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Teacher perspectives on job satisfaction and professional growth in Kazakhstan: A context-specific analysis of multilingual education challenges

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ABSTRACT

Kazakhstan's trilingual education policy and ongoing educational reforms have created unique challenges for teachers, yet systematic research on educator job satisfaction remains limited in post-Soviet contexts. This study addresses critical gaps by examining how Kazakhstan's specific educational landscape – including language policy disparities, reform pressures, and cultural transitions – influences teacher job satisfaction across demographic and professional variables. Using the Teacher Job Satisfaction Questionnaire (TJSQ) with 383 teachers nationwide, we employed Herzberg's Two-Factor Theory and the Job Demands-Resources Model to analyze satisfaction patterns across grade levels, teaching subjects, academic qualifications, marital status, and teaching language. Results reveal significant disparities: Kazakh-medium teachers report lower responsibility satisfaction than Russian/English-medium teachers ($p < 0.001$), STEM teachers show higher security and recognition satisfaction than non-STEM teachers ($p < 0.001$), and unmarried teachers demonstrate greater job satisfaction across multiple dimensions. These findings illuminate how Kazakhstan's unique socio-cultural and linguistic context mediates traditional job satisfaction factors, necessitating culturally adapted policy interventions. Recommendations include targeted resource equity for Kazakh-medium instruction, differentiated support for primary teachers, and recognition programs addressing cultural values of collective responsibility.

Keywords: teacher job satisfaction, academic degree and job satisfaction, teaching language and job satisfaction, teaching subject and job satisfaction

INTRODUCTION

Kazakhstan's education system stands at a critical juncture, navigating between preserving national identity and achieving international competitiveness through ambitious multilingual and modernization reforms. The implementation of trilingual education policy (Kazakh, Russian, English) alongside curriculum internationalization has fundamentally altered teachers' working conditions, yet little empirical research examines how these context-specific challenges impact educator job satisfaction and retention.

Teacher job satisfaction emerges as particularly critical in Kazakhstan's transitional educational landscape, where documented challenges include resource disparities across language-medium schools, varying support for STEM versus humanities education, and tensions between traditional cultural values and modernization pressures (Kozhabayeva & Boivin, 2022). Unlike established educational systems where job satisfaction patterns are well-documented, Kazakhstan's unique intersection of post-Soviet legacy, rapid educational reform, and multilingual implementation creates novel conditions requiring targeted investigation.

The urgency of this research stems from observable patterns of teacher attrition and documented inequities in educational delivery across Kazakhstan's diverse linguistic and regional contexts. Ministry of Education reports indicate particular retention challenges in rural Kazakh-medium schools and among early-career educators, suggesting that traditional job satisfaction frameworks may inadequately address the specific demands and resources characterizing Kazakhstan's educational environment.

While the teaching profession continues to attract many individuals seeking meaningful careers, educator attrition remains a persistent challenge across educational systems. Research indicates that inadequate workplace satisfaction represents a primary driver of teacher turnover (Ingersoll, 2001), with significant implications for professional retention, performance quality, and personal fulfilment. Within Kazakhstan's educational context, limited empirical research has explored the factors influencing teacher job satisfaction. To address this research gap, the present investigation employs comparative survey methodology to examine educator satisfaction patterns across multiple demographic and professional variables, including gender, age, years of experience, geographic location, and institutional type.

Literature suggests that one of the critical determinants of education quality and the sustainability of the teaching workforce is teacher job satisfaction (Lee, 2018). In addition to influencing the teachers' motivation and personal lives, it dramatically impacts the students' outcomes and overall school environments. Job satisfaction is a multifaceted notion with a common description: a person's assessment of their jobs as favorable or unfavorable, influenced by individual qualities and external aspects (Meier & Spector, 2015). Another definition emphasizes the subjective essence of this assessment (Judge & Klinger, 2008). It is also defined as a "pleasurable or positive emotional state resulting from the appraisal of one's job experiences." (Buchbinder et al., 2001). It has been found that job satisfaction influences quality of life, such as health status and family and social relationships. This effect mirrors back on job performance, leading to absenteeism and burnout (Lee, 2018). The descriptions mentioned demonstrate the complexity of the nature of job satisfaction, entangling both affective and cognitive elements.

As mentioned, job satisfaction has a multidimensional character shaped by numerous factors, such as societal and cultural contexts, demographic data, and professional obligations. This literature review examines essential factors influencing teacher job satisfaction, specifically marital status, teaching subject, school level, teaching language, and academic qualifications. Numerous studies show how the selected variables have correlations with teachers' job satisfaction. For example, personal factors such as marital status have been reported to improve job satisfaction due to emotional and social support (Azim et al., 2013; Kemunto et al., 2018; Saner & Eyüpoğlu, 2013). Likewise, teaching subjects impacted by societal preferences or perceived difficulty levels influence teacher workloads and satisfaction (Watt & Richardson, 2007).

In addition, academic degrees such as bachelor's, Master's/ doctorate degrees could affect the teachers' professional development prospects, opportunities for leadership positions, and career growth, thus, job satisfaction (Ghazi et al., 2012). Another critical variable is the school levels, which are primary, secondary, and high school, with differences in curriculum requests, responsibilities, organizational support, and student characteristics (Boyd et al., 2011). Finally, Kazakhstan's multilingual and multicultural context also adds another important variable: the medium language of instruction, Kazakh, Russian, and English. The language variable is influenced by the differences in the resources of the materials in a particular language, social attitudes, and student demographics (OECD, 2005). Gathering existing global and Kazakhstani context studies, the following literature review provides a thorough understanding of the factors influencing teacher job satisfaction with the aim of informed implications for policy and practice.

This study addresses three critical problems facing Kazakhstan's educational system. First, it is the language policy equity challenges with a focus on how Kazakhstan's trilingual education policy creates differential working conditions that impact teacher satisfaction across language-medium schools. Second, it is the reform-induced workload disparities addressing the issue of how rapid curriculum modernization and international standardization efforts create varying job demands across grade levels and subject areas. Third, it is the cultural-professional identity tensions reflecting how traditional Kazakhstani cultural values intersect with evolving professional expectations to influence teacher satisfaction patterns. Our research questions emerge directly from these documented challenges:

RQ1: To what extent does teaching language create differential job satisfaction patterns, particularly regarding resource access and professional autonomy?

RQ2: How do grade-level and subject-area differences in reform implementation impact teacher satisfaction with workload and professional support?

RQ3: How do cultural factors such as marital status and academic qualifications intersect with Kazakhstan's evolving educational expectations?

RQ4: What culturally-sensitive policy interventions can address identified disparities while respecting traditional values?

LITERATURE REVIEW

Below, we closely analyze the existing literature on job satisfaction from multiple perspectives, including but not limited to the definition and theoretical lens, grade level, teaching subject, and teachers' academic qualification, to name a few. First, let us address the context of the study.

Context of the Study

Traditional Western conceptualizations of teacher job satisfaction emphasize individual autonomy, personal achievement, and competitive advancement—values that may not fully capture the collectivist orientation and hierarchical respect characterizing post-Soviet educational cultures (Meier & Spector, 2015). In Kazakhstan's context, job satisfaction must be understood through the lens of cultural values emphasizing collective responsibility, respect for authority, and family-community integration.

Recent research in post-Soviet educational contexts reveals significant cultural mediation of job satisfaction factors. For instance, Kozhabayeva & Boivin (2022) demonstrate how Kazakhstani teachers' professional identity incorporates traditional values of mentorship and collective responsibility that differ markedly from individualistic Western models. This cultural specificity necessitates careful adaptation of established theoretical frameworks.

Kazakhstan's ambitious trilingual education policy represents one of the world's most comprehensive multilingual education initiatives, yet implementation has created documented disparities in resource allocation and teacher support. Research by the OECD (2019) identifies significant gaps in teaching materials, professional development opportunities, and technological infrastructure across language-medium schools.

Kozhabayeva and Boivin (2022) document how emergency remote teaching during COVID-19 revealed stark inequalities in digital resources and pedagogical support between Kazakh-medium and Russian/English-medium schools. These disparities directly impact teachers' daily working conditions, suggesting that language of instruction may serve as a significant predictor of job satisfaction through its mediation of available resources and professional support.

The cultural dimensions of language choice add complexity to these resource disparities. Teaching in Kazakh often carries additional cultural responsibility as teachers serve as language preservationists and cultural transmitters, potentially increasing both job significance and emotional demands (Toybazarova & Nazarova, 2018).

Kazakhstan's rapid adoption of international educational standards, including Cambridge curriculum integration and STEM education expansion, has created uneven reform pressures across grade levels and subject areas. Primary educators face particular challenges as they adapt to competency-based approaches while maintaining traditional nurturing roles valued in Kazakhstani culture.

International research suggests that reform implementation often increases teacher workload without proportional resource increases, leading to decreased job satisfaction (Skaalvik & Skaalvik, 2020). However, these studies typically examine incremental reforms in stable systems rather than the comprehensive transformation characterizing Kazakhstan's educational modernization.

STEM education expansion, while nationally prioritized, has created resource and support disparities between STEM and non-STEM educators. Government investment in STEM infrastructure and professional development has not been matched by similar support for humanities and arts education, potentially creating satisfaction differentials between subject areas.

Traditional Kazakhstani culture emphasizes collective responsibility, respect for elders, and family-community integration—values that intersect complexly with evolving educational professionalization. The concept of "ұстаз" (teacher) in Kazakhstani culture encompasses not only instructional responsibilities but also moral guidance and community leadership, creating unique professional expectations.

Research on Central Asian educational cultures suggests that teacher satisfaction may be more closely tied to community recognition and moral authority than to salary or career advancement opportunities emphasized in Western studies (Ahn et al., 2021). This cultural specificity requires careful attention to how traditional satisfaction factors may operate differently in Kazakhstan's context.

Marriage and family relationships hold particular significance in Kazakhstani culture, with potential implications for work-life balance expectations and job satisfaction patterns. Traditional gender roles and family obligations may create different satisfaction patterns than observed in Western contexts where individual career achievement is more highly emphasized.

Teacher Job Satisfaction: Definitions and Theoretical Perspectives

Teacher job satisfaction is a multifaceted construct influenced by an array of intrinsic and extrinsic factors, shaping teachers' professional commitment, effectiveness, retention, and overall well-being (Meier & Spector, 2015). Traditionally, job satisfaction has been defined as an individual's emotional and cognitive evaluation of their work conditions, encompassing aspects such as salary, career progression, and workplace relationships

(Judge & Klinger, 2008). Scholars have further conceptualized job satisfaction as a "pleasurable or positive emotional state resulting from the appraisal of one's job experiences" (Buchbinder et al., 2001). More recent studies suggest that job satisfaction is not solely driven by external work conditions but is also shaped by teacher autonomy, professional recognition, work-life balance, and the sociopolitical context of education (Wang et al., 2022).

Theoretical frameworks such as Herzberg's Two-Factor Theory (Herzberg, 1966) and the Job Demands-Resources Model (Bakker & Demerouti, 2007) provide a structured understanding of the factors influencing job satisfaction. Herzberg's theory posits that motivators such as recognition, achievement, and personal growth enhance job satisfaction, whereas hygiene factors such as salary, policies, and job security merely prevent dissatisfaction. The Job Demands-Resources Model, on the other hand, explains how job demands (e.g., workload, time pressure) and resources (e.g., autonomy, professional development) interact to influence well-being and satisfaction.

In Kazakhstan, teacher job satisfaction has received relatively limited empirical attention. While existing global studies provide essential frameworks for understanding teacher motivation, burnout, and retention, most of these studies have been conducted in Western or high-income country contexts. Consequently, their applicability to Kazakhstan's unique sociocultural, economic, and linguistic educational landscape remains uncertain (Kozhabayeva & Boivin, 2022). Furthermore, given Kazakhstan's efforts to align its education system with international standards while preserving national identity, examining teacher satisfaction within this transitioning post-Soviet education system is of critical importance. This study aims to bridge this research gap by providing an in-depth, nuanced analysis of job satisfaction among Kazakhstani teachers across different demographic and professional dimensions.

Job Satisfaction Across Grade Levels

Research on job satisfaction has consistently demonstrated variations across different teaching levels, with notable distinctions between primary, middle, and secondary school teachers. Several studies suggest that primary school teachers frequently report higher levels of job-related stress due to the additional caregiving and classroom management responsibilities they undertake, whereas secondary teachers face greater subject-specific workload pressures and student behavioural challenges (Lüleci & Çoruk, 2018).

Recent research from the Pew Research Center (Schaeffer, 2024) indicates that while overall job satisfaction levels among elementary, middle, and high school teachers remain relatively comparable, key differences emerge in specific domains. Elementary school teachers report lower autonomy over curriculum design (39%) compared to high school teachers (53%), yet they express greater satisfaction with student relationships (55% vs. 35%). These findings suggest that structural, pedagogical, and administrative differences across grade levels influence teachers' professional experiences in profound ways.

The differences in satisfaction by grade level may be further explained by teacher-student interaction quality, workload intensity, and administrative expectations. Primary school teachers typically experience closer, more personal connections with their students but report exhaustion due to emotional labour and extensive lesson planning demands (Hakanen & Kaltianen, 2022). Secondary school teachers, while having more autonomy over content delivery, often struggle with student disengagement, assessment burdens, and performance pressures (Skaalvik & Skaalvik, 2020).

In Kazakhstan, where primary and secondary education policies have undergone multiple reforms in the past decade, understanding how grade level influences teacher satisfaction is essential for designing targeted professional development programs, adjusting workload expectations, and developing policies that cater to the distinct needs of teachers at various levels.

Influence of Teaching Subject on Job Satisfaction

The relationship between teaching subjects and job satisfaction is well-documented, particularly in STEM vs. non-STEM fields. Previous research has found that STEM teachers often experience greater job security due to increased demand for their expertise but face significantly higher workload demands due to curriculum complexity and interdisciplinary teaching expectations (Sims, 2018). A study by Wang et al. (2018) further highlights that school support structures significantly influence non-STEM teachers' job satisfaction, whereas STEM teachers' satisfaction is more strongly correlated with student behavior, resource availability, and workload distribution.

A recent study from China (Wang et al., 2024) revealed that novice STEM teachers exhibited lower job satisfaction due to inadequate social and institutional support structures, compounded by high expectations for student performance and innovation. Given Kazakhstan's national focus on STEM education expansion as part of its broader economic and technological modernization efforts, it is crucial to examine whether similar trends are observed in Kazakhstani schools and whether STEM teachers receive adequate institutional and policy support to sustain long-term job satisfaction. Moreover, non-STEM teachers, particularly those in humanities and the arts, often report lower job satisfaction due to limited funding, fewer professional development opportunities, and reduced job security (García & Weiss, 2019). In Kazakhstan, balancing the educational system's emphasis on STEM with the need to maintain high-quality instruction in humanities and social sciences is critical.

Academic Qualifications and Job Satisfaction

The role of academic qualifications in teacher job satisfaction has been extensively debated in education research. Several studies suggest that teachers with higher academic qualifications (Master's degree or Ph.D.) experience greater job satisfaction due to increased career advancement opportunities, professional autonomy, and higher salaries (Pérez Fuentes et al., 2023). However, other research indicates that doctoral-level teachers often encounter institutional constraints that limit their professional growth, particularly in non-research-intensive educational settings (Maina et al., 2021). A study conducted in Iran (Aliakbari, 2015) found a positive correlation between higher academic degrees and job satisfaction, emphasizing that postgraduate teachers reported greater motivation due to enhanced pedagogical expertise, increased research opportunities, and stronger institutional support. However, a contrasting study from Kenya (Maina et al., 2021) reported a negative correlation, with highly educated teachers expressing frustration over limited career progression despite additional qualifications. These findings suggest that the influence of academic qualifications on job satisfaction is highly context-dependent.

Kazakhstan's teacher certification framework has undergone recent revisions, making it imperative to explore whether higher academic qualifications contribute to greater job satisfaction or lead to frustration due to limited professional growth pathways. Additionally, as the Ministry of Education of Kazakhstan increasingly promotes research-based teaching, teachers with advanced degrees may face shifting expectations regarding research engagement, student mentorship, and institutional leadership roles.

Research Gap and Study Contribution

Despite extensive literature on teacher job satisfaction, three critical gaps limit understanding of Kazakhstan's specific context. First, cultural adaptation deficit: Existing studies predominantly focus on Western, individualistic contexts, providing limited insight into how collectivist cultural values mediate job satisfaction factors. Second, multilingual education gaps: While research exists on bilingual education challenges, Kazakhstan's trilingual implementation represents a unique policy experiment requiring targeted investigation. Third, post-soviet transition analysis: Limited research examines how post-Soviet educational systems'

ongoing transformation creates novel job satisfaction dynamics distinct from both Western and other developing country contexts.

This study addresses these gaps by providing the first comprehensive quantitative analysis of teacher job satisfaction in Kazakhstan's multilingual context, employing culturally-adapted theoretical frameworks to generate insights relevant for similar transitional educational systems.

METHODOLOGY

Below, we describe the instrument – the TGSQ survey that was applied to the sample of N = 383 teachers with the purpose of measuring teachers' job satisfaction in Kazakhstan. Considering that this study is based on quantitative research methods, we also discuss sources of quantitative data collection and data analysis procedures in this section.

Research Design

This study employs a quantitative survey design informed by pragmatic philosophical assumptions that recognize the importance of cultural context in shaping research interpretation. While maintaining methodological rigor through standardized instrumentation, our approach acknowledges that statistical relationships must be interpreted through Kazakhstan's specific cultural and linguistic lens.

Instrument

For measuring teacher job satisfaction, we employed Lester's (1987) Teacher Job Satisfaction Questionnaire (TJSQ), an instrument designed to assess various dimensions of educator workplace satisfaction. This comprehensive survey tool comprises 66 items distributed across nine distinct satisfaction domains: Supervision, Colleagues, Working Conditions, Pay, Responsibility, Work Itself, Advancement, Security, and Recognition (detailed descriptions provided in **Appendix A**). The theoretical foundation of the TJSQ draws upon Maslow's hierarchy of needs and Herzberg's two-factor theory, with Lester (1987) noting that these motivational frameworks align well with the structural elements found within educational organizations. The instrument demonstrates strong internal consistency, as evidenced by a Cronbach's alpha reliability coefficient of 0.93.

The survey includes questions like "Does my manager help me when I need it?" "Do my coworkers motivate me to excel in my work?" "Are there areas for improvement in the working conditions at my school?" and so on. The survey aimed to assess differences in job satisfaction, among teachers based on their gender, age group, years of teaching experience, teaching location, and type of school they work in.

TJSQ Translation and Cultural Adaptation

The TJSQ was translated into Kazakh and Russian through back-translation procedures involving educational linguistics experts. Cultural adaptation focuses on ensuring that satisfaction constructs maintained conceptual equivalence while recognizing potential cultural differences in factor interpretation. For instance, items addressing "autonomy" were interpreted within Kazakhstan's hierarchical educational culture where collaborative decision-making may be more valued than individual independence.

Sample Specification

Teachers across Kazakhstan were invited to participate in the survey through their education departments and school leaders with educators from various regions and cities contributing by completing the questionnaire form. The sample of N = 383 teachers completed the questionnaire form in total for the study's sample size

clarification within Kazakhstan, which may not be broad enough to conclude it effectively. The participants were divided based on gender into female groups and categorized by age into three brackets as follows 20 to 30 years old individuals falling under the first bracket then, followed by 30 to 40 years old in the second bracket, and lastly, those above 40 years old in the third bracket. Moreover, accounting for teaching experience, there were three subgroups based on teaching durations, which include individuals with experience levels ranging from 0 to 5 years falling under one category then, followed by those with 5 to 15 years of experience in another category, and finally educators with, over 15 years of teaching experience put into their own category as well.

In Kazakhstan's system, schools are categorized as either public or private institutions. Public school teachers are government employees who deliver education based on the curriculum. They undergo training sessions and certification processes, including national proficiency exams, to validate their skills. On the other hand, teachers in private schools must meet higher standards of proficiency and qualification. Educators are chosen based on a review of their portfolios containing details of their work experience and background as well as the outcomes of interviews conducted with them. Additionally, schools that follow curricula have a preference for hiring teachers with advanced foreign language proficiency levels.

Teachers who participate in the survey work in both areas and rural communities are classified based on their teaching locations as urban teachers or rural teachers, respectively. The quality of amenities like having access to a high-speed internet connection for work purposes, transportation to/from work, and opportunities to connect with colleagues from different schools can influence their overall job satisfaction in the teaching profession. Rural educators often face challenges due to internet connectivity, which hinders their daily tasks (Kozhabayeva & Boivin, 2022). In educational institutions like schools and villages in different regions, there are multiple shifts due to class overcrowding at times. In village schools with limited resources in terms of classes and teachers, educators often find themselves teaching multiple subjects. Furthermore, urban areas are dotted with private schools, while the majority of schools in rural settings are publicly funded.

Data Collection

The survey was created using Google Forms for respondents' ease of use and accessibility in three languages. English initially and then translated and validated in Kazakh and Russian by experts. The responses were received from 267 participants (69.7%) in the Kazakh language, 105 participants (27.4%) in the language, and 13 participants (around 3.4%), in the English language. A total of 383 teachers completed the survey online using Google Sheets to collect their responses. The initial section of the questionnaire gathered details and inquired about factors like gender identity and work history. After that segment, followed by 66 statements from the TJSQ measure, teachers rated their agreement with each statement on a 5-point scale (ranging from 1 for disagree to 5 for strongly agree). The survey form stated that participation in the survey is optional, and responses remain anonymous.

Data Analysis

The collected information was examined using the Jamovi (2023) analysis software because it is commonly used for conducting ANOVA and interpreting data patterns for analysis purposes. Initially employed as the Shapiro-Wilk test to check for normality in each dataset to ensure the responses were distributed normally. This test helps ascertain whether the sample data aligns with a population that follows a distribution pattern (Tsagris & Pandis, 2021). We used the Kruskal-Wallis test to analyze the differences among multiple groups along with the effect size statistic using Cohen d coefficient.

We analyzed participants' responses on gender, grade level, and type of school groups using T-tests due to having two independent samples. The Independent Samples t-test examines the averages of two groups to determine if there is significant statistical proof that the means of corresponding populations are dissimilar (Rochon et al., 2012).

Table 1. Group descriptives: Grade level factor

	Group	N	Mean	SD	SE
Responsibility	1	97	3.98	0.564	0.0573
	2	189	4.18	0.480	0.0349

Research Ethics

This study received approval from the Institution Ethics Review Board. All participants provided informed consent after receiving clear information about study purposes, procedures, confidentiality protections, and their rights. Data collection procedures ensured anonymity through coded responses with no identifying information collected. Participants were informed of their right to withdraw at any time without consequences. Survey responses were stored on secure, password-protected servers with limited access to research team members. Data analysis employed anonymized datasets with no potential for individual identification.

RESULTS

In this section, we present the study's main results, including data from the TJSQ survey addressing the teachers' job satisfaction across grade levels, teaching subjects, academic degrees, marital status, and language of instruction.

Job Satisfaction Level of Teachers Across Grade Levels

In this sub-section, we analyze the relationship between teachers' job satisfaction across the grade levels they have their teaching assignments. The teachers who participated in the survey were divided into three groups, depending on the classes they teach: elementary (1), middle (2), and high school (3). Almost half of the teachers (49%) teach middle class. And the number of teachers teaching elementary (25%) and high school (26%) is almost equal.

Normality test results demonstrated that answers regarding all factors were not normally distributed ($p < 0.05$). For this reason, the Kruskal-Wallis test was used to compare the groups. The result of Kruskal-Wallis showed that there is a significant difference only in Responsibility ($p = 0.011$). Therefore, pairwise comparisons were made to compare this factor between the groups which showed that there is a significant difference between the first and second groups. In conformity with the data from the descriptive **Table 1**, the teachers in the second group (secondary school, M = 4.18) have a higher level of satisfaction with their responsibilities than the teachers of the first group (primary school, M = 3.98) with the medium effect size (Cohen's d = 0.382). The difference between first (M = 3.98) and third group (M = 4.08) and second (M = 4.18) and third group (M = 4.08) is not significant (see **Appendix B**).

In the category of grade levels, it was found that there was no significant difference among grade levels except for the satisfaction with the responsibilities factor. The lowest satisfaction level is observed at the primary grade level, meaning Primary teachers are the group that is least satisfied with their chances to be responsible for their own tasks and their voice in decision-making procedures.

Job Satisfaction Level Across Teaching Subjects

The participants were grouped into two groups: STEM and non-STEM teachers. STEM teachers were assigned as 1st group, and non-STEM as 2nd group. About third of the teachers (108) teach sciences, and the rest are teachers of subjects related to languages, social sciences, culture, and sports. The number of teachers in the 2nd group is higher because almost all primary school teachers belong to that group. 32% of non-STEM teachers who completed the survey teach elementary school. Independent sample t-test results (**Table 2**) showed that there is a significant difference between groups for Security ($p < 0.001$ with effect size, Cohen's d = 0.402) and

Table 2. Teaching subject factor: Independent samples t-test

		Statistic	df	p
Security	Student's t	3.5264	383	< .001
	Mann-Whitney U	11556		< .001
Recognition	Student's t	2.0206	383	0.044
	Mann-Whitney U	13106		0.057

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

Table 3. Group descriptives: Teaching subject factor

	Group	N	Mean	SD	SE
Security	1	108	3.72	0.689	0.0663
	2	277	3.44	0.704	0.0423
Recognition	1	108	3.72	0.806	0.0776
	2	277	3.54	0.767	0.0461

Table 4. Academic degree factor: One-way ANOVA (Welch's)

	F	df1	df2	p
Work conditions	4.33	2	90.4	0.016

Recognition (p = 0.044, Cohen's d = 0.229). Based on the descriptive **Table 3**, it was shown that STEM teachers (M_S = 3.72; M_R = 3.72) have higher satisfaction levels on these two factors than non-STEM teachers (M_S = 3.44; M_R = 3.54). According to the results, security and recognition factors influencing job satisfaction are significantly higher among STEM teachers than non-STEM teachers (see **Appendix C**). This means STEM teachers are more satisfied with their policies governing employment aspects, such as work stability and management of the workforce, and with their acknowledgement or assessment.

Job Satisfaction Level of Teachers Across Academic Degree

The teachers who responded to the survey were divided by academic degree into 1 - bachelor's degree, 2 - master's degree or doctorate, and 3 - no academic degree groups. Two-thirds or 65.5% of the teachers (251) have completed at least a bachelor's degree in education. 100 teachers have master's or Ph.D. degrees. Only 8.8% of 34 teachers don't have any academic degree in this field. They might have started working at schools after completing pedagogical retraining programs or pedagogical colleges. According to the Normality Test, only Work conditions had a normal distribution. For this reason, a One-way ANOVA test was conducted for this factor. As a result of the test p-value being 0.016, it can be seen that there is a significant difference between the groups (**Table 4**). One-way ANOVA shows whether or not there is a significant difference between groups. The Tukey Post-Hoc Test was done to see exactly between which groups there is a difference. However, the test result showed that all p-values are higher than 0.05. From this, it can be concluded that there is no difference between the groups by the factor Work conditions.

Since there is no normal distribution for the remaining eight factors, they were compared by Kruskal-Wallis which showed that there is a significant difference in responsibility. Pairwise comparisons show that there is a significant (p = 0.044) difference between the 1st (bachelor) and 2nd (master/doctor) groups. In conclusion, there is a significant difference in responsibility between teachers with a bachelor's degree and teachers with a master's/doctorate. Comparing means, teachers with a master's or doctoral degree (M = 4.22) were more satisfied with their responsibilities than teachers with only a bachelor's degree (M = 4.07) (see **Appendix D**).

To conclude, while the other eight factors' influence on job satisfaction has no significant correlation between academic degree level, job satisfaction with responsibility among the master's and doctorate level is observed to be significantly higher than the teachers with bachelor's degrees. This signifies that teachers with master's

Table 5. Marital status factor: Independent samples t-test

		Statistic	df	p
Responsibility	Student's t	-3.695	381	< .001
	Mann-Whitney U	11920		< .001
Work itself	Student's t	-2.129	381	0.034
	Mann-Whitney U	13128		0.015
Security	Student's t	-2.977	381	0.003
	Mann-Whitney U	12516		0.002

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

Table 6. Teaching language factor: Kruskal-Wallis test

	χ^2	df	p
Pay	7.757	2	0.021
Responsibility	14.366	2	< .001

Table 7. Pairwise comparisons: Pay

Groups		W	p	Cohen's d
1	2	-3.269	0.054	0.301

Table 8. Pairwise comparisons: Responsibility

Groups		W	p	Cohen's d
1	2	3.699	0.024	0.335
1	3	4.649	0.003	0.479

and doctoral degrees are more satisfied with their opportunities to have work ownership and participation in policy or organizational decision processes.

Job Satisfaction Level of Teachers According to Marital Status

Based on marital status, teachers were divided into married (1st group) and unmarried (2nd group). Two thirds of the respondents (70%) have families and the remaining 117 teachers have not created a family. According to the results of the T-test (**Table 5**), a significant difference was found in responsibility, work itself, and security. In terms of responsibility, the mean of unmarried teachers (M = 4.25) is higher than the mean of married teachers (M = 4.04). Single teachers (M = 3.84) are also more satisfied with Work itself than married teachers (M = 3.71). Considering the factor of security, married teachers (M = 3.45) had a lower satisfaction level than non-married teachers (M = 3.67) (see **Appendix E**).

Out of the nine factors analyzed, responsibility, work itself, and security show significant differences. Unmarried teachers report greater job satisfaction among the three factors, with greater responsibility (accountability and a voice in the decision-making process), work itself (freedom and autonomy in the job constitution), and security (job stability and employment protection) compared to their married counterparts.

Job Satisfaction Level of Teachers Across Teaching Language

Since education in Kazakhstan schools is conducted in three languages, participants were divided into 3 groups depending on which language they teach. The first group was for teachers who teach in Kazakh, the second group in Russian, and the third group in English. The percentage of teachers teaching in the Kazakh language is 62% or 237 teachers, Russian is 20% or 75, and English is 18% or 71 teachers. **Tables 6–8** depict the statistics of the data with regard to teaching language factor.

According to the information provided in the tables, there is no significant difference between the groups, except for pay and responsibility. To compare these two factors, pairwise comparisons were conducted in each

Table 9. Group descriptives: Teaching language factor

	Group	N	Mean	SD	SE
Pay	1	237	3.11	0.666	0.0432
	2	75	2.91	0.664	0.0767
Responsibility	1	237	4.03	0.532	0.0346
	2	75	4.20	0.482	0.0556
	3	71	4.26	0.422	0.0501

group. There is a difference in pay for the 1st and 2nd groups. Teachers who teach in Kazakh (M = 3.11) are more satisfied than teachers who teach in Russian with their salary (M = 2.91).

In terms of responsibility, there is a significant difference between the 1st and 2nd (p=0.024) groups and between the 1st and 3rd (p = 0.003) groups. But between the 2nd and the 3rd (p = 0.864), there are no insignificant differences (**Table 9**). Teachers who teach in Kazakh (M = 4.03) are less satisfied with their responsibilities than teachers who teach in Russian (M = 4.20) and English (M = 4.26) (see **Appendix F**).

This implies that teachers using the Kazakh language as a medium of instruction report being more satisfied with their annual income than teachers using a Russian medium of instruction. On the other hand, the first group shows the lowest satisfaction level with responsibility, that is, ownership and contribution to decision-making processes, such as policy-making, among the three language groups (Kazakh, Russian, English).

Synthesis of the Findings

Our analysis reveals complex interactions between demographic factors that reflect Kazakhstan's unique educational landscape. For instance, the concentration of non-STEM teachers in primary education (32% of non-STEM teachers work at elementary level) compounds the challenges facing this population through multiple disadvantages. Across analyses of different factors, traditional Kazakhstani cultural values appear to mediate job satisfaction factors in ways that differ from Western patterns. Collective responsibility, hierarchical respect, and family obligations create unique satisfaction dynamics requiring culturally-sensitive policy responses. The consistent pattern of disparities across language, grade level, and subject area suggests that Kazakhstan's educational reforms and policies have created uneven impacts on teacher working conditions, with some groups systematically disadvantaged in terms of resources, support, and professional autonomy.

DISCUSSION

This study provides a comprehensive examination of teacher job satisfaction in Kazakhstan, highlighting the influence of various demographic and professional factors, including grade level, teaching subject, academic degree, marital status, and teaching language. Our findings offer critical insights into the complexities of teacher job satisfaction, with implications for both policy and practice in Kazakhstan's education sector.

Job Satisfaction Across Grade Levels

Our results indicate that teachers in secondary schools report higher levels of satisfaction with their responsibilities compared to primary school teachers. This aligns with previous research suggesting that primary school teachers often encounter additional caregiving responsibilities, which may contribute to their increased workload and stress (Lüleci & Çoruk, 2018). The finding underscores the need for differentiated support mechanisms across grade levels, particularly targeted interventions to enhance the well-being of primary school teachers. Policies that reduce non-instructional responsibilities, such as administrative duties or student behavioural management, may improve job satisfaction among primary school educators.

Teaching Subject and Job Satisfaction

STEM teachers reported higher levels of satisfaction regarding security and recognition compared to their non-STEM counterparts. This may reflect the increased demand and funding for STEM education globally, which often results in better job stability and professional development opportunities for STEM educators (Wang et al., 2018). However, despite higher perceived job security, STEM teachers may still experience significant workload challenges, as they are often required to teach across multiple disciplines (Sims, 2018). Policymakers should consider incentives such as specialized training, additional resources, and reduced teaching loads for STEM educators to maintain and enhance their job satisfaction.

Impact of Academic Degree on Job Satisfaction

Our findings suggest that teachers with higher academic qualifications (master's or PhD) are more satisfied with their responsibilities compared to those with only a Bachelor's degree. This is consistent with research indicating that higher academic qualifications correlate with increased self-efficacy, career advancement opportunities, and professional autonomy (Pérez Fuentes et al., 2023). However, some studies have reported that attaining higher degrees does not always translate to greater job satisfaction (Maina et al., 2021), as institutional constraints may limit professional growth. To optimize the benefits of advanced degrees, education policymakers should ensure that degree-holding teachers are provided with leadership roles, research opportunities, and competitive salaries.

Marital Status and Job Satisfaction

Contrary to some existing literature, our study found that unmarried teachers reported higher levels of satisfaction with their responsibilities, work itself, and job security compared to their married counterparts. This finding contrasts with prior studies that associate marital status with increased job satisfaction due to emotional and social support (Kemunto et al., 2018). The discrepancies may be attributed to cultural and contextual differences, suggesting that further qualitative research is needed to explore the underlying causes of this trend in Kazakhstan. Future policies should focus on providing work-life balance programs, particularly for married teachers, to ensure that professional responsibilities do not interfere with personal well-being.

Teaching Language and Job Satisfaction

Language of instruction also played a role in job satisfaction. Teachers instructing in Kazakh reported lower satisfaction with their responsibilities compared to those teaching in Russian or English. This may be due to disparities in teaching resources, instructional support, and societal attitudes toward different languages in Kazakhstan's multilingual education system (OECD, 2005). Ensuring equal access to quality teaching materials and professional development opportunities across all language groups can help mitigate these disparities.

Teacher Retention and Policy

The findings of this study have several practical implications. First, policymakers should implement targeted interventions to enhance job satisfaction among primary school and non-STEM teachers. Second, improving career advancement opportunities and leadership roles for highly qualified educators may serve as a motivation to retain experienced teachers. Finally, addressing disparities in teaching conditions across language groups can foster a more equitable educational environment.

CONCLUSION

This study contributes to the understanding of teacher job satisfaction in Kazakhstan by examining variations across multiple demographic and professional factors. The results indicate that satisfaction levels differ

significantly based on teaching grade, subject, academic qualifications, marital status, and language of instruction. Key takeaways from our research include the following. First, primary school teachers experience lower job satisfaction due to additional responsibilities, suggesting the need for workload adjustments and support strategies. Second, STEM teachers report higher job security but face workload challenges, highlighting the need for specialized resources and training. Third, teachers with advanced degrees are more satisfied with their responsibilities, underscoring the importance of creating career advancement pathways. Fourth, married teachers report lower satisfaction in key areas, raising questions about work-life balance initiatives. Finally, Kazakh-language instructors face unique job satisfaction challenges, indicating the necessity of resource equity in multilingual education.

The study also highlights the need for future research exploring the qualitative dimensions of job satisfaction, including teacher perceptions, cultural influences, and policy impacts. By addressing these factors, Kazakhstan can strengthen its educational workforce, improve teacher retention, and enhance overall teaching quality.

Limitations

Despite its contributions, this study has several limitations that should be acknowledged. First, the study relies on self-reported data, which may be subject to response bias. Participants' perceptions of their job satisfaction could be influenced by external factors, such as recent events in their professional or personal lives. Second, while the sample size of 383 teachers provides meaningful insights, it may not fully capture the diversity of Kazakhstan's vast and varied education system. Future research should aim for a larger and more representative sample, incorporating teachers from different regions, school types, and socioeconomic backgrounds. Third, the study primarily focuses on quantitative survey data, limiting the depth of understanding regarding teachers' experiences. A mixed-methods approach that includes qualitative interviews or focus groups could provide richer insights into the underlying reasons for differences in job satisfaction. Lastly, the study does not account for longitudinal changes in teacher job satisfaction over time. Future studies could adopt a longitudinal design to examine how job satisfaction evolves with changes in policies, work conditions, and career progression.

Future Research

Building on the current findings, several avenues for future research emerge. First, future studies should explore the intersection of teacher job satisfaction with mental health and well-being, as stress and burnout are significant concerns in the education sector. Second, comparative research examining teacher satisfaction across different educational systems, particularly post-Soviet states, could provide a broader perspective on the unique challenges and strengths of Kazakhstan's education system. Third, future studies could investigate the role of school leadership and administrative support in shaping teacher job satisfaction, as effective leadership has been shown to significantly impact teacher retention and workplace morale. Fourth, given the multilingual nature of Kazakhstan's education system, further research is needed to examine how linguistic policies and language of instruction influence teachers' experiences, resource accessibility, and career growth. Finally, an exploration of gender-specific trends in job satisfaction could provide insights into how gender roles and expectations shape teachers' professional experiences in Kazakhstan.

Contribution to the Field

This study contributes to literature by demonstrating the necessity of cultural adaptation in job satisfaction research. The identification of language-medium instruction as a critical satisfaction variable represents another contribution relevant for multilingual education systems globally. Our findings also suggest that language policy implementation creates systematic working condition disparities that require targeted policy attention.

More specifically, this study contributes to the broader field of teacher job satisfaction and education policy in several ways. First, it provides empirical evidence from a non-Western, post-Soviet context, addressing a gap in the literature where most existing studies are concentrated in Western education systems. Second, by identifying specific demographic and professional factors influencing teacher job satisfaction, the study offers a nuanced understanding of how institutional and societal dynamics interact to shape teachers' experiences. Third, the study highlights the importance of equitable policy interventions, emphasizing the need for targeted support mechanisms that address disparities between STEM and non-STEM teachers, teachers with varying academic qualifications, and those teaching in different languages. Finally, the research provides practical recommendations for policymakers, educational institutions, and teacher training programs in Kazakhstan, helping to inform future strategies for teacher retention and professional development.

Implications for Practice

The findings of this study offer several important implications for education policymakers and school administrators in Kazakhstan. First, workload management for primary school teachers: Since primary school teachers report lower job satisfaction due to additional responsibilities, school administrators should implement workload management strategies to support these educators. Reducing administrative tasks and increasing access to teaching assistants could alleviate some of their burdens. Second, enhanced support for non-STEM teachers: While STEM teachers reported higher job security and recognition, non-STEM teachers expressed lower satisfaction in these areas. Policymakers should consider incentive programs and professional development opportunities tailored to non-STEM educators to ensure parity in support. Third, career advancement for highly qualified teachers: Teachers with higher academic degrees reported greater job satisfaction, but institutional barriers can sometimes limit their career growth. Creating structured career pathways, such as research roles or mentorship positions, could help retain and motivate highly qualified educators. Fourth, work-life balance for married teachers: Married teachers reported lower job satisfaction in key areas, suggesting the need for better work-life balance policies. Schools could introduce flexible scheduling options, parental leave policies, and mental health support initiatives to help married teachers manage professional and personal responsibilities. Fifth, equity in teaching resources across language groups: Teachers instructing in Kazakh reported lower job satisfaction compared to those teaching in Russian or English, likely due to disparities in instructional resources and professional development. Policymakers should ensure equal access to quality teaching materials and training programs across all language groups to promote fairness in the education system. Last but not least, strengthening school leadership and administrative support: Given the significant role that leadership plays in shaping job satisfaction, training programs for school administrators and principals should emphasize supportive leadership practices, teacher empowerment, and collaborative decision-making to foster a more positive work environment.

Synthesizing the study results, job satisfaction remains a critical factor in shaping the professional experiences, motivation, and retention of teachers. By identifying key factors that influence job satisfaction in Kazakhstan's education system, this study provides evidence-based recommendations to enhance teacher well-being and improve overall educational outcomes. Addressing disparities in support, workload, career advancement, and policy implementation will be crucial in fostering a motivated, engaged, and effective teaching workforce in Kazakhstan. Future reforms should take a holistic approach that considers teachers' needs, societal expectations, and institutional structures to create a more sustainable and rewarding teaching profession.

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APPENDIX A

Job Satisfaction Factors' Description

Factor	Definition
Supervision	The task-oriented behavior and person-oriented behavior of the immediate supervisor.
Colleagues	The work group and social interaction among fellow teachers.
Working Conditions	The working environment and aspects of the physical environment.
Pay	Annual income.
Responsibility	The opportunity to be accountable for one's own work and the opportunity to take part in policy or decision-making activities.
Work Itself	The job of teaching or the tasks related to the job. The freedom to institute innovative materials and to utilize one's skills and abilities in designing one's work. The freedom to experiment and to influence or control what goes on in the job.
Advancement	The opportunity for promotion.
Security	The school's policies regarding tenure, seniority, layoffs, pension, retirement, and dismissal.
Recognition	Some act of notice, blame, praise, or criticism.

APPENDIX B

Group Descriptives - Grade Level

	Grade level	N	Mean	SD	SE
Supervision	1	97	3.56	0.686	0.0696
	2	189	3.67	0.700	0.0509
	3	99	3.64	0.739	0.0743
Colleagues	1	97	3.54	0.535	0.0544
	2	189	3.62	0.496	0.0361
	3	99	3.60	0.533	0.0536
Work conditions	1	97	3.41	0.602	0.0612
	2	189	3.40	0.631	0.0459
	3	99	3.32	0.628	0.0631
Pay	1	97	3.03	0.702	0.0712
	2	189	3.02	0.688	0.0500
	3	99	3.08	0.627	0.0631
Responsibility	1	97	3.98	0.564	0.0573
	2	189	4.18	0.480	0.0349
	3	99	4.08	0.494	0.0496
Work itself	1	97	3.70	0.541	0.0549
	2	189	3.80	0.594	0.0432
	3	99	3.72	0.573	0.0576
Advancement	1	97	3.62	0.687	0.0698
	2	189	3.67	0.758	0.0551
	3	99	3.59	0.755	0.0759
Security	1	97	3.44	0.696	0.0706
	2	189	3.58	0.721	0.0524
	3	99	3.49	0.699	0.0703
Recognition	1	97	3.52	0.714	0.0725
	2	189	3.61	0.782	0.0568
	3	99	3.64	0.845	0.0849

APPENDIX C

Group Descriptives - Teaching Subject

	Group	N	Mean	Median	SD	SE
Supervision	1	108	3.70	3.80	0.701	0.0674
	2	277	3.61	3.70	0.708	0.0425
Colleagues	1	108	3.60	3.70	0.534	0.0514
	2	277	3.59	3.60	0.509	0.0306
Work conditions	1	108	3.36	3.40	0.566	0.0544
	2	277	3.39	3.40	0.644	0.0387
Pay	1	108	3.10	3.10	0.650	0.0626
	2	277	3.02	3.00	0.685	0.0411
Responsibility	1	108	4.14	4.10	0.484	0.0466
	2	277	4.09	4.00	0.522	0.0314
Work itself	1	108	3.76	3.80	0.592	0.0570
	2	277	3.75	3.80	0.571	0.0343
Advancement	1	108	3.62	3.80	0.841	0.0809
	2	277	3.65	3.60	0.697	0.0419
Security	1	108	3.72	3.70	0.689	0.0663
	2	277	3.44	3.30	0.704	0.0423
Recognition	1	108	3.72	3.70	0.806	0.0776
	2	277	3.54	3.70	0.767	0.0461

APPENDIX D

Group Descriptives - Academic Degree

	Academic degree	N	Mean	SD	SE
Supervision	1	251	3.58	0.734	0.0463
	2	100	3.72	0.685	0.0685
	3	34	3.75	0.518	0.0888
Colleagues	1	251	3.57	0.519	0.0327
	2	100	3.63	0.529	0.0529
	3	34	3.65	0.450	0.0772
Work conditions	1	251	3.32	0.620	0.0391
	2	100	3.46	0.646	0.0646
	3	34	3.57	0.510	0.0874
Pay	1	251	3.04	0.650	0.0410
	2	100	3.07	0.721	0.0721
	3	34	2.94	0.729	0.1250
Responsibility	1	251	4.07	0.513	0.0324
	2	100	4.22	0.509	0.0509
	3	34	4.04	0.466	0.0800
Work itself	1	251	3.73	0.553	0.0349
	2	100	3.81	0.642	0.0642
	3	34	3.74	0.548	0.0939
Advancement	1	251	3.64	0.680	0.0429
	2	100	3.64	0.865	0.0865
	3	34	3.62	0.781	0.1340
Security	1	251	3.46	0.700	0.0442
	2	100	3.65	0.715	0.0715
	3	34	3.60	0.729	0.1251
Recognition	1	251	3.57	0.777	0.0491
	2	100	3.66	0.845	0.0845
	3	34	3.63	0.602	0.1033

APPENDIX E

Group Descriptives - Marital status

	Group	N	Mean	Median	SD	SE
Supervision	1	266	3.61	3.70	0.655	0.0401
	2	117	3.67	3.80	0.813	0.0752
Colleagues	1	266	3.59	3.60	0.474	0.0291
	2	117	3.60	3.70	0.603	0.0557
Work conditions	1	266	3.36	3.40	0.585	0.0358
	2	117	3.40	3.40	0.695	0.0643
Pay	1	266	3.03	3.00	0.624	0.0383
	2	117	3.05	3.10	0.782	0.0723
Responsibility	1	266	4.04	4.00	0.510	0.0313
	2	117	4.25	4.30	0.488	0.0452
Work itself	1	266	3.71	3.80	0.558	0.0342
	2	117	3.84	3.90	0.600	0.0555
Advancement	1	266	3.60	3.60	0.716	0.0439
	2	117	3.73	3.80	0.784	0.0725
Security	1	266	3.45	3.30	0.685	0.0420
	2	117	3.68	3.70	0.730	0.0675
Recognition	1	266	3.60	3.70	0.740	0.0454
	2	117	3.58	3.70	0.874	0.0808

APPENDIX F

Group Descriptives - Teaching Language

	Teaching language	N	Mean	SD	SE
Supervision	1	237	3.63	0.671	0.0436
	2	75	3.62	0.754	0.0870
	3	71	3.64	0.778	0.0923
Colleagues	1	237	3.60	0.477	0.0310
	2	75	3.62	0.516	0.0596
	3	71	3.53	0.633	0.0751
Work conditions	1	237	3.36	0.580	0.0377
	2	75	3.44	0.639	0.0738
	3	71	3.33	0.723	0.0858
Pay	1	237	3.11	0.666	0.0432
	2	75	2.91	0.664	0.0767
	3	71	2.91	0.691	0.0820
Responsibility	1	237	4.03	0.532	0.0346
	2	75	4.20	0.482	0.0556
	3	71	4.26	0.422	0.0501
Work itself	1	237	3.70	0.568	0.0369
	2	75	3.84	0.562	0.0649
	3	71	3.80	0.594	0.0705
Advancement	1	237	3.69	0.693	0.0450
	2	75	3.51	0.798	0.0921
	3	71	3.58	0.811	0.0962
Security	1	237	3.49	0.702	0.0456
	2	75	3.49	0.734	0.0848
	3	71	3.63	0.692	0.0821
Recognition	1	237	3.62	0.751	0.0488
	2	75	3.51	0.799	0.0923
	3	71	3.57	0.868	0.1030