

# Predictors of Job Satisfaction and Association With Psychological Distress Among Academic Medicine Faculty in Kazakhstan

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**KEYWORDS:** Job Satisfaction; Depression; Anxiety; Stress; Medical Faculty

## ABSTRACT

**Background:** *The growing concern for the faculty's well-being is allied with the emotionally demanding nature of teaching, which has an adverse effect on physical and mental health. There is abundant evidence that academic medicine faculty are subjected to high rates of dissatisfaction, distress, burnout, and turnover among medical educators. This study is dedicated to the exploration of the association between job satisfaction and psychological distress among academic medicine faculty in Kazakhstan.* **Methods:** *The observational cross-sectional study was conducted among medical educators in Kazakhstan between 1 October and 25 December. The survey was completed by 715 representatives of academic medicine staff. The sample size was calculated by Epi Info Sample Size Calculator, version 7.0. Multinomial logistic regression analysis using the forced entry procedure was applied to identify the factors associated with job satisfaction.* **Results:** *The prevalence of job satisfaction, depression, anxiety, and stress was 19.2%, 40.6%, 41.3%, and 53%, respectively. Three variables were significantly associated with job satisfaction: having a partner (AOR=0.20; 95% CI 0.04–0.90), having work experience of 5–10 years (AOR=0.32; 95% CI 0.14–0.74), and holding a Ph.D. degree (AOR=0.40; 95% CI 0.18–0.91). Job satisfaction was significantly associated with depression ( $p=0.005$ ) and stress ( $p<0.001$ ).* **Conclusions:** *Compared to previous research in this area, our findings reported a higher prevalence of psychological distress and dissatisfaction. Potential reason for higher rates of dissatisfaction may be the global disruption due to COVID-19 pandemic.*

## 1. INTRODUCTION

The structural changes in the labor market over the past decades have led to a predominance of psychological hazards associated with higher job complexity and flexibility [1]. The medical education system in Kazakhstan, inherited after the collapse of the Soviet Union and gaining independence in 1991, has undergone consistent changes over the

past 30 years. Despite the former system being effective in the realities of the Soviet era, it has become quantitatively and qualitatively imbalanced in the context of the new times. Consecutive reforms in the healthcare sector have eventually led to new approaches to understanding the learning process, comprising competency-based education. The traditional educational system in Kazakhstan consisted of 5 levels: bachelor, internship, master, residency,

and PhD doctorate. After five years of bachelor studies, the graduates were awarded the degree of Bachelor of Medicine with no right of clinical practice. Afterward, they could pursue a clinical career by choosing a two-year internship + three-year residency program or a scientific career entering two-year masters + three-year doctorate studies. Holding a master's degree permits graduates to accede to teaching positions, whereas clinicians are eligible for teaching and research practice after completing residency only [2].

Currently, internship is an intermediate between undergraduate and postgraduate levels and is being abolished in favor of a new educational model. The new six-year program covers bachelor's combined with master's studies and implies a systematic approach to teaching disciplines. These are instructed within eight modules (systems): respiratory, cardiovascular, musculoskeletal, gastrointestinal, endocrine, nervous, urogenital, and blood and lymph. It is believed that vertical integration of knowledge throughout studies contributes to consolidating and enhancing skills and provides interdisciplinary collaboration in diagnosing and treating diseases.

Academic medicine faculty in Kazakhstan represent a large section of healthcare professionals. It is commonly believed that health professionals, acceding to teaching positions, already have the necessary skills since their core mission comprises sharing knowledge in a specific area. This approach to improving pedagogical skills previously used in the post-Soviet region, mainly Central Asia, includes taking a short course in pedagogy as part of advanced training. However, such courses covered general pedagogy without considering the elements of adult education and the specificity of medical training [3]. In this respect, many employees enter the academic environment insufficiently prepared for the role of a teacher.

Modernization of academic medicine in Kazakhstan was driven by healthcare reforms, reframing the teaching process, and facilitating the trinity of clinical practice, education, and science. Today, the requirements for a medical faculty have been reshaped somewhat. Thus, faculty become the so-called "agents of change", expanding their functions as educators to specialists

competent in planning, implementing, and advancing curricula [4]. Recently, amidst the competitive environment of a medical school, close attention has been paid to research productivity, which additionally burdens faculty staff apart from teaching and clinical practice. What aggravates the disconnection between the results of research activities of the faculty and their wage, which depends upon the pedagogical workload, predetermines the drastic decline in the prestige and significance of scientific work amongst educators [5]. Simultaneously, faculty job satisfaction (JS) is declining, which would jeopardize the quality of training and patient care [6, 7].

The growing concern for the faculty's well-being is allied with the emotionally demanding nature of teaching, which harms physical and mental health [6, 8]. A substantial body of knowledge reports high rates of dissatisfaction [9], distress [10, 11], burn-out [12, 13], and turnover [14, 15] among medical educators. Alongside the loss of intellectual and financial capital, the attrition problem becomes more dramatic considering the faculty aging and deterioration of morale and climate in academia [9, 15, 16]. Given the importance and diversity of academic faculty roles, medical schools' administration and policymakers must create faculty development and retention programs.

Several studies implied that job strain is associated with an increased risk of coronary heart disease [17], musculoskeletal pain [18], and type 2 diabetes [19]. A meta-analysis exploring the relationship between job satisfaction and health outcomes with a combined sample size of more than 260,000 participants has established that JS was related to physical and mental illnesses. However, the most significant relationship was revealed between JS and psychological distress [20].

Psychological distress (PD) is defined by the American Psychological Association (APA) as a set of painful mental and physical symptoms associated with normal mood fluctuations in most people. Still, it may indicate the beginning of more serious clinical conditions in some cases. Mainly, PD is related to depressive and anxiety disorders, schizophrenia, and somatization disorder [21]. Since both psychological distress and low job satisfaction anticipate sick absences and departures among the employment-age

population, it seems reasonable to explore the factors most contributing to these constructs [22, 23].

Despite the established relationship between job satisfaction and psychological distress, some gaps in the existing literature must be addressed. One limitation is that little consideration was given to scrutinizing the JS affective facets since most studies focused on cognitive aspects, which comprise the rational evaluation of job expectations, including wages, working hours duration, job characteristics, and rewards. On the contrary, affective JS is defined as a general sentiment toward one's job based on feelings deriving from one's work experience. Another limitation is that while certain studies have explored the association between JS and PD, no academic faculty mental health research was conducted in Kazakhstan.

Therefore, our study aimed to investigate the level and most influential factors of job satisfaction among academic medicine faculty. To our knowledge, the present study is the first to investigate the association between job satisfaction and psychological distress among faculty educators in Kazakhstan. We hope our results will significantly help develop policies to prevent mental disorders, manage job satisfaction, and retain faculty in academic medicine.

## 2. METHODS

### 2.1. Study Design and Settings

The observational cross-sectional study was conducted among medical educators in Kazakhstan between 1 October and 25 December. 6 medical universities were selected considering the geographical distribution: Astana Medical University (North region), Semey Medical University (East region), Karaganda Medical University (Central region), West Kazakhstan Marat Ospanov Medical University (West region), Asfendiyarov Kazakh National Medical University and Kazakhstan School of Public Health (South region).

### 2.2. Study Population and Sampling Strategy

The sample size was calculated using the Epi Info Sample Size Calculator, version 7.0, with a

risk of loss of 20% and a confidence interval of 95%. Overall, 715 medical instructors were recruited for the survey. The selection process was performed using the non-probability convenience sampling technique. The target population was i) faculty teachers who agreed to participate in the study and ii) faculty teachers working at the medical university at the time of the study. Educators who were reluctant to participate were excluded from the investigation.

### 2.3. Ethics

Ethical approval was obtained from the Local Ethics Committee of Semey Medical University (Protocol No. 2 dated October 28, 2020) before data collection to guarantee accordance with the bioethical principles and Declaration of Helsinki. Respect for educators' autonomy was disclosed through informed consent, sent to responders along with the survey. Participants were informed that they could withdraw from the study at any point, and their confidentiality was provided as no personal data were gathered. No incentives or rewards were offered to recruit participants. The STROBE guidelines were followed to accomplish a better quality of the report.

### 2.4. Study Instruments and Data Collection

Three online self-administered questionnaires were distributed via WhatsApp messenger among university teachers. Background data were collected through a questionnaire including basic socio-demographic data. Demographics comprised age, marital status, children, and chronic diseases. Job-related factors included work setting, work experience, department focus, position, and academic rank.

Job satisfaction was evaluated by the Brief Index of Affective Job Satisfaction (BIAJS), developed by Thompson E.R. and Phua F.T.T. in 2012 [24]. The scale has 4 items for measuring the affective aspect of JS, and 3 distracter items to help attenuate method variance. Each item has a score ranging from 1 (strongly disagree) to 5 (strongly agree). Overall job satisfaction was computed by averaging the scores. Cronbach's  $\alpha$  in the original study was 0.83.

Psychological distress was assessed by the Depression, Anxiety, and Stress Scale (DASS-21), developed by Lovibond P.F. and Lovibond S.H. in 1995 [25]. The tool has three subscales: depression (DASS-D), anxiety (DASS-A), and stress (DASS-S), each containing 7 items. The depression subscale evaluated dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest, anhedonia, and inertia. The anxiety subscale assessed autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress subscale measured difficulty relaxing, nervous arousal, being easily disturbed, tensed/over-reactive, and impatient. Responses were evaluated on a 4-point Likert scale from 0 (does not apply to me at all) to 4 (applies to me very much or most of the time). Cronbach's  $\alpha$  for depression, anxiety, and stress subscales in the original study were 0.91, 0.84, and 0.90, respectively.

## 2.5. Data Analysis

The statistical analysis was performed with SPSS, version 20.0. The distribution of continuous variables was explored using the Kolmogorov-Smirnov test. For the facilitation of data processing, we dichotomized the outcome variables (job satisfaction, depression, anxiety, stress) into "satisfied" and "not satisfied", "depressed" and "not depressed", "anxious" and "not anxious", and "stressed" and "not stressed" categories. The job satisfaction variable was categorized based on rating score: not satisfied (from 1 to 3) and satisfied (from 4 to 5). The DASS-21 cutoff values were used to categorize the outcome variables:  $>4$  for the depression subscale,  $>3$  for the anxiety subscale, and  $>7$  for the stress subscale. The age variable was also dichotomized into "younger than 40" and "older than 40". Small variables were merged before statistical analysis: in marital status, "single", "widowed", and "divorced" were merged to "single"; in work experience, "less than one year" and "1-5" years" were merged to "less than five years".

We applied descriptive statistics and bivariate analysis at the initial stage to examine the association between outcome variables and socio-demographic data. A Chi-square test was conducted for bivariate analysis of categorical variables. The means and

standard deviations (SD) were calculated for continuous variables, as well as categorical variables were presented in frequencies and percentages, along with p-values, odds ratios (OR), and 95% confidence intervals (CI). Multinomial logistic regression analysis using the forced entry procedure was applied to identify the factors associated with job satisfaction. As Bursac et al. [26] recommended a cutoff value of 0.25 at the bivariate level was used to include predictor variables in the final regression model. The test for multicollinearity was run before data analysis. As recommended by Vatcheva et al. [27], a variance inflation factor (VIF) of  $<5$  was set as a cutoff value.

## 3. RESULTS

### 3.1. Characteristics of the Sample

The survey was completed by 715 representatives of academic medicine staff. Participants had a mean age of 41.12 years (SD=11.18). Most participants (75.1%) were aged between 27 and 50 years. In terms of gender, female teachers prevailed in the study (67.3%). More than half of all responders were married (61.4%) and had the position of assistant teacher (66.3%). Part-time faculty (22.1%) and teachers whose spouses or partners worked in the same field (27.3%) represented less than one-third of the sample. Almost two-quarters of the participants had at least one child (73.8%). Half of the participants had been working at the medical university for more than 10 years (50.1%), and little share were new recruits (3.4%). Two-quarters of the sample held academic degrees (75.7%), and male teachers tended to not have any academic degree compared to female teachers (30.3% vs. 21.4%).

### 3.2. Descriptive and Bivariate Statistics

The mean satisfaction level was 3.15 (SD=0.78) and did not differ considerably across basic and clinical departments (M=3.13 vs. M=3.18, respectively). The prevalence of dissatisfaction was 80.8%. The prevalence of depression as estimated by the cutoff value of  $<4$  was 40.6%. The mean was 4.63



(SD=4.21). The prevalence of anxiety was 41.3%, with a mean of 3.49 (SD=3.08). The prevalence of stress was 53%, with a mean of 7.87 (SD=4.57). Three independent demographic variables and four work-related variables were significantly associated with job satisfaction: age ( $p<0.001$ ), marital status ( $p=0.001$ ), children ( $p<0.001$ ), position ( $p=0.071$ ), work experience ( $p<0.001$ ), employment status ( $p=0.034$ ), and academic rank ( $p<0.001$ ) (Table 1).

Table 2 depicts the results of a multinomial logistic regression analysis of associated factors of job satisfaction. Three variables were significantly associated with job satisfaction: having a partner (AOR=0.20; 95% CI 0.04-0.90), having work experience of 5-10 years (AOR=0.32; 95% CI 0.14-0.74), and holding a Ph.D. degree (AOR=0.40; 95% CI 0.18-0.91).

### 3.3. Job Satisfaction and Psychological Distress

Job satisfaction was significantly associated with all domains of psychological distress at the bivariate level ( $p<0.001$ ). However, the multinomial logistic regression demonstrated that depression ( $p=0.005$ ) and stress ( $p<0.001$ ) were independently and statistically allied to job satisfaction, but anxiety was not ( $p<0.158$ ). Table 3 presents the bivariate analysis and multinomial logistic regression analysis results for job satisfaction, depression, anxiety, and stress.

## 4. DISCUSSION

This study aimed to examine the associations between job satisfaction, depression, anxiety, and stress among academic medicine faculty in Kazakhstan. The present study was the first to investigate the association between job satisfaction and psychological distress in Kazakhstan. Additionally, our findings analyze socio-demographic and work-related factors allied with JS.

Our study revealed low rates of job satisfaction (19.2%) among faculty teachers in medical universities. The rest of the study population were somewhat uncertain (22.1%) or dissatisfied (58.7%). Similarly, low levels of job satisfaction were identified in Iran (14.5%) [28] and Nepal (36.8%) [29]. Meanwhile, studies from Canada (89.7%) [30], the

USA (75%) [31], and India (71.4%) [32] report a higher prevalence of job satisfaction among educator physicians.

A potential reason for higher dissatisfaction rates may be the global disruption due to the COVID-19 pandemic. Although we do not have pre-pandemic data on job satisfaction, numerous studies enlightened the decline in job satisfaction and resilience during and after the pandemic [33-35]. The epidemiological situation in Kazakhstan remained unstable for data collection, determining social isolation, fear of the disease, and uncertainty about consequences, suffering, and family deaths. Moreover, academic faculty members were challenged by shifting to online learning, which forced them to develop and update study curricula under the requirements of emergency.

Prior studies imply that high rates of workplace dissatisfaction increase the risk of mental health issues [36-40]. As expected, we have identified a significant relationship between job satisfaction, depression ( $p=0.005$ ), and stress ( $p<0.001$ ). Surprisingly, anxiety had no significant association with job satisfaction ( $p=0.158$ ), although it was found effective at the bivariate level. Similar results were obtained by Ghawadra et al. [41] from the study on nurses in Malaysian teaching hospitals. Although the authors established a negative association of job satisfaction with depression and stress, it was not significant for anxiety ( $p=0.313$ ). Ferguson, Frost, and Hall [42] obtained comparable results on the sample of Canadian teachers [42]. Allan et al. [43] revealed that job satisfaction was negatively correlated with depression and stress but was unrelated to anxiety ( $p=0.18$ ). We suppose that the possible reason is that anxiety symptoms are more physiologically specific than depression and stress. APA suggests that anxiety is perceived as somatic symptoms of tension (autonomic arousal, muscle tension, shortness of breath, increased heart rate, etc.) derived from excessive anticipations of fear and danger persisting without a stressor [44]. Therefore, increasing job satisfaction may not be enough to reduce anxiety. However, we believe that a sufficient level of job satisfaction may buffer undesirable aftereffects of job strain, which include, among other things, anxiety.

**Table 1.** Bivariate association between job satisfaction and socio-demographic and work-related factors.

Variable	Job Satisfaction		p-value <sup>a</sup>
	Unsatisfied, n (%)	Satisfied, n (%)	
<b>Age</b>			<0.001*
<40	343 (90.5)	36 (9.5)	
>40	235 (69.9)	101 (30.1)	
<b>Sex</b>			0.399
Male	185 (79.1)	49 (20.9)	
Female	393 (81.7)	88 (18.3)	
<b>Marital Status</b>			0.001*
Single	161 (79.7)	41 (20.3)	
In a Relationship	72 (97.3)	2 (2.7)	
Married	345 (78.6)	94 (21.4)	
<b>Children</b>			<0.001*
No	167 (89.3)	20 (10.7)	
1	162 (83.1)	33 (37.4)	
2	161 (77)	48 (23)	
3 or more	88 (71)	36 (29)	
<b>Chronic Diseases</b>			0.345
No	342 (82)	74 (18)	
Yes	236 (79.2)	62 (20.8)	
<b>Position</b>			0.071 <sup>b</sup>
Assistant Teacher	385 (81.2)	89 (18.8)	
Senior Teacher	130 (84.4)	24 (15.6)	
Head of the Department	63 (72.4)	24 (27.6)	
<b>Work Experience</b>			<0.001*
<5 years	169 (90.9)	17 (9.1)	
5-10 years	158 (92.4)	13 (7.6)	
>10 years	251 (70.1)	107 (29.9)	
<b>Department Focus</b>			0.524
Basic	317 (81.7)	71 (18.3)	
Clinical	261 (79.8)	66 (20.2)	
<b>Employment Status</b>			0.034*
Full-time	441 (79.2)	116 (20.8)	
Part-time	137 (86.7)	21 (13.3)	
<b>Academic Rank</b>			<0.001*
No	147 (84.5)	27 (15.5)	

Master	225 (86.5)	35 (13.5)
Ph.D.	83 (89.2)	10 (10.8)
Professor/Candidate	123 (65.4)	65 (34.6)

<sup>a</sup>Using Pearson Chi-square test.

<sup>b</sup>Using a cutoff value of  $p < 0.25$ .

\* $p$ -value is significant.

**Table 2.** Multinomial logistic regression of job satisfaction with demographic data and work factors.

Variable	COR (95% CI)	p-value	AOR (95% CI)	p-value
<b>Age</b>				
<40	0.24 (0.16-0.37)	<0.001*	0.79 (0.38-1.659)	0.538
>40	1 (reference)		1 (reference)	
<b>Marital Status</b>				
Single	0.94 (0.62-1.41)	0.748	0.96 (0.57-1.65)	0.894
In a Relationship	0.10 (0.03-0.42)	0.002*	0.20 (0.04-0.90)	0.036*
Married	1 (reference)		1 (reference)	
<b>Children</b>				
No	0.29 (0.16-0.54)	<0.001	0.90 (0.39-2.08)	0.805
1	0.50 (0.29-0.85)	0.011	0.84 (0.46-1.53)	0.562
2	0.73 (0.44-1.21)	0.219	0.98 (0.57-1.66)	0.926
3 or More	1 (reference)		1 (reference)	
<b>Position</b>				
Assistant Teacher	0.61 (0.36-1.02)	0.062	1.75 (0.93-3.30)	0.083
Senior Teacher	0.49 (0.26-0.92)	0.027*	1.13 (0.55-2.32)	0.732
Head of the Department	1 (reference)		1 (reference)	
<b>Work Experience</b>				
<5 years	0.24 (0.14-0.41)	<0.001*	0.42 (0.17-1.03)	0.059
5-10 years	0.19 (0.11-0.36)	<0.001*	0.32 (0.14-0.74)	0.007*
>10 years	1 (reference)		1 (reference)	
<b>Employment Status</b>				
Full-time	1.72 (1.04-2.84)	0.035*	1.12 (0.63-1.98)	0.708
Part-time	1 (reference)		1 (reference)	
<b>Academic Rank</b>				
No	0.35 (0.21-0.58)	<0.001*	0.60 (0.32-1.12)	0.111
Master	0.29 (0.19-0.47)	<0.001*	0.61 (0.33-1.13)	0.115
Ph.D.	0.23 (0.11-0.47)	<0.001*	0.40 (0.18-0.91)	0.029*
Professor/Candidate	1 (reference)		1 (reference)	

COR, crude odds ratio; AOR, adjusted odds ratio; CI, confidence intervals.

\* $p$ -value is significant.

**Table 3.** The association between job satisfaction and psychological distress (bivariate analysis and multinomial logistic regression).

Variable	Job Satisfaction		p-value	AOR (95% CI)	p-value
	Unsatisfied, n (%)	Satisfied, n (%)			
<b>Depression</b>					
Not Depressed	305 (71.8)	120 (28.2)	<0.001 <sup>a</sup>	2.49 (1.31-4.72)	0.005*
Depressed	273 (94.1)	17 (5.9)		1 (reference)	
<b>Anxiety</b>					
Not Anxious	314 (74.8)	106 (25.2)	<0.001 <sup>a</sup>	0.67 (0.38-1.17)	0.158
Anxious	264 (89.5)	31 (10.5)		1 (reference)	
<b>Stress</b>					
Not Stressed	216 (64.3)	120 (35.7)	<0.001 <sup>a</sup>	9.44 (5.05-17.65)	<0.001*
Stressed	362 (95.5)	17 (4.5)		1 (reference)	

AOR, adjusted odds ratio; CI, confidence intervals.

<sup>a</sup> Using Pearson Chi-square test.

\* p-value is significant.

In our research, older age was significantly associated with higher levels of job satisfaction. This was expected, given the numerous findings that more senior faculty members are more experienced and resilient to stressful situations [32, 45]. Likewise, older educators are more often prone to be associate or full professors, which may stimulate higher stability and confidence. Younger faculty tend to have more role stagnation and less autonomy regarding their career [45].

Our findings in multinomial logistic regression showed that job satisfaction was five times lower in educators who were in a relationship ( $p=0.036$ ). Given the evidence that marriage and having children may serve as protective factors for subjective well-being [46, 47], little to nothing is known about partnership status without a formal wedding. In Eastern cultures, having a family is one of the crucial aspects of life, especially for women. Since the mean age at first marriage in Kazakhstan is 25 years, we may suppose that traditional attitudes pressure women upon reaching this age. Role perceptions could harm well-being and job satisfaction. Another possible explanation for the reduced pride in these educators is the younger age, which allows them to be involved in additional work or studies and, therefore, be more overloaded and strained.

Our study revealed that teaching experience of 5-10 years predicted lower rates of job satisfaction significantly. These findings support evidence that mid-career faculty report the lowest satisfaction levels due to professional anguish, lack of mentoring, and isolation. The higher workload in research, managing publications, and bureaucratic paperwork may hinder the faculty's productivity, making them dissatisfied with their jobs [48, 49]. Although there is no consensus on the definition of mid-career academic status, authors suggest that it includes the largest segment of faculty who received tenure and worked at least five years post-tenure [48,50]. The most commonly occurring problems at this stage are a disparity in career development and personal expectations, affecting professional identity, and role stagnation. Another potential reason for the dissatisfaction may be associated with impaired work-home balance. In Kazakhstan, most faculty of both genders during this period struggle with their marital life crisis, parenthood, and child-rearing, care for aging parents or other relatives, and domestic responsibilities, which may limit their career opportunities.

According to our findings, faculty holding Ph.D. degrees had 2.5 times lower satisfaction levels ( $p=0.029$ ). A possible explanation for that may be the stressful environment of doctoral studies. Doctoral



programs are highly competitive and challenging and may provoke mental health issues, exacerbating insecurity and frustration [51, 52]. Another reason for dissatisfaction may be the higher workload of Ph.D. faculty, determined by higher responsibility for scientific work at the departments, mentoring students and residents, and being involved in research projects. In recent years, there has been a reduction in financial incentives for doctoral supervising, which disrupts the interchange between “giving” and “receiving,” making research activities exceedingly unpopular among PhD holders. According to the National Report on Science 2015, only 335 PhD holders out of 1116 were engaged in research activities in Kazakhstan, accounting for 30% of faculty staff [53].

Our study has several limitations. First, the study’s cross-sectional nature does not reveal any causal relationships between job satisfaction, psychological distress, and demographics. Further longitudinal studies may provide insights into cause-and-effect relationships between variables. Second, we used convenience sampling, which may subject our study to selection bias. However, we believed it would not affect our findings. Third, data were collected by self-report measures, which might limit their reliability. Fourth, pre-pandemic data on faculty job satisfaction in Kazakhstan were neither collected by us nor found in relevant databases. This does not allow us to explore the aftereffects of COVID-19 on job satisfaction.

## 5. CONCLUSIONS

This study revealed job satisfaction among academic faculty in Kazakhstan and its association with psychological distress. Depression and anxiety were allied with low job satisfaction in our study. Moreover, we have identified socio-demographic groups vulnerable to discontent: having a partner but being unmarried, having work experience of 5-10 years, and holding a Ph.D. degree were associated with a higher risk of being dissatisfied. Therefore, qualitative studies could be conducted to explore better factors affecting job satisfaction.

**INSTITUTIONAL REVIEW BOARD STATEMENT:** Ethical approval was obtained from the Local Ethics Committee of

Semey Medical University (Protocol No. 2 dated October 28, 2020) before data collection to guarantee accordance with the bioethical principles and Declaration of Helsinki.

**INFORMED CONSENT STATEMENT:** Informed consent was obtained from all subjects involved in the study.

**ACKNOWLEDGMENTS:** Authors gratefully acknowledge the administration of the medical universities for cooperation and all faculty staff who participated in the survey.

**DECLARATION OF INTEREST:** Authors declare that they do not have conflicts of interest.

**AUTHOR CONTRIBUTION STATEMENT:** Conception: AU, AM. Data care: SM. Formal analysis: AU, LM. Methodology: AM, SM. Visualization: AU, LM. Supervision: AM, SM. Writing – original draft: AU. Writing – review & editing: AU, AM, SM, LM. Project administration: SM. Funding acquisition: None.

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