Validity and reliability study of the Turkish psychiatric nurses of job motivation scale

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This methodological study was planned to explore the validity and reliability of the evaluation scale for measuring the job motivation of nurses who work in psychiatric clinics. The sample was composed of 378 nurses who work in all psychiatric units or psychiatric hospitals located in Turkey's four large cities – Ankara, Istanbul, Izmir and Manisa. For testing reliability of 'job motivation scale', the internal consistency tests were executed with split scale analysis, Cronbach's α coefficient and item–total score correlation. For construct validity, factor analysis was used. For the first part of scale, Cronbach's α was determined to be 0.79. For the second part, Cronbach's α was 0.72. Factor analysis was performed in an attempt to establish validity and underlying associations between items in the scale. The first analysis produced nine eigenvalues (>1) and nine factors were extracted. The scree test indicated that a two-factor model would be suitable. The factor structure of the tool for measuring the job motivation of nurses who work in psychiatric clinics was parallel with motivation concepts. Validity and reliability levels of the scale for measuring the job motivation of nurses who work in psychiatric clinics were found to be sufficient in the Turkish population.

Keywords: job motivation, nurse, psychiatric clinic, reliability, scale, validity

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Introduction

Although the psychological health policies have been developed in order to offer more qualified services in our country recently, the number of psychiatric clinics and the nurses employed do not exceed an amount of 1000. Half of the nurses working in psychiatric clinics are distributed to three metropolitan cities: Istanbul, Ankara and Izmir. However, in our country, nurses graduate with different levels, and this leads them to uncertainty within the sector. Deprived of the right to work in a pleasing environment, nurses are made to work in fields determined by others without being offered a chance for self-fulfilment. As in the whole world, the effect of the proper employment of nurses on patient care quality and nurses' health is a rather discussed subject, these years, in our country. Proper employment of nurses is especially significant in our country, because nurses usually work in the fields that they do not prefer and are selected by drawing lots and being appointed. This situation prevents nurses, who do not have enough sanction on their salaries, working conditions, work warranties and responsibilities, from working in their fields with pleasure.

From time to time, this very fact affects the motivation of nurses negatively. Studies focusing on nurses' burnout and job satisfaction reach similar results as of those carried out in other countries (Çam 1991, Laamnen *et al.* 1999, Pugliesi 1999, Taşdemir 1999, Vara 1999, Edwards *et al.* 2000, Uyargil 2000, Karadağ *et al.* 2002). Despite the high number of studies dealing with professional burnout and job satisfaction, concepts related with motivation, job satisfaction and burnout are mostly handled in an integrated manner in many studies.

Despite problems such as negative working conditions and health policies, it is essential for those in charge of healthcare services to have self-determination in handling tasks, in terms of care quality (Kivimaki *et al.* 1995, Antunes & Sant Anna 1996, Stuart 1998, Laamnen *et al.* 1999, Muthny & Mariolakou 2002). In a study carried out in 1994, Elliot and Harackiewicz mentioned the impact of self-determination on motivation required for any task. In his study carried out in 1990, Alpender determined that nurses' participation in management decisions increased their intrinsic motivation. Andersson (2001) and Tzeng (2002) stated that general job satisfaction is positively related with educational background adding that continuous education has a positive impact on job satisfaction, ego concept, professional cases, views and professional targets.

It is seen that autonomy, communication skills, personal care, sparing sufficient time for the patient and providing environmental security have gained significance. Consequently, many studies have been carried out to prove that educational background has a positive impact on both motivation and job satisfaction of nurses. (Freeman & O' Brien-Pallas 1998, Barron & Harackiewicz 1999, Edgar 1999, Shanley 2001, Haque *et al.* 2002, Nolan *et al.* 2002, Sheldon & Bettencourt 2002, Tzeng 2002, Gagne 2003). On the other hand, the routines and working conditions, stress and consequential emotional distress (fury, anger, anxiety and desperation) are decreasing the motivation of nurses as well as affecting their job satisfaction negatively. Moreover, these factors are causing nurses to suffer from high levels of professional burnout (Taylor 1990, Çam 1991, Üstün 1995, Freeman & O' Brien-Pallas 1998, Carson *et al.* 1999, Laamnen *et al.* 1999, Pugliesi 1999, Vara 1999, Edwards *et al.* 2000, Pektekin 2000, Engin & Özgür 2004).

Applying a practically feasible scale developed to measure the job motivation level of nurse will be able to be used to provide nurses, who work in psychiatric clinics because of the improper employment, to work in the fields they would like to. Meanwhile, evaluating the job motivation of nurses who provides patient care is thought to be able to be used as a means of preventing nurse dissatisfaction and burnout. Meanwhile, periodically evaluating the motivation of nurses, maintaining one-to-one patient care, is considered to be able to be used as a means of preventing nurse dissatisfaction and burnout by providing the detection of the factors, which increase and decrease the motivation levels of nurses.

In our country, there is no instrument that measures the job motivation of nurses, especially of those working in psychiatric clinics. When it is considered that working in a psychiatric clinic requires more motivation and attention when compared with other clinics, a specific motivation scale developed for the nurses working in this field would facilitate the recruitment process and therefore affect the quality of patient flow.

Background

Being motivated is a state of power with three basic functions as arousing, persisting and influencing human behaviour in a positive direction. The basic concept of this state, motivation, is the total amount of efforts to arouse a single person or more people directed to a certain goal in a persistent way (Ryan & Deci 2000). The things that arouse people and determine the direction of their behaviours are their opinions, hopes, beliefs – in short, their desires, needs and fears. All these are active motivating forces. The resultant of these forces organizes the psychological efforts of a person in order to achieve a certain goal, providing persistence and dynamism (Robbins 1991a,b).

Even some short debates on motivation demonstrate that this is a very difficult compound phenomenon. People do not only possess different values but also have different forms of motivation. This fact reflects how different the levels of motivation can be (How high is your motivation?) as well as the differences of motivation orientation (What kind of motivation?). The term, 'motivation orientation', explains why certain actions and attitudes are taken for a specific goal. (Ryan & Deci 2000, Uyargil 2000, Wigfield & Eccles 2002).

Within the self-determination theory developed by Ryan & Deci (2000) in 1985, the differences between motivation types are discussed in terms of the differences between goals and causes of the actions. This theory focuses on motivation orientation categorized as intrinsic and extrinsic motivation. Here, there are differences between intrinsic motivation (actions aroused by internal interest and preference) and extrinsic motivation (action executed in order to achieve a privileged result). The researches carried out in the last 30 years show that the experience and performance quality of individuals differs when they are motivated by outside factors (Elliot & Harackiewicz 1994, Guay & Blanchard 2000, Ryan & Deci 2000, Wigfield & Eccles 2002).

Different types of motivation including the properties of extrinsic motivation have been the subject of recent analyses. Classical literature in the field accepts extrinsic motivation as a weak and impoverished form of motivation when compared with intrinsic motivation (Ryan & Deci 2000, Wigfield & Eccles 2002). Albeit the desires and goals which are an integral part of people's behaviours, there are many stimulants that affect and direct them, as well. These generally consist of environmental conditions, personal impressions, social habits and attitudes. Unless the desires and needs of an individual are satisfied, it will lead to an imbalance. The motivations that determine people's needs are

personal. These forces are sometimes softened, weakened or redirected to transform into a force arising from other desires and needs because of the impact of social environment and culture. The desires and demands which are compatible with their habitation may be accepted and embraced (Robbins 1991a,b). Some of the concepts, which are related to intrinsic and extrinsic motivation according to Ryan & Deci's (2000) self-determination theory (Table 1) such as value, significance and perceived talent, cover intrinsic interest, curiosity, activities on learning and are related with the needs of being approved and appreciated, which can influence what the work means for the nurses. Especially, the extrinsic factors, which influence the individuals, are related to the childhood learning, experiences, reinforcements and acting under the external control. The individuals, who work with extrinsic motivations, act with the expectations of being approved, appreciated and rewarded by the others, while they are fulfilling a task.

It is seen that some extrinsic motivation concepts such as authority, team compatibility and approval states in this theory are also included in many other job motivation scales (Mueller & McCloskey 1990, Cimete 1996, Karadağ *et al.* 2002). However, while these concepts referred to as extrinsic motivation define the power and necessities that stimulate the individual, they show the satisfaction level of necessities in job motivation scales. Especially, at times of job dissatisfaction, being aware of motivation levels and types would avoid the continuity of dissatisfaction. In other words, if an individual does not fulfil a task with the motivation effected by intrinsic or extrinsic factors after a while, this situation can lead to dissatisfaction; furthermore, the continuing feeling of dissatisfaction will lead to burnout.

Certain factors that distinguish individuals from others and determine their job satisfaction and productivity have been analysed by many researchers, and some conclusions have been drawn. Although these factors emerge in every culture distinctively, it is significant to identify them (Robbins 1991a,b).

As are in the whole occupations related to human being and human life, nurses need intrinsic motivation, too. Particularly working in a psychiatric clinic means that nurses will have to deal with patients' many-complex complications. Spontaneous interest and care can just occur when the inner motivation level is high enough. There are researches which prove that the nurses who can develop a spontaneous, close, therapeutic relationship can also show the right actions easily on the patient problems. These researches show that nurses are more satisfied, and the quality of patient care is higher when nurses work in the field they want (Alpender 1990, Cimete 1996, Carson *et al.* 1999, Engin & Özgür 2004). A scale which is improved to determine which nurses want to work in which fields is specially required for the nurses working in psychiatric clinic which is a field in where nurses are expected to reflect their individual characteristics to their work.

Aims:
1. To improve a scale measuring the motivation of nurses working in the psychiatric clinics.
2. To test validity of the scale measuring the motivation of nurses working in the psychiatric clinics.
3. To test reliability of the scale measuring the motivation of nurses working in the psychiatric clinics.

Materials and methods

Design
Objective
This research is a methodological study that is carried out in order to develop a scale to be used in evaluating the job motivation of nurses who work in psychiatric clinics.

Questionnaires
Two questionnaires were used for data. The first one consists of the nurses' certain characteristics (marital status, maternal responsibilities, income status, province of employment, job classification) and the nurses' job percep-

Table 1
Motivation types and concepts related with job motivation

Number of expression	Motivation type	Concept
1	Intrinsic	Interest/concern
2	Intrinsic	Changeability
3	Intrinsic	Interest/preference
4	Intrinsic	Social
5	Intrinsic	Autonomy
6	Intrinsic	Significance/value
7	Intrinsic	Perceived talent
8	Intrinsic	Perceived talent
9	Intrinsic	Responsibility
10	Intrinsic	Value
11	Intrinsic	Perceived talent
12	Intrinsic	Autonomy
13	Intrinsic	Effort
14	Intrinsic	Effort
15	Intrinsic	Stress
16	Intrinsic	Significance/value
17	Intrinsic	Significance/value
18	Intrinsic	Significance/value
19	Extrinsic	Significance/value
20	Extrinsic	Approval
21	Extrinsic	Team compatibility
22	Extrinsic	Approval
23	Extrinsic	Approval/perceived talent
24	Extrinsic	Success
25	Extrinsic	Morale/value
26	Extrinsic	Promotion
27	Extrinsic	Control
28	Extrinsic	Control
29	Extrinsic	Control

tion (preference of working in a psychiatric clinic, satisfaction with current unit of employment, consideration of self to be appropriate for psychiatric nursing, thought of leaving the psychiatric clinic, any attempt to leave the psychiatric clinic, thoughts about productivity in implementing psychiatric nursing, thoughts about patients' appreciation of given care, thoughts about coworkers' appreciation of given care, thoughts about supervisors' appreciation of given care). The second one is the job motivation questionnaire.

The preparation and distribution of job motivation questionnaire

The job motivation instrument designed for measuring the job satisfaction of the nurses in question is prepared in accordance with the related literature aiming at reflecting both internal and external motivational factors such as autonomy, success, interest/concern, feedback, perceived talent, creativity, promotion, decision making, responsibilities, team compatibility, approval, outside control, addiction, as well as the motivation level of individuals. The 29 items in the scale were designed by the researches as a 3-point Likert-type scale consisting of two in accordance with the intrinsic and extrinsic categories of Ryan & Deci (2000). They were then analysed by experts, and the data were collected by the first researcher from 10 hospitals in four provinces by distributing and collecting the questionnaires with head nurses at set hours (Elliot & Harackiewicz 1994, Horner 1997, Halvari & Kjormo 1999, Sheldon & Bettencourt 2002). Depending on whether they agree or disagree with the expressions, the nurses gave responses as: (1) not true at all; (2) somewhat true; and (3) very true. The expressions in the instrument include certain concepts related with motivation which are illustrated in Table 1 according to items.

Evaluation of data

The data are coded in SPSS program, and the percentage distribution of introductory information is made. For testing reliability, the internal consistency tests are executed with split scale analysis, Cronbach's α coefficient and item–total score correlation. For construct validity, factor analysis is used.

Sample

The research sample included 378 nurses who agreed to participate in the research and who work in psychiatric wards of nine hospitals located in Turkey's three largest cities: Ankara, Istanbul, Izmir, and at the Manisa Psychiatric Hospital, a large psychiatric referral hospital near Izmir, making a total of 10 hospitals. The number of the nurses, who accepted to participate in the research, comprises 70% of the whole nurses working in 10 hospitals.

Time

The research period is 1 March 2004–30 June 2004.

Ethic

The research has been presented to the ethical review board of Ege University School of Nursing, and the application of the study has been approved with the decision numbered 89 taken on 23 December 2003. In order to enable the application of the study, official permission documents have been taken from hospitals.

Results

Sample characteristics

The distribution of nurses working in psychiatric clinics according to their socio-demographic characteristics shows that the average age of nurses is 34.98 ± 8.92 years, 59.3% are married, and 40.7% are single. It is determined that 57.1% of these nurses are mothers; whereas, 42.9% do not have children, 28.3% have a single child, 26.7% have two, and 2.2% have three or more children. When their income is analysed, 43.1% have a balanced income, while 53.2% have an income less than their expenditure, and 3.7% earn more than they spend; 74.1% of the nurses work in Istanbul; whereas, 6.9% work in Izmir, 8.7% work in Ankara, and 10.3% work in the province of Manisa. Their average working year as a nurse is determined as 14.33 ± 8.80 years with an average of 5.16 ± 5.02 years in their current place of employment. The questionnaires were filled in by the nurses who are permanently employed at the psychiatric clinics within the scope of the study and who agreed to participate. The number of the nurses who responded to the questionnaire was 378 which made up 70% of the total number of nurses employed in the ten hospitals in question.

Scale validity and reliability

The reliability of scale was evaluated using internal consistency tests. As the variant for each part is equal (0.11) in the split scale analysis for the evaluation scale for measuring the job motivation of nurses who work in psychiatric clinics, the correlation results were considered for evaluation. According to this, the α value for the first part (15 items) is 0.79; for the second part (14 items), it is 0.72. The Cronbach's α coefficient calculated within the internal consistency was determined as 0.85. When the item–total score correlation of the evaluation scale for measuring the job motivation of nurses who work in psychiatric clinics is examined, the item correlation coefficients vary between 0.20 and 0.67 with a value of $\alpha = 0.001$ which statistically indicates a suggestive level ($P < 0.001$, Table 2).

Within our research, the analysis for validity of 'the evaluation scale for measuring the job motivation of nurses

Table 2
The instrument evaluating the job satisfaction of nurses working in psychiatry clinics results of item–total score correlation analysis ($n = 378$)

Item–total score correlation

Items	r	P
1 I like working in a psychiatry clinic.	0.51	0.001
2. While working in this clinic, I can sometimes do different and interesting things about my job.	0.41	0.001
3. I prefer working in a psychiatric environment.	0.49	0.001
4. Working in a psychiatric environment provides me respectability in society.	0.48	0.001
5. While working, I can make independent decisions and take initiative.	0.45	0.001
6. Being successful in my job is important for me.	0.25	0.001
7. As a psychiatry nurse, I think I am better than the others.	0.47	0.001
8. I think I am very adept and competent while working.	0.45	0.001
9. I think I can take on all the responsibility of the decisions I make at work.	0.40	0.001
10. I think my doing this job is beneficial for patients.	0.53	0.001
11. I am satisfied with my performance at work.	0.50	0.001
12. I believe that I can make use of all my personal skills in my job.	0.47	0.001
13. I think I am making great effort for my job.	0.45	0.001
14. I definitely possess the energy required for my job.	0.46	0.001
15. I am enthusiastic about doing my job well and I make effort for achieving this.	0.60	0.001
16. I would like to continue working here because I feel that my job contributes to my personal development.	0.67	0.001
17. I think that doing my job is important because it enables me to affect human life positively.	0.52	0.001
18. I think that working for this job enables me to accept the people as they are.	0.48	0.001
19. My job is important as it provides me a place in life.	0.47	0.001
20. While working, I do more than what is expected from me.	0.56	0.001
21. My colleagues' getting on well with each other enables me to do a better job.	0.23	0.001
22. I like receiving feedback while working.	0.27	0.001
23. I usually receive appreciation when I succeed in a task.	0.43	0.001
24. When I do my job well, I feel successful.	0.32	0.001
25. I do not perform the tasks that would go against my conscience.	0.20	0.001
26. I think that doing my job well would give me an opportunity to be promoted.	0.34	0.001
27. I appreciate the type of management my manager follows in managing the staff of the clinic I work in.	0.38	0.001
28. I appreciate the type of decision making my manager follows in the clinic I work.	0.40	0.001
29. I perform the orders assigned by my supervisors accurately.	0.35	0.001

who work in psychiatric clinics' was realized using multiple expert judgment and factor analysis in order to test the validity of structure.

Content validity

For 'the evaluation scale for measuring the job motivation of nurses who work in psychiatric clinics' which was originally developed by researchers, the validity of content based on multiple expert judgments was approved. The questionnaire was presented to the judgment of a professor from Internal Medicine Nursing Department, two assistant professors from of Psychiatric Nursing Department and an assistant professor from Public Health Nursing Department of Ege University Nursing School. The scale instrument was reorganized according to the suggestions of these experts. Some expressions were modified after receiving the judgment of experts. The final version of the questionnaire consists of 29 questions. The pilot experiment was conducted by the participation of 15 nurses.

Validity of structure: factor analysis

As a result of the Barlett test, a value of 3225.196 and $P < 0.01$ level with a Kaiser-Meyer–Olkin (KMO) sampling value of 0.78 were determined. The KMO sample adequacy criterion is an index which compares and contrasts the sizes of observed correlation coefficients and partial correlation coefficients. If the sum of the squares of partial correlation coefficients of matched variables is smaller than the sum of

the squares of correlation coefficients, the KMO criterion almost equals one. As the correlations of the matched variables can not be explained under the influence of other variables, small KMO values imply that conducting a factor analysis of the variables is not a very good idea (Akgül 1997). As a result of the principal, component analysis applied to scale elements; nine factors whose eigenvalue exceeds one were obtained. The patterns, eigenvalues and variance of these factors which explain 61% of the total variance are given in Table 3. The breakpoint for factor loading is taken as 0.30. When all factors are analysed, as many items are distributed to more than one factor group, the slope graphic was examined, and factor grouping was tested, first with two then with 3 points. Consequently, according to the fields items are collected, and factor loadings, the most appropriate analysis to be applied was determined to be a 2-point factor structure.

In accordance with these findings, it was observed that 29 items reflected 28.62% of total variance under two factors. The first factor reflected 20.25% of the variance. The evaluation scale for measuring the job motivation of nurses who work in psychiatric clinics was subjected to varimax rotation, and the factor groups that emerged after principal component analysis are shown in Table 4. According to the information given in Table 4, it is seen that the number 1, 3, 4, 16 items are loaded with high values. The loading values of the 11 items grouped under the first factor range 0.36–77; whereas, the loading values of the 17 items grouped under the second factor vary

Table 3
Results of the varimax rotation principal component analysis of the evaluation scale for measuring the job motivation of nurses who work in psychiatry clinics

Factors	Eigenvalue	Percentage of variance it explains	Item included number	Factor loading
Factor 1	5.87	10.84	1	0.83
			2	0.55
			3	0.71
			4	0.57
			5	0.42
			7	0.41
			16	0.65
			18	0.35
Factor 2	2.42	8.41	11	0.55
			12	0.76
			13	0.63
			19	0.50
			20	0.51
Factor 3	1.84	7.07	27	0.87
			28	0.91
Factor 4	1.60	6.76	10	0.70
			17	0.67
Factor 5	1.51	6.11	8	0.66
			9	0.64
Factor 6	1.24	5.90	6	0.59
			21	0.58
			22	0.74
Factor 7	1.18	5.64	7	0.41
			23	0.79
			26	0.48
Factor 8	1.09	5.40	14	0.64
			15	0.39
Factor 9	1.02	5.26	24	0.63
			25	0.72
			29	0.55

between 31 and 60. When the internal consistency coefficients of the factor groups are analysed, it is seen that the Cronbach's α value of the first group is 0.80, while the Cronbach's α value for the second group is 0.79.

The relationship between the job motivation of nurses working in psychiatric clinics and their socio-demographic characteristics as well as their job perception

Table 5 shows the distribution of the average job motivation scores of nurses according to certain characteristics. While no statistically significant difference ($P > 0.05$) was determined between the total average job motivation scale scores according to marital status ($F = 2.634$) and status of income ($F = 0.085$), the distribution of total scale scores according to the status of having children ($F = 8.615$), cities of employment ($F = 8.389$) and job classification ($F = 5.212$) was statistically significant ($P < 0.05$).

The distribution of average total job motivation scale scores of nurses working in psychiatric clinics according to their job perception is given in Table 6. It was determined that 236 of the nurses employed at psychiatric clinics did not choose to work in a psychiatric clinic willingly; whereas, 187 of them were satisfied with their current employment, 181 thought they were appropriate for working in a psychiatric clinic, 216 sometimes considered leaving the psychiatric clinic, 278 never attempted to leave the psychiatric clinic, 259 found working in a psychiatric clinic productive, 262 thought they received appreciation from patients, while 261 thought they received appreciation from colleagues, and 225 thought they received appreciation from their supervisors. When the distribution of average total job motivation scale scores of nurses working in psychiatric clinics according to their job perception is analysed, the average job motivation scores of nurses with a positive job perception indicated a high level of statistical significance ($P < 0.001$).

Discussion

The aim of this scale designed specifically for measuring the job motivation of nurses working in psychiatric clinics was to detect the factors concerning the intrinsic motivation of nurses as well, different from the nine-factor scale developed by Aksayan (1990) for measuring the job satisfaction of nurses which is frequently used in our country. In our country, there is no instrument that measures job motivation of nurses, especially of those working in psychiatric clinics. Considering the facts that motivation is a complex phenomenon related with many emotional factors, personal characteristics and perceptions which is different from satisfaction and that job satisfaction scales are used to measure job motivation in almost all institutions having urged researchers to develop a job motivation scale, in our country nurses are employed in a risky way in the field of psychiatry that requires special education and that results in decreasing the possibility of nurses' making right preference of employment when they first start their career.

The internal consistency can be explained as the assumption that every measurement instrument is composed of independent units in order to achieve a certain goal (constitute a whole) and these units in a whole carry equal loadings (Karasar 1995). In order to state that a scale has internal consistency reliability, it is necessary to prove that all the subdivisions of the scale measure carry the same characteristics (Gözüm & Aksayan 2002). Therefore, the split scale analysis was used primarily for 'the evaluation scale for measuring job motivation of nurses who work in psychiatric clinics'. This method is used when the coefficients of variation for the two halves

Table 4

Results of the two-factor varimax rotation principal component analysis of the evaluation scale for measuring the job motivation of nurses who work in psychiatry clinics

Factors	Item number	Items	Factor loading	Item–total correlation
Factor 1	1	I like working in a psychiatry clinic.	0.77	0.53
Intrinsic motivation	2	While working in this clinic, I can sometimes do different and interesting things about my job.	0.49	0.42
	3	I prefer working in a psychiatric environment.	0.67	0.49
	4	Working in a psychiatric environment provides me respectability in society.	0.70	0.47
	5	While working, I can make independent decisions and take initiative.	0.56	0.45
	7	As a psychiatry nurse, I think I am better than the others.	0.57	0.47
	8	I think I am very adept and competent while working.	0.36	0.48
	16	I would like to continue working here because I feel that my job contributes to my personal development.	0.69	0.67
	17	I think that doing my job is important because it enables me to affect human life positively.	0.47	0.54
	18	I think that working for this job enables me to accept the people as they are.	0.38	0.49
	23	I usually receive appreciation when I succeed in a task.	0.36	0.43
		Cronbach's α = 0.80		
Factor 2	6	Being successful in my job is important for me.	0.45	0.26
Extrinsic motivation	9	I think I can take on all the responsibility of the decisions I make at work.	0.48	0.42
	10	I think my doing this job is beneficial for patients.	0.44	0.53
	11	I am satisfied with my performance at work.	0.54	0.52
	12	I believe that I can make use of all my personal skills in my job.	0.53	0.47
	13	I think I am making great effort for my job.	0.56	0.46
	14	I definitely possess the energy required for my job.	0.46	0.48
	15	I am enthusiastic about doing my job well and I make effort for achieving this.	0.52	0.60
	19	My job is important as it provides me a place in life.	0.46	0.46
	20	While working, I do more than what is expected from me.	0.57	0.57
	21	My colleagues' getting on well with each other enables me to do a better job.	0.37	0.21
	24	When I do my job well, I feel successful.	0.44	0.32
	25	I do not perform the tasks that would go against my conscience.	0.31	0.20
	27	I appreciate the type of management my manager follows in managing the staff of the clinic I work in.	0.38	0.38
	28	I appreciate the type of decision making my manager follows in the clinic I work.	0.36	0.40
	29	I perform the orders assigned by my supervisors accurately.	0.60	0.35
		Cronbach's α = 0.79		

Table 5

The distribution of the average total job motivation scores of nurses according to certain characteristics

Some characteristics	n	$\bar{X}$	Standard deviation	F	P
Marital status					
Married	224	66.10	6.87	2.634	0.105
Single	154	64.87	7.78		
With children					
Yes	216	66.54	7.06	8.615	0.004
No	162	64.35	7.37		
Income status					
Balanced income and expenses	163	65.77	6.82	0.085	0.919
Income lower than expenses	201	65.48	7.64		
Income higher than expenses	14	65.29	7.44		
Province of employment					
Istanbul	280	64.62	7.27	8.389	0.001
Izmir	26	70.73	5.60		
Ankara	33	68.18	5.95		
Manisa	39	67.05	7.25		
Job classification					
Head nurse	14	64.07	6.68	5.212	0.006
Charge nurse	54	68.48	5.68		
Ward nurse	310	65.17	7.44		

Table 6

The distribution of average total job motivation scale scores of nurses working in psychiatry clinics according to their job perception

Job perception	n	X̄	Standard deviation	F	P
Preference of working in a psychiatric clinic					
Willingly chose to work	142	67.68	6.18	19.578	0.001
Not a willing choice	236	64.35	7.59		
Satisfaction with current unit of employment					
Satisfied	187	68.43	6.50	36.579	0.001
Partially satisfied	172	63.23	6.78		
Not satisfied	19	59.16	7.24		
Consideration of self to be appropriate for psychiatric nursing					
Appropriate	181	69.09	5.96	53.041	0.001
Somewhat appropriate	144	62.90	6.61		
Not appropriate	53	60.98	7.44		
Has considered leaving the psychiatric clinic					
Yes	65	60.14	7.19	31.449	0.001
Sometimes	216	65.87	6.53		
No	97	68.66	6.91		
Attempted to leave the psychiatric clinic					
Yes	100	63.10	6.96	16.754	0.001
No	278	66.50	7.18		
Thoughts about productivity in implementing psychiatric nursing					
Good	259	67.17	6.90	28.153	0.001
Neither good nor bad	117	62.46	6.58		
Bad	2	45.50	0.70		
Thoughts about patients' appreciation of given care					
Positive	262	66.83	6.85	15.586	0.001
Neither positive nor negative	98	63.43	7.31		
Negative	18	59.50	7.61		
Thoughts about coworkers' appreciation of given care					
Positive	261	66.90	6.88	15.606	0.001
Neither positive nor negative	104	63.04	7.36		
Negative	13	60.0	6.65		
Thoughts about supervisors' appreciation of given care					
Positive	225	66.97	6.83	13.608	0.001
Neither positive nor negative	119	62.83	7.69		
Negative	34	66.21	5.94		

of the test are equal or close (Karasar 1995, Gözüm & Aksayan 2002).

It is assumed that the higher the α coefficient of the scale is, the more consistent and complementary the items in the scale would become (Gözüm & Aksayan 2002). The lower limit for the reliability coefficient is mostly accepted as 0.70. The α coefficient should be as close to one as possible (Karasar 1995, Erefe 2002). The α coefficients obtained for the whole evaluation scale for measuring the job motivation of nurses who work in psychiatric clinics are above 0.70. This result is within the acceptable limits.

If the correlation coefficient for each item in the scale is high, the items can be interpreted as sufficient and competent in measuring the target behaviour. It is suggested that the acceptable correlation coefficient in item selection be above 0.25 (Tezbaşaran 1997, Özdamar 2002, Çimen et al. 2005, Ergül & Temel 2007). The correlation coefficients of items range between 0.20 and 0.67 and at α = 0.001 level which is statistically meaningful. Although the correlation coefficients of items 21 and 25 are below 0.25, the total score suggests sufficient correlation.

While developing the items of the scale, t-test implementation was considered for validity analysis. However, because of certain restrictions, it could not be implemented.

Therefore, we are of the opinion that the scale is weak in terms of validity. On the other hand, when the findings of the scale content analysis and reliability tests are analysed in comparison with the literature, it is seen that the scale is applicable.

Validity refers to the degree to which a measurement instrument assesses the aim, variable that it is designed to be measured. It is related with how accurate a scale measures what (Gözüm & Aksayan 2003). In order to test the construct validity of the evaluation scale for measuring the job motivation of nurses who work in psychiatric clinics, factor analysis was conducted. Factor analysis is a process to assess the probability of grouping the items in the scale under different dimensions. It is a method, based on the power of linear correlations between variables, which groups similar variables as smaller factors, reducing the number of variables. Principal component analysis determines that with which variable each factor is more strongly correlated, using varimax rotation. This method provides a balanced distribution of the variables constituting the factor (Kitapçıoğlu 2000, Gözüm & Aksayan 2003).

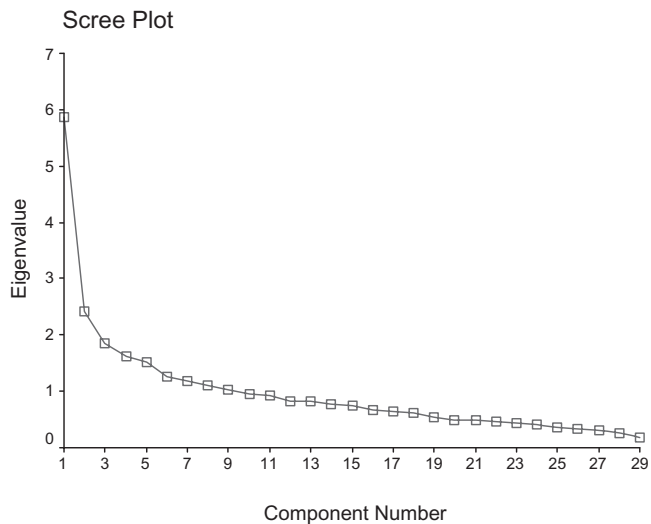As there are nine factors whose eigenvalue is bigger than one, the evaluation scale for measuring the job motivation

Scree Plot

Figure 1
The slope graphic for the factor analysis of job motivation scale

of nurses who work in psychiatric clinics could be grouped under a maximum of nine factors. However, when all the factors were examined, as many items were distributed to more than one factor group, the slope graphic was analysed and the factor grouping was tested, first with three then with 2 points (Fig. 1). It was expected that nine factor groups would emerge after the first factor analysis as the items in the scale were conceptually very close, and the items concerning intrinsic and extrinsic motivation could not be clearly distinguished in terms of expression which generated such a statistical result. However, when the items are analysed by their conceptual contents as in Table 1, the factor analysis of the nine-factor construct could not achieve its target because of the conceptual confusion among the items under the factors. When the six-, five- and four-factor constructs were revised, similar confusions were observed. Finally, when the factors were analysed in terms of slope graphic scale structure, the two-factor construct seemed appropriate. As a result of the conceptual revision in accordance with the literature, two-factor structure would be the most appropriate analysis according to the fields in which items were collected and factor loadings (Elliot & Harackiewicz 1994, Guay & Blanchard 2000, Ryan & Deci 2000, Uyargil 2000, Wigfield & Eccles 2002).

The items (22 and 26) whose factor loading is below 0.30 and whose difference between the highest loading factor and the second highest loading factor is below 0.10 were removed (McSherry *et al.* 2002, Bilgin 2003). The item 27 and two-factor structure of the scale was found to be appropriate after a comparison with the conceptual structure (Ryan & Deci 2000, Uyargil 2000, Wigfield & Eccles 2002).

Factor groups were named in accordance with job motivation concepts. With reference to job motivation concepts, motivation of individuals is classified into two groups: intrinsic and extrinsic. Moreover, some of the subconcepts that constitute intrinsic and extrinsic motivation are covered by both types (Ryan & Deci 2000). When the items placed in 2-point factor structure of the evaluation scale for measuring the job motivation of nurses who work in psychiatric clinics are examined, 10 out of 11 items grouped under the first factor cover intrinsic motivation concepts; although the expression 'I usually receive appreciation when I succeed in a task' in item 23 is an extrinsic motivation factor, it also covers the 'perceived talent' which is an intrinsic motivation concept. Therefore, placing it in the first factor group was considered to be more appropriate. Similarly, nine factors (6, 9, 10, 11, 12, 13, 14, 15, 19) placed in the second factor group reflect concepts such as significance, responsibility, value, perceived talent, autonomy, effort, stress which can be categorized as both intrinsic and extrinsic motivation types. When expressions in these items are analysed, they can be interpreted as the individual's desire to have a good status in society by their job performance and concern of performing their tasks skilfully. Therefore, when these items are interpreted as reflecting the individual's motivation created by outside factors, it is conceptually appropriate to place them under the items 20, 21, 22, 24, 25, 27, 28, 29 which reflect extrinsic motivation concepts. It is determined that the two-factor structure of the evaluation scale for measuring the job motivation of nurses who work in psychiatric clinics is parallel with theoretical information as well.

With the aim of supporting the validity of the job motivation scale, when certain organizational characteristics of nurses including the components of organizational motivation such as the concepts of emotional commitment to the organization, continuance commitment and normative commitment together with certain personal and professional characteristics are analysed in terms of the distribution of average total job motivation scale scores, significant statistical differences are observed among their average total job motivation scale scores according to their job perception. This is an expected result, and the fact that motivation changes according to job perception could be interpreted as a fact supporting the content validity of the scale. Parallel to many studies conducted with nurses in our country, it is observed that job motivation differs according to the status of having children (Çam 1991, Taşdemir 1999, Engin & Özgür 2004). When it is in fact that having children is considered to be related with satisfaction of life, it could be interpreted that a high level of satisfaction of life increases

the job motivation of individuals. The fact that the average total job motivation scores of nurses working in psychiatric clinics according to their status of income and marital status are statistically different shows parallelism with the findings of studies conducted with nurses on job motivation in our country (Çam 1991, Taşdemir 1999, Engin & Özgür 2004). The average total job motivation scale scores of nurses working in Istanbul and Manisa are significantly low. This conclusion could be related with the fact that two major mental hospitals in Turkey are located in these two provinces, and the majority of the nurses are employed in these institutions and working in a job-oriented condition with over workload . Moreover, nurses are assigned in these institutions by the Ministry of Health without their own initiative. Nurses with the highest level of motivation are the ward nurses. The fact that these nurses have significantly higher motivation levels than the others could be explained as their advantage of acting autonomously and their chances of being assigned for specific tasks because of their freedom of organizing their duties.

The evaluation and interpretation of the scores obtained by the scale instrument

The scores that can be obtained from the evaluation scale for measuring job motivation of nurses who work in psychiatric clinics can be grouped in three as two factor structures and total score. For each item of scale designed as a 3-point Likert, taking 'not true at all' as 0, 'somewhat true' as 1 and 'very true' as 2, either separate total scores can be calculated for both dimensions, or a total score of the scale can be calculated, which will provide a total score of job motivation. According to this, nurses will receive a minimum of 0 and a maximum of 33 points for the first dimension that reflects intrinsic motivation, and a minimum of 0 and a maximum of 48 points for the second dimension that reflects extrinsic motivation, with a minimum of 0 and a maximum of 87 points for total job motivation score. Therefore, an increase in score of each dimension and total job motivation could be interpreted as an increase in motivation.

Conclusion

The facts that nurses from psychiatric clinics had worked full time in a psychiatric ward and did not rotate to other services are the criteria for inclusion in the scope of the study. Only Manisa Psychiatric Hospital and the hospitals in three metropolises were included in the study because of financial and transportation difficulties. As the researchers could not implement the method of test–retest because of problems of transportation and secure collection of the questionnaires, they had to use content analysis for scale validity and factor analysis for construct validity.

Despite all the aforementioned restrictions, it could be concluded that the validity and reliability levels of the evaluation scale for measuring the job motivation of nurses who work in psychiatric clinics were found to be sufficient. It is suggested that throughout relevant researches to be carried out in our country, scale evaluation is based not on the general score but on the separate evaluation of subdimensions. The scale can not only be used for the evaluation of job motivation of nurses who work or who will potentially work in psychiatric clinics but also be applied to other clinics, and it is suggested that the instrument be tested regularly. Drawing on this information, nurses who do not wish to work in psychiatric clinics could be determined, and such people could be encouraged to work in a more appropriate clinic for themselves.

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