u>Patient-to-nurse ratio</u>		
1-1	5	2.8
2-1	5	2.8
3-1	16	8.8
4-1	25	13.9
5-1	129	71.7
	180	

percentage working more than 12 hours shifts (46.0 versus 10.4%) than was found in the Canadian sample (Burke 2003).

Intercorrelations among measures of workload

Four of the six inter-correlations among the

four workload indicators were positive and statistically significant: shift length and working more than 8 hours ($r=.46, p<.001$), shift length and working double shifts ($r=.24, p<.01$); shift length and patient-nurse ratio ($r=.23, p<.01$); and working more than 8 hours and working double shifts ($r=.64,$

Table 3
Workload and Work Outcomes

<u>Work Outcomes</u>	R	R ²	ΔR ²	P
<u>Job Satisfaction</u> (N=123)				
Personal demographics	.24	.06	.06	NS
Work situation	.33	.11	.05	NS
Workload	.42	.17	.06	NS
<u>Intent to quit</u> (N=123)				
Personal demographics	.39	.15	.15	.001
Marital stratus (-.26)				
Work Situation	.46	.21	.06	.01
Work status (.28)				
Workload	.48	.23	.02	NS
<u>Days Absent</u> (N=122)				
Personal demographics	.11	.01	.01	NS
Work situation	.16	.02	.01	NS
Workload	.25	.06	.04	NS
<u>Engagement</u>				
<u>Vigor</u> (N=123)				
Personal demographics	.31	.10	.10	.01
Supervisory duties (.23)				
Work situation	.42	.17	.07	.05
Workload	.50	.25	.08	.01
More than 8 hours (.34)				
<u>Dedication</u> (N=122)				
Personal demographics	.09	.01	.01	NS
Work situation	.37	.14	.13	.001
Work status (.30)				
Changed units (.19)				
Workload	.41	.17	.03	NS
<u>Absorption</u> (N=122)				
Personal demographics	.09	.01	.01	NS
Work situation	.34	.12	.11	.01
Supervisory duties (.22)				
Workload	.39	.15	.03	NS

Table 3 (Continues)
Workload and Work Outcomes

<u>Burnout</u>	R	R ²	ΔR ²	P
<u>Exhaustion (N=123)</u>				
Personal demographics	.26	.07	.07	.05
Work situation	.31	.10	.03	NS
Workload	.47	.22	.12	.001
More than 8 hours (.40).				
<u>Cynicism (N=123)</u>				
Personal demographics	.09	.01	.01	NS
Work situation	.27	.07	.06	.05
Workload	.34	.12	.05	NS
<u>Efficacy (N=123)</u>				
Personal demographics	.21	.04	.04	NS
Work situation	.36	.13	.09	.01
Changed units (-.22)				
Supervisory duties (.29)				
Workload	.41	.17	.04	NS

$p < .001$). Frequency of working more than 8 hours and frequency of working double shifts were not correlated with patient-nurse ratios ($r = .05$ and $-.06$, respectively). Sample sizes for all correlations ranged from 166 to 195.

Hierarchical Regression analysis

Hierarchical regression analyses were undertaken in which various work outcomes, indicators of psychological well-being and perceptions of hospital functioning were regressed on three blocks of predictors entered in a specified order. The first block of predictors ($n = 4$) consisted of personal demographics (e.g., age, marital status, level of education); the second block ($n = 4$) consisted of work situation characteristics (e.g., job has supervisory duties, hospital tenure, work status, full-time versus part-time); the third block of predictors ($n = 3$) consisted of the indicators of workload ($n = 4$). When a block of predictors accounted for a significant amount or increment in explained variance

($p < .05$), individual variables within these blocks having significant and independent relationships with the criterion variable ($p < .05$) were identified. These variables are indicated in the tables that follow along with their respective α s.

Workload and Work Outcomes

Table 3 presents the results of hierarchical regression analyses in which nine work outcomes were regressed separately on the three blocks of predictors: personal demographics, work situation characteristics, and workload. The following comments are offered in summary.

Workload measures accounted for a significant increment in explained variance on only two of the nine work outcomes: vigor and exhaustion. Nurses working shifts longer than 8 hours indicated lower levels of vigor ($B = -.34$) and nurses working shifts longer than 8 hours indicated higher levels of exhaustion ($B = .40$)

Workload and Psychological Well-Being

Table 4 shows the results of hierarchical regression analyses involving six indicators of psychological well-being: positive and negative affect, psychosomatic symptoms, physical fitness, medication use and life satisfaction. The following comments are offered in summary. Workload accounted for a significant increment in explained variance

on three of these six indicators of psychological health: psychosomatic symptoms, physical fitness and life satisfaction. Nurses working more shifts longer than 8 hours reported more psychosomatic symptoms ($B=.28$), poorer physical fitness ($B=-.26$) and less life satisfaction ($B=-.36$); nurses working on longer shifts indicated poorer physical fitness. ($B=.30$.)

Table 4
Workload and Psychological Well-Being

Psychological Well-Being	R	R ²	ΔR^2	<i>p</i>
Positive Affect (N=120)				
Personal demographics	.14	.02	.02	NS
Work situation	.26	.07	.05	.05
Workload	.29	.08	.01	NS
Negative Affect (N=121)				
Personal demographics	.14	.02	.02	NS
Work situation	.24	.06	.04	.05
Workload	.30	.09	.03	NS
Psychosomatic Symptoms (N= 123)				
Personal demographics	.32	.10	.10	.01
Gender (.19)				
Work situation	.35	.12	.02	NS
Workload	.46	.21	.09	.001
Medication Use (N=122)				
Personal demographics	.12	.02	.02	NS
Work situation	.21	.04	.02	NS
Workload	.29	.08	.04	NS
Physical fitness (N=121)				
Personal demographics	.20	.04	.04	NS
Work Situation	.26	.07	.03	NS
Workload	.40	.16	.09	.01
Length of shift (.30)				
More than 8 hours (.26)				
Life Satisfaction (N= 122)				
Personal demographics	.14	.02	.02	NS
Work situation	.19	.04	.02	NS
Workload	.42	.17	.13	.001
More than 8 hours (-.36)				

Table 5
Workload and Hospital Functioning

Hospital Functioning				
Health and Safety				
Climate (N=123)	R	R ²	ΔR ²	P
Personal demographics	.21	.05	.05	NS
Supervisory duties (.19)				
Work situation	.32	.10	.05	NS
Workload	.44	.19	.09	.01
More than 8 hours (-.24)				
Longer shifts (-.21)				
Hospital Errors and Accidents (N= 121)				
Personal demographics	.16	.01	.02	NS
Work situation	.22	.05	.03	NS
Workload	.26	.07	.02	NS
Quality of Patient Care (N=123)				
Personal demographics	.26	.07	.07	.05
Work situation	.28	.08	.01	NS
Workload	.30	.09	.01	NS

Workload and Perceptions of Hospital Functioning and Patient Care

Table 5 presents the results of hierarchical regression analyses in which three indicators of perceived hospital functioning and nurse satisfaction were regressed on the three blocks of predictors. Workload accounted for a significant increment in explained variance on of these outcomes. Nurses indicating working more shifts longer than 8 hours and longer nursing shifts reported a more negative health and safety climate (Bs=-.24 and -.21, respectively)

Discussion

This study provided preliminary but mixed support for the general hypothesis underlying the research. When workload measures were found to have significant effects, the effects were always negative. That is higher workload was related to less work engagement (i.e., lower vigor), more exhaustion, more psycho-

somatic symptoms, poorer physical fitness, more psychosomatic symptoms and a poorer health and safety climate (see Tables 3, 4 and 5). These findings suggest that hospital administrators and nursing managers need to consider the effects of nursing workload on nurse retention and the quality of nursing care.

The earlier Burke (2003) study also found mixed and modest relationships between these four workload indicators and measures of work satisfaction, psychological well-being, and perceptions of hospital performance. It may be that while the effects of workload are sometimes negative their effects are small. Other job demands such as the quality of the doctor-nurse relationship, the amount of participation in decision making, opportunities for career advancement, and levels of pay have stronger relationships with these outcomes.

Further research on the effects of nursing workload on both nurse satisfaction and well-being and patient care seems warranted since

the nurses in this sample had a higher workload than did nurses working in Canadian hospitals.

Practical implications

Hospital administrators interested in addressing workload issues have at least three possible direct intervention options. One is to consider reducing the length of nursing work shifts and staffing in ways that reduce the need for nurses working back-to-back shifts. A second is to increase the number of nursing staff with a priority given to particular nursing units having more “demanding” patients. A third is to consider the skill mix of nurses; more highly educated nurses have more skill and can work more independently, and providing more less skilled nurses may reduce the need of the more highly skilled nurses to perform more routine nursing functions. A fourth is to create hospital cultures that meet the needs of nurses so that the potential negative effects of workload are diminished (see Bakker, 2008; Kramer & Schmalenberg, 1988).

Limitations of the research

Some limitations of the research should be noted to put the findings into a broader context. The sample of nurses in this study was small ($n=219$). It was not possible to determine the representativeness of those nurses that participated. The Turkish nursing sample was less educated and younger than that typically found in North American and European studies (see Table 1). All data were collected using self-report questionnaires raising the possibility of response set tendencies. The data were collected at one point in time making it difficult to determine causality. Finally, all respondents worked in research hospitals. It is not clear the extent to which our results would generalize to other samples of nurses working in other types of hospitals.

Future research directions

Future research needs to involve a larger and representative sample of nurses drawn

from several different hospitals, and if possible, different countries. It may be that research findings obtained in North America, the UK and Germany do not readily transfer to nursing experiences in developing countries such as Turkey. Our sample of Turkish nurses experienced a heavy workload (see Table 2) but it seemed to have only modest effects on their work outcomes. In addition there are other more narrowly focused measures of workload that have been developed for nurses. Use of these would complement the measures included in the present study. Including other job demands, with the possibility of using workload indicators as moderators and mediators of the job demands-workplace and health outcomes relationships, would also be worthwhile. Complementing the use of workload measures by including positive organizational studies concepts such as confidence and optimism would also add to our understanding of the effects of nursing workload (Davy, 2007). Finally, indicators of coping responses, and practices for recovery after work and on weekends, might illuminate ways in which nurses can engage in behaviors that buffer the adverse effects of their workload.

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