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Job Satisfaction, Professional Growth, and Mathematics Teachers' Impressions about School Environment

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Abstract: This study examined high school mathematics teachers' job satisfaction and professional growth in Nepal. The data were collected from 49 high school mathematics teachers using a structured questionnaire with Likert-scale items and some open-ended questions. The quantitative and qualitative analysis revealed mixed findings. Mathematics teachers were relatively satisfied with their profession; however, various factors were important for job satisfaction and professional growth. The three most important were inservice training and educational resources, schools' infrastructure, and financial incentives. The data analysis further contends that the school education system must be free from politics, and the procedure of forming the school management committee (SMC) must be isolated from political intervention. Furthermore, school teachers are prohibited or discouraged from participating in politics as political cadres. The data revealed that the different teachers' unions need to work on behalf of teachers' welfare rather than carry forward their political parties' agendas and ideologies.

Keywords: mathematics teaching; job satisfaction; professionalism; unions; politics; Nepal

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Satisfacción laboral, desarrollo profesional e impresiones de los profesores de matemáticas sobre el entorno escolar
Resumen: Este estudio examinó la satisfacción laboral y el desarrollo profesional de los profesores de matemáticas de secundaria en Nepal. Los datos se recopilaron de cuarenta y nueve profesores de matemáticas de secundaria mediante un cuestionario estructurado con ítems en escala de Likert y algunas preguntas abiertas. El análisis cuantitativo y cualitativo reveló hallazgos mixtos. Los profesores de matemáticas estaban relativamente satisfechos con su profesión; sin embargo, varios factores fueron importantes para la satisfacción laboral y el desarrollo profesional. Los tres factores más importantes fueron la capacitación en servicio y los recursos educativos, la infraestructura escolar y los incentivos financieros. El análisis de datos sostiene además que el sistema de educación escolar debe estar libre de política, y el procedimiento de formación del comité de gestión escolar (SMC) debe estar aislado de la intervención política. Además, los maestros de escuela tienen prohibido o disuadidos de participar en política como cuadros políticos. Los datos también revelaron que los diferentes sindicatos de docentes deben trabajar en nombre del bienestar de los docentes; en lugar de llevar las agendas e ideologías de sus partidos políticos.
Palabras-clave: enseñanza de las matemáticas; satisfacción laboral; profesionalismo; sindicatos; política; Nepal

Satisfação no trabalho, desenvolvimento profissional e impressões de professores de matemática sobre o ambiente escolar
Resumo: Este estudo examinou a satisfação profissional e o desenvolvimento profissional de professores de matemática do ensino médio no Nepal. Os dados foram coletados de quarenta e nove professores de matemática do ensino médio por meio de um questionário estruturado com itens da escala Likert e algumas questões abertas. A análise quantitativa e qualitativa revelou resultados mistos. Os professores de matemática estavam relativamente satisfeitos com sua profissão; no entanto, vários fatores foram importantes para a satisfação no trabalho e desenvolvimento profissional. Os três fatores mais importantes foram treinamento em serviço e recursos educacionais, infraestrutura das escolas e incentivos financeiros. A análise dos dados sustenta ainda que o sistema de ensino escolar deve estar livre da política, e o procedimento de formação do conselho gestor escolar (SMC) deve ser isolado da intervenção política. Além disso, os professores escolares são proibidos ou desencorajados de participar da política como quadros políticos. Os dados também revelaram que diferentes sindicatos de professores precisam trabalhar em prol do bem-estar dos professores; ao invés de carregar as agendas e ideologias de seus partidos políticos.
Palavras-chave: ensino de matemática; satisfação no trabalho; profissionalismo; sindicatos; política; Nepal

Job Satisfaction, Professional Growth, and Mathematics Teachers' Impression about School Environment

Job satisfaction is an important aspect of any individual's professional career. Job satisfaction refers to a positive or pleasant emotional state resulting from an individual's appreciation of their own job or experience (Locke, 1976). It is directly connected to an individual's attitudes, feelings, or preferences toward their profession (Skaalvik & Skaalvik, 2011). Teachers' job satisfaction, in particular, can be influenced by various factors. Chapman and Lowther (1982) explain four factors associated with teachers' job satisfaction. The four factors include: (1) teacher's personal

characteristics, (2) teacher's ability and skills, (3) job challenges and rewards, and (3) job accomplishments and job recognition. Similarly, Crisci, Sepe, and Malafronte (2019) suggested that teachers' job satisfaction is likely associated with school climate, leadership role, communication channel, and involvement in the school. Apparently, job satisfaction is an important aspect of the teaching profession.

Teachers play diverse roles in societal development and continuous transformation: a pedagogical role as a facilitator in school; a professional role to develop teaching as a dignified job; a community role as a responsible member in the community; a social role in broader society to maintain and preserve its social and cultural values; a political role as a change agent to transform society with time; and a moral role to establish and transmit the values of humanity, to name a few (Banda & Mutambo, 2016; Becirovic & Akbarov, 2015). How effectively teachers play these roles and fulfill their responsibilities within and outside of schools may depend on various factors divided broadly into four categories: individual or personal factors (Mukhtar et al., 2017), social and environmental factors (Treputtharat & Tayiam, 2014), power and political factors (Harris, 2014), and economic factors (Ombima, 2014). The personal factors are related to age, interest, motivation, education, training, experience, and personal philosophy. The social and environmental factors encompass classroom and school environment; interrelationships with other teachers, students, parents, and administrators; the public image of teachers; working environment; and access to teaching-learning resources. The power and political factors are related to authority and responsibility delegated to them as teachers, policies, and rules. The economic factors are related to salary and benefits, financial security, and livelihood aspects. These factors ultimately contribute to their job satisfaction. Therefore, teachers' job satisfaction is a powerful construct that may affect the quality of service while fulfilling their roles and responsibilities.

Schools in Nepalese Context

Traditional instructional methods are still dominant in Nepal. Modern pedagogic practice only gradually began to surface in national plans on education in Nepal, such as the "School Sector Reform Plan 2009–2015" (MoE, 2009). Teachers in Nepalese high schools generally use the textbook as an ultimate means for teaching, including mathematics instruction, where students memorize facts, definitions, and algorithms. Still, conceptual understanding has been less focused in mathematics lessons (Mainali & Heck, 2017). The school runs for six days and remains closed on Saturday.

Normally, school begins as early as 9:00 AM and runs until 4:00 PM, and teachers are required to teach their assigned courses in the classroom five to six periods a day, each lasting 45 minutes in length. Generally, teachers spend 3.5 to 4.5 hours teaching in the classroom and two periods per day (90 minutes) checking students' homework. Class sizes vary by school, but it is common to have as many as 60 students in public schools and 40 students in private schools. To handle such a big class, there would be no assistant teachers. Most of the schools in Nepal have poor infrastructure. Even schools in remote areas do not have enough desks and benches in their classrooms. Very few schools have access to information and communication technology (ICT) and even fewer integrate it into teaching and learning in mathematics, and ICT has been used for administrative purposes only (Ministry of Education, 2016). Thus, teachers rarely utilize ICT in the classroom (Rijal et al., 2014). Most public schools do not have a library. Few schools have multimedia rooms and computer laboratories, and even fewer schools utilize them for lesson activities. Yet, the role of ICT has been increasing in the last couple of decades, and the benefits of ICT have been recognized in the Nepalese school education system (Mainali & Heck, 2017).

Usually, there are two types of schools in Nepal: public and private. The government of Nepal funds only the public school system. Public schools are regulated and monitored by local districts, whereas private schools are monitored by the district education office. Whether private or public schools, they must follow the national curriculum framework. Local governments (municipalities) form a school management committee (SMC) to regulate and monitor schools at the local level, whereas the government of Nepal formulates education policy at the national level. For example, the School Sector Development Plan (SSDP)—a national government wing—has outlined the provision of teacher management and professional development with aims that focus on teacher quality, teaching load, and teacher motivation. The same document also outlines policy guidelines to achieve the aforementioned aims; however, the policy does not focus on teachers' job satisfaction (Ministry of Education, 2015). Although public school teachers seem to enjoy greater autonomy, recognition, and government resources than private school teachers, they seem to be less satisfied with their jobs than private school teachers in Nepal (Thadathil, 2015). Both fourth and eighth-grade teachers were highly satisfied with their jobs in OECD countries, as per the TIMSS 2015 report (Mullis et al., 2016). However, there is no adequate research on mathematics teachers' job satisfaction in the Nepalese context.

A large number of teachers are employed in public schools in Nepal (Ministry of Education, 2017). The success or failure of these schools can be assessed by how their students perform in the local, district, and national level examinations. For example, the Secondary Education Examination (SEE), an annual examination at the end of the 10th grade, has been utilized to measure Nepal's education system's success. The fact is that most of the public schools' students were underperforming in the recent SEE examination (Chapagain, 2021). Among the several reasons for the high failure of high school students in the SEE, Mathema and Bista (2006) highlighted that "unbearable class loads of teachers and lack of professional commitment and devotion for the profession" (p. 395), which might result in teachers' decreased job satisfaction. The fact is that job satisfaction has many important and extensive implications (Toropova et al., 2021). Eklund (2008) states, "when I was happier and more relaxed as a teacher, both I was a better colleague and my students performed better" (p. 18). He further reported that teachers were unhappy with the profession due to various reasons such as fatigue from teaching, conflict with the school's administration, and multiple roles of teachers.

Similarly, satisfied teachers are less susceptible to stress and burnout (Skaalvik & Skaalvik, 2011). Mathematics teachers in Nepal are no exception concerning these issues raised by Eklund. Instead, they corroborate and align as common challenges where job satisfaction has a significant stake in schools in Nepal and elsewhere.

Compared to other South Asian countries, the salary, benefits, and other facilities for teachers in Nepal appeared low (Shrestha, 2005). Moreover, teachers negatively perceive the profession because of the insufficient educational resources, over-workload, unfair performance and evaluation systems, and less interactive culture in schools (Rijal et al., 2014). The low salaries of teachers contribute to the poor morale of teachers (Sharma et al., 2016). In fact, an increased level of job stress resulted in a negative link between burnout and job satisfaction (Skaalvik & Skaalvik, 2007).

Despite various educational reforms, the outcome of the reforms was not as significant as it was anticipated. One of the trends that have been noted in the last couple of decades in Nepal is the over-politicizing of different sectors, including school education. For example, Shah (2016) stated that the local government should take decisive steps to avoid external influences in the teacher recruitment process since other stakeholders have a constant intervention. In fact, the relationship between the SMC and teachers, in general, was very poor and tense, and SMCs were being

politicized by political parties (Shrestha, 2005). Similarly, Poudel (2015) reported that various teachers' unions are associated with political parties and carry their political parties' ideologies rather than working for the benefits and welfare of Nepalese teachers. Therefore, this study sought to examine the factors affecting high school mathematics teachers' job satisfaction, important factors affecting teachers' professional growth, and teachers' impressions of the school environment. In this regard, the researchers pose the following research questions:

1. To what extent are high school mathematics teachers satisfied with their profession?
2. What factors help to improve their professional growth and job satisfaction?
3. What are the mathematics teacher's impressions of the school's environment, teacher's organizations, and politics?

Literature Review

Job Satisfaction

The teaching profession is considered one of the most important parts of school education because teachers' impact on students is much higher than any other aspect (Bektas & Nalcaci, 2012). It is apparent; therefore, being satisfied with a profession is important for both teachers' and students' success. The fact is that teacher job satisfaction is "a predictor of teacher retention, a determinant of teacher commitment, and, in turn, a contributor to school effectiveness (Shann, 1998, p. 67). Locke (1976) defines job satisfaction as a "pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1300). Whereas, Evans (1997) defines job satisfaction as "a state of mind determined by the extent to which the individual perceives her/his job-related needs to be met" (p. 328). Normally, job satisfaction is associated with various job characteristics. Job characteristics refer to the five most popular measures of job satisfaction; the work itself, pay, promotional opportunities, supervision, and co-workers (Smith et al., 1969). Along with these five characteristics, the school environment is equally important for job satisfaction in Nepal.

Eklund (2008) discussed two kinds of assets—external and internal—that all teachers need to develop to become satisfied teachers. The external assets consist of support, empowerment, boundaries and expectations, and constructive use of time at the workplace. The internal assets are associated with a person, family, community, and institutional values, attitudes, skills, emotions, and beliefs. Bentley, Coates, Dobson, Goedegebuure, and Meek (2013) discussed academicians' job satisfaction across 18 countries from five continents. The results of the study were mixed, with academics in some countries being highly satisfied, such as in Brazil, Canada, and Finland; reasonable job satisfaction in Argentina, Germany, and South Africa; and below-average satisfaction in Portugal and the United Kingdom. They further suggested that job satisfaction depends on culture, context, hiring and retention policies, job security, the complexity of organizational structure, and recognition from the government and the local school district.

Thadathil (2015) compared private and public-school teachers' job satisfaction in Nepal. He reported that the teachers were found to have low job satisfaction due to a large amount of paperwork to be done despite teaching, long hours of instruction, and an unfair promotion and career development process; whereas Shrestha (2005) reported that teachers' salaries are one of the most important factors that affect motivation and job satisfaction in Nepal. Shrestha further reported several non-salary incentive factors, such as health care, free education for children, educational resources required for the classroom, etc., which are important components for job satisfaction. A study conducted by Brunnetti (2001) about teacher job satisfaction reported that teachers are highly satisfied. He further reported that working with young people, seeing them learn and grow, and serving society are some of the main job-satisfaction factors; salary, benefits, and job

security are less important for job satisfaction. Toropova, Myrberg, and Johansson (2021) contended that working conditions, teacher workload, teacher cooperation, and student discipline were the most important factors for teacher job satisfaction. There seem to be common factors related to job satisfaction regardless of variation in the degree of these different factors. AlZhrani (2017) examined middle school mathematics teachers' job satisfaction in five dimensions: demographic characteristics, teachers' perceptions of administrative support, workplace environment, teachers' self-efficacy in teaching, and student behavior. The study reported that mathematics teachers had job satisfaction in all five dimensions. However, they were more satisfied with teaching self-efficacy and student behavior and less satisfied with the workplace environment. Toropova, Myrberg, and Johansson (2021) reported a significant relationship between teacher cooperation and job satisfaction. Likewise, they further reported that job satisfaction was associated with the opportunity for professional development and teachers' self-efficacy.

Fuming and Jiliang (2007) reported that teachers are most dissatisfied with their salaries, welfare benefits, teaching conditions, and big class sizes. They further suggested various strategies such as increasing salary and remuneration, reducing class size, providing professional development opportunities, and improving teaching conditions to raise job satisfaction. A study conducted in England also emphasizes professional development programs such as teacher training to retain the teachers in the profession (Roberts & Foster, 2016).

Most of the literature on teachers' job satisfaction in general, and mathematics teachers in particular, reported that dissatisfaction is a sign of a negative impact on the teaching profession and may negatively affect students' learning. However, we should consider job satisfaction as only a sign of negative emotion, a lack of confidence, or a decline in performance. According to NCTM (2014), "In education, professionals who are responsible for students' mathematics learning are never satisfied with their accomplishments and are always working to increase the impact that they have on their students' mathematics learning" (p. 99). The sense of satisfaction as a key to examining teachers' psychological, social, and economic well-being may relate to a situation in which teachers are unhappy with what's going on and how it is going on in the schools and classrooms. However, not all cases of dissatisfaction are a negative thing to worry about, primarily if it drives the teachers to do better, seek better, and create better work environments.

The related literature search about the school environment in Nepal (management, unions, etc.) and politics did not yield adequate studies. The District Education Office implements the program and regulates the public schools in the district through the SMC (Rana, 2018). The SMC has a central role in school governance and management (Shah, 2016). Despite the crucial role of SMC, it is believed that the committee could have functioned better than what has been seen in the current educational scenario. For example, the SMC does not meet regularly and has not wanted to help the school internally (Shrestha, 2014). The local government should take decisive steps to avoid external influences in the teacher recruitment process since other stakeholders have constant intervention (Shah, 2016). In fact, the relationship between SMC members and teachers, in general, was very poor and tense in public schools, and SMCs were being politicized by different political parties (Shrestha, 2005). Thus, teachers' strong affiliations with political parties is one of the key issues in the Nepalese education system (Brinkman, 2018).

It is a common trend worldwide to have unions or professional organizations that work for the rights of their members, and Nepalese teachers are no exception to this trend. Normally, teachers' unions work for teachers' rights and help get better wages by reducing injustice for teachers (Johnson & Kardos, 2002; MoE, 2005; Toch, 2010). Although teachers' unions seem to be professional organizations, they closely connect with political parties. Different political parties that were active underground can infiltrate among the teachers and teachers' organizations (Shrestha,

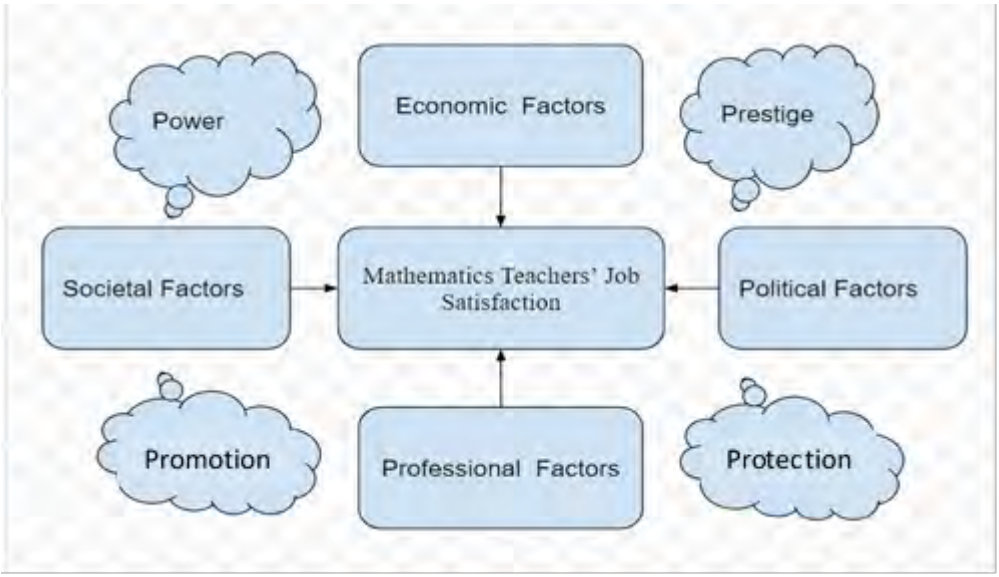
2014). Shrestha further reported that "party politics among teachers are ruining the public school system, unionizing on flimsy grounds and calling strikes at the school premise" (p. 21). Thus, teachers' unions in the context of Nepal, however, still seem to be busy promoting their political party's ideology rather than working for the benefits and welfare of Nepalese teachers. Neither did such organizations work for educational reform (Poudel, 2015). Political intervention in teachers' unions is one of the major causes of the deterioration in the quality of public schools in Nepal (Shrestha, 2014). For various reasons, including low salary, ill-functioning SMC, etc., teaching is not the first choice for many graduates in Nepal (Shrestha, 2005).

Theoretical Framework

We constructed a theoretical framework for analyzing Nepalese mathematics teachers' job satisfaction based on four predominant factors—economic, societal, political, and professional, and four subsidiary factors—power, prestige, promotion, and protection (Figure 1). These factors provide an analytical basis for understanding mathematics teachers' job satisfaction from various paradigms and perspectives. Each predominant and subsidiary factor has theoretical foundations from the literature on teacher role, motivation, perseverance, and job satisfaction.

Figure 1

Theoretical Framework for Mathematics Teachers' Job Satisfaction



Economic aspects, such as salary and welfare, have been reported to play a significant role in employees' job satisfaction (Lee et al., 2017). Teachers' salary from the profession has even greater importance for job satisfaction (Olsen & Huang, 2018). Furthermore, the salary level is positively associated with occupational prestige within the teaching profession, i.e., the higher the salary, the higher level of prestige and job satisfaction (Albert & Levine, 1988). School teachers work in a place that may represent a unique social and historical context that may have defined the purpose of education, perception of gender roles, social class, dynamics, technology, and societal beliefs (Halpert, 2011; Spencer, 2001). Any school or educational institution cannot be out of the political

system or debate because it is a crucial part of shaping a community's or country's educational landscape for the present and future. The fact is that government policies, laws, and provisions related to schools, teachers, and education, in general, affect teachers' roles and responsibilities (Wales et al., 2016). Professional identity as a teacher is one of the most important factors in teachers' job satisfaction, and it is linked to professional expertise, teacher knowledge, teaching philosophy, teaching experience, readiness to embrace changes and challenges, and continuous professional development (Toropova et al., 2021). These types of various factors together construct teachers' power, prestige, and protection through the continuous promotion of personal, professional, and social well-being. We applied these conceptual and theoretical characteristics to understand Nepalese mathematics teachers' job satisfaction.

Methodology

We applied a mixed-methods approach to collect quantitative and qualitative data from the inservice secondary mathematics teachers. A quantitative research design and a qualitative component for this study were chosen. The quantitative data was collected via a questionnaire with 4-point Likert-scale items, and the qualitative data was collected with open-ended questions during the survey. In a quantitative research design, the potential subjects are naturally embedded in a large group or setting, such as students in a class or school (Campbell & Stanley, 1963). In a quantitative research design, the researcher answers a research problem by establishing the overall tendency of responses from individuals and noting how the tendency varies (Creswell, 2007).

Qualitative data not only helps us to enrich the study by cross-comparing with quantitative data but also helps with methodological triangulation of the study by gathering data of a different nature (Flick, 2018). The quantitative data helped understand the pattern of teachers' perceptions about their job satisfaction as a group. Still, the qualitative data helped understand the depth of their perceptions, feelings, beliefs, and values toward their profession (Schwandt & Gates, 2018). Many research studies employ a convenience sampling procedure because the researchers have access to participants, customers of a business, or patients in a hospital (Schreiber & Asner-Self, 2011). The researchers of this study had access to the participants when they gathered for a workshop, and they utilized the opportunity to gather data. Thus, convenience sampling was employed to gather the data for this study.

Construction of Survey Questionnaire

We constructed a Teachers' Job Satisfaction Survey (TJSS) questionnaire consisting of 20 questions with Likert-scale items. The survey primarily included 4 Likert-scale point questions along with some open-ended questions. The survey includes three sections. The first section includes seven questions with 4 Likert-scale (disagree-agree scale) points to examine the teacher's job satisfaction. The second part consisted of six questions with 4 Likert-scale (no important-very important) points aiming to explore various factors that likely improve teachers' professional growth and job satisfaction. The last section consists of seven questions with 4 Likert-scale (disagree-agree scale) points aiming to investigate the school environment in conjunction with the SMC, teachers' union, and politics. The complete set of questions is presented in the Appendix.

The survey was a modified version of the "Experience Teachers Survey" developed by Brunetti (2001). The questions in the first and second sections of the survey were directly adopted from Brunetti (2001). However, the last section was added to the survey based on the Nepalese context. The survey also includes three open-ended questions. For more details about the survey, see the Appendix. The questionnaire was validated for content organization, easiness to read, and

sufficiency for the study with a critical review by two mathematics educators. The pilot study was not possible since the data were collected during a mathematics teacher training program. The reliability coefficient of the tool for the twenty structured items was measured with Cronbach's alpha (α=0.73) on the study sample of 49 high school mathematics teachers.

Participants and Data Collection

The researchers collected the data during a professional development program facilitated by one of the researchers. A three-day workshop about Dynamic Geometry Software (GeoGebra) was conducted for high school mathematics teachers in the summer of 2019 in association with the Mathematics Education Council, Kathmandu, Nepal, where 82 high school mathematics teachers participated. The participants were recruited by Mathematics Education Council Nepal using the organization's network. The participants were from various parts of the country: from the eastern to the western part of the country. More information about the participants is given under the findings. The TJSS was given to each participant on the first day of the workshop, and the participants were asked to complete the survey and bring it back during the workshop.

Meanwhile, participants were also informed about the ethical guidelines that each research project must adhere to, such as that completing the survey questionnaire was entirely voluntary. Participants were allowed to take the survey to their homes. At the end of the workshop, the researcher received 49 surveys from the participants. The response rate of the survey is about 60%.

Data Analysis

The research instrument was given in the Nepalese language to receive more reliable data from the participants. Most of the participants completed the survey in Nepalese; however, few completed the survey in English. Therefore, the quantitative data was transcribed into English. The survey had some open-ended questions. As a result, the data for the participants who completed the survey in their native language were transcribed and translated word for word from Nepali to the English language.

The quantitative data were analyzed using descriptive statistics (mean and standard deviation) and inferential statistics (one-sample *t*-test) to see if the difference between sample means and population means was significant at the 0.05 level of significance. The qualitative data from the open-ended questions were analyzed with the help of a codebook that was developed during data analysis to derive themes. The response of each participant was entered into a Microsoft Excel sheet, where the name of each participant was placed in rows and their corresponding response to three open-ended questions was placed in the column. For easiness and transparency, different colors were used for each participant and for each question in the Excel sheet. And then data were compared horizontally for each open-ended question for each participant. In the second step, preliminary themes for each open-ended question were derived, and eventually, themes were further verified across the participants before deriving the final themes. The codebook was also modified and refined during data analysis since coding is a progressive process of sorting and defining collected data (Glesne, 2011). The major themes were derived from qualitative data and compared and contrasted among the participants.

Results and Findings

This study consisted of 49 high school mathematics teachers from Nepal. Out of the 49 participants, there were only five females. The age of the participants ranged from below 30 to above 50 years. Six participants' ages fell into the below-30-year category; 25 participants were in the 30-40 group, 14 were in the 40-50 group, and two were over 50 years old. Two participants did not

report their age. The teaching experiences of the participants ranged 2–23 years, and 14 participants had teaching experience of 15 years or less, while the rest had teaching experience of more than 15 years. The descriptive statistics of teaching experience, average lesson period per day, and class size are given in Table 1.

Table 1
Participants' Demographic

	M	*SD*
Number of teaching years	13.40	5.86
Teaching Period (daily workload)	5.10	0.90
Class-size (number of students)	46.53	15.34

Job Satisfaction

The first section of the "Teachers Survey" aimed to investigate job satisfaction. There were seven 4-point Likert-scale items included in the first section of TJSS. The Likert scale ranged from strongly disagree (1) to agree (4) strongly. The descriptive statistics of job satisfaction are shown in Table 2.

Table 2
Descriptive Analysis of Teachers' Job Satisfaction with a One-Sample t-Test (Test Value = 2.5)

Likert-scale items	*M*	*SD*	*N*	Mean Diff.	Sig. (two-tailed)
1. I look forward to coming to teach every day.	3.57	0.68	49	1.07	0.000
2. I would like to be in teaching still in 5 years.	3.63	0.70	49	1.13	0.000
3. I am satisfied with my job.	3.49	0.69	47	0.99	0.000
4. I am satisfied with what I have achieved so far in my profession.	3.20	0.71	49	0.70	0.000
5. I feel good at my work.	3.48	0.56	46	0.98	0.000
6. I am ready to leave the profession, if I am able to get a different suitable job. [Reverse coded]	2.08	1.02	49	-0.42	0.006
7. Nepalese people have a negative impression of the teaching profession. [Reverse coded]	2.71	0.96	45	0.21	0.124
8. Overall perception of job satisfaction of teachers	3.20	0.36	45	0.70	0.000

The quantitative analysis revealed that all but three participants were enthusiastic about teaching their lessons every day, and they planned to be in the profession for the next five years. The analysis further revealed that 14% of teachers were unsatisfied with their profession and unhappy with whatever they had achieved so far in their work. 53% and 32% of teachers, respectively, agreed and strongly agreed with the statement that they were satisfied with their profession**.** 71% of the participants were satisfied with their job, while 11% were unhappy with their careers. The general

public in Nepal has a negative perception of the teaching profession, according to 65% of the participants.

Table 2 shows that teachers generally have high motivation and satisfaction with their job ($M > 2.5$ and $p < 0.05$). Item 7 states that Nepalese people have a negative impression of the teaching profession, which is slightly above the test value of 2.5 after reverse coding. That means their perception toward teaching jobs is positive ($M = 2.71$, $SD = 0.96$, and $p > 0.05$), but the difference is not significant. That means the teachers in the sample (as a whole) do not have a positive (agree) or negative (disagree) view on this statement. The highest-rated item was 'I would like to be in teaching for the next five years ($M = 3.63$, $SD = 0.70$, and $p < 0.05$), whereas the least rated item was 'I am ready to leave the profession if I can get a different job' ($M = 2.08$, $SD = 1.02$, and $p < 0.05$). This means that the teachers do not want to leave their jobs even when they find an alternative teaching job. Overall, mathematics teachers are satisfied with their teaching job ($M = 3.20$, $SD = 0.36$, and $p < 0.05$).

Professional Growth

Six 4-Likert-scale questions were posed in the survey to examine the improvement in the teaching profession's personal and professional growth. The Likert-scale items ranged from not important at all (1), little important (2), important (3), and extremely important (4). Table 3 shows the ranking of the factors from the most to the least important for professional growth and job satisfaction.

Table 3

Ranking from the Most Important to Least Important Factors

Likert Scale Items	Ranking
1. Provide additional training and resources for the professional development of teachers.	1st
2. Need to improve school's infrastructure.	2nd
3. Pay scale raise.	3rd
4. Increase the salary to improve teacher's morale.	4th
5. Need a smaller class size.	5th
6. Need to decrease the teaching periods.	6th

Table 4 further shows that teachers generally have a high emphasis on growth and job satisfaction (Mean > 2.5 and p < 0.05). The highest priority item based on the mean value was 'provide additional training and resources for the professional development of the teachers' ($M = 3.90$, $SD = 0.31$, and $p < 0.05$), followed by the next item, 'need to improve school infrastructure ($M = 3.79$, $SD = 0.46$, and $p < 0.05$). The lowest rated item was 'need to decrease the teaching periods' ($M = 3.21$, $SD = 0.35$, and $p < 0.05$), which was still significant toward teachers' agreement. Overall, mathematics teachers are satisfied with their professional growth ($M = 3.55$, $SD = 0.35$, and $p < 0.05$).

Table 4
Descriptive Analysis with One-Sample t-Test (Test Value = 2.5): Professional Growth and Job Satisfaction

Four Likert-scale Items	*M*	*SD*	*N*	Mean Diff.	Sig.(two-tailed)
1. Pay scale raise.	3.50	0.68	48	1.00	0.000
2. Need to improve school's infrastructure.	3.79	0.46	48	1.29	0.000
3. Make the smaller class size.	3.35	0.77	46	0.85	0.000
4. Increase the salary to improve teachers' morale.	3.50	0.68	48	1.00	0.000
5. Provide additional training and resources for the professional development of teachers.	3.90	0.31	48	1.40	0.000
6. Need to decrease the teaching periods.	3.21	0.35	48	0.71	0.000
7. Overall perception of professional growth.	3.55	0.35	46	1.05	0.000

Different responses were received via open-ended questions regarding how teachers' personal and professional growth can be uplifted. Three themes that emerged were: (1) professional development, training, and resources; (2) salary, benefits, and workload; and (3) clear policy and societal status. The data suggested that professional development, in-service training, and educational resources appeared to be the most important factors for professional growth and job satisfaction. Professional development includes, but is not limited to, various types of training such as ICT training, leadership skill training, and curriculum and course training. One of the participants stated:

> Different types of training, such as utilizing new tools and technology, should be provided to teachers to improve teaching and learning activities in the coming years. ICT and Dynamic Geometry Software (GeoGebra) need to be part of the mathematics teaching activities, and teachers need to be active and familiar with the new trend in teaching and learning mathematics.

The same participant further stated:

> The concerned authorities need to formulate a policy to promote good teaching, considering teachers' time and schedule. Another participant stated that teachers need to hone their professional skills and teach from the soul and heart to be more satisfied with their work.

Salary, benefits, and workload are the next most important factors for professional growth and job satisfaction. One participant stated that the teaching profession's salary and benefits need to be at least good enough to run their everyday lives in comfortable ways. The analysis also showed that the Nepalese government should take a special initiative to improve the teachers' economic condition and social status. Furthermore, participants suggested that the Nepalese government needs to bear the cost of teachers' children's education. One of the participants stated, "There should be a mechanism that encourages college graduates with records to join the teaching profession. To encourage, the government should raise salary and provide more benefits." Similarly, another participant stated:

> The Nepal government needs to formulate a clear policy focusing on the school education system, where the policy should encourage dynamic, qualified, and fresh college graduates to join the teaching profession. The policy further needs to persuade new college graduates to make the teaching profession of their first career choice.

The data also suggested that not only financial benefits but also workload seemed to be an important factor for teachers' growth and job satisfaction. One of the participants stated that "teachers are required to teach only three periods instead of five periods each day so that they have more time to focus on planning and preparation."

The data also suggested that the teaching profession is not well respected in Nepalese society. Therefore, normally, a teaching career is not the first choice for many graduates. Thus, the data further suggested that the government should introduce a policy or program that emphasizes the importance of teachers in society. The government must highlight the teaching profession as an essential part of society. Participants further expressed their concerns about the educational policy at a local level. SMCs and the principal need to have a policy that will treat all teachers fairly and equally without discrimination regardless of teachers' political affiliations. One participant stated:

> Both the school headmaster and SMC need to be transparent, and they should also be responsible for improving the quality of education in the school. Furthermore, they need to have an excellent vision for the overall development of the teacher and the teaching profession. The SMC also needs to formulate a policy that self-encourages teachers for their professional development.

The data suggested that the pay scale and relevant benefits were reasons why the teaching profession is not well respected in Nepalese society. One of the participants stated that "we need to change the public's perception about the teaching profession, where they need to consider the teaching profession as an excellent career." Similarly, another participant stated that "the government should have a policy in place that would uplift the social status of the teaching profession." In the meantime, teachers should also be responsible for enhancing their social status and creating a unique identity as ideal citizens of society.

School Environment

The survey question in part three primarily aimed to explore teachers' impressions about the school environment, teacher unions, and politics. This section consists of seven 4-Likert-scale questions; the scale ranges from strongly disagree (1) to agree (4) strongly. The descriptive statistics are shown in Table 5.

Table 5

Descriptive Statistics of the School Environment, Unions, and Politics

Likert-scale Items	Agree (%)	Disagree (%)
1. School Education must be free from politics.	94	6
2. Teaching profession need to be separated from politics.	98	2
3. Teachers should be discouraged to involve in politics as political cadre.	95	5
4. Teachers must be prohibited to involve in politics as political cadre.	98	2

Likert-scale Items	Agree (%)	Disagree (%)
5. Different professional organizations that are established for the rights of teaching profession should be isolated from politics.	90	10
6. Different professional organizations that are established for the rights of teaching profession is doing good work for the teachers.	65	35
7. The School Management Committee (SMC) as well as the procedure to form the SMC need to be isolate from politics.	91	9

Table 6 shows that teachers generally agree that on the items related to school to be free from politics, teaching should be separated from politics, teachers should not involve themselves in politics, they should be prohibited to be political cadres, and school administration should be isolated from politics (items 1-5, and item 7) ($M > 2.5$ and $p < 0.05$). However, item 6, which states 'different professional organizations that are established for the rights of the teaching profession are doing good work for the teachers' has been rated low (disagree) ($M = 2.63$, $SD = 0.67$, and $p > 0.05$), but the difference is not significant at 0.05 level of significance. The highest-rated item is 'Teachers should be discouraged to involve themselves in politics as political cadres' ($M = 3.87$, $SD = 0.45$, and $p < 0.05$). Overall, the analysis contended that politics should not be allowed in the school premises and teachers should be discouraged from party politics ($M = 3.59$, $SD = 0.40$, and $p < 0.05$).

Table 6

Likert-Scale Items One Sample t-Test (Test Value = 2.5): School Environment, Unions, and Politics

Likert-scale Items	*M*	*SD*	*N*	Mean Diff.	Sig.(two-tailed)
1. School education must be free from politics.	3.71	0.77	48	1.21	0.000
2. Teaching profession need to be separated from politics.	3.85	0.41	48	1.35	0.000
3. Teachers should be discouraged to involve in politics as political cadre.	3.87	0.45	47	1.37	0.000
4. Teachers must be prohibited from involvement in politics as political cadre.	3.81	0.53	48	1.31	0.000
5. Different professional organizations that are established for the rights of teaching profession should be isolate from politics.	3.52	0.74	48	1.02	0.000
6. Different professional organizations that are established for the rights of teaching profession are doing good work for the teachers.	2.63	0.67	48	0.13	0.204
7. SMC as well as the procedure to form the SMC need to be isolated from politics.	3.71	0.68	48	1.21	0.000
8. Overall perception of school environment	3.59	0.40	47	1.09	0.000

The qualitative data about teachers' impressions towards SMC, teacher unions, and politics were received via open-ended questions. The three themes that emerged based on the analysis of qualitative data are: (1) the teaching and learning environment in school must be improved, (2) no politics at school premise and no teacher involvement in politics as political cadres, and (3) no local political intervention in forming SMC and teachers' unions need to work for teachers' welfare and rights rather than carrying their mother political agenda and activities.

The data suggests that political activities need to be strictly prohibited in school premises and excellent learning environments need to be established so that teachers can feel safe, comfortable, and dedicated to their profession. The participants believed that the quality of education has been deteriorating due to political intervention. One of the participants stated that political intervention had ruined the teaching and learning environment in the school education system in Nepal. Furthermore, data suggests that traditional teaching styles need to be changed to change the public's negative perception of the teaching profession.

The data suggests that political activities need to be banned on school premises and that teachers should be discouraged from participating in politics. One of the participants stated that "no politics are allowed in the school area, and the teaching profession must be isolated from politics." One of the participants further expressed his frustration as follows:

> There is no doubt that politics is for the nation's development, but political activities should not aim to divide the teachers into different political parties in the form of teacher unions. The teacher unions should be worked on behalf of teachers' development. Unions, however, are not working for the professional growth of teachers. Various activities such as protests, unrest, etc., guided by political parties must not ruin the image of the teaching profession.

One of the participants stated that teachers are also human beings and can be involved in politics somehow. He further stated that teachers must be aware that there are no political activities on the school premises. Another participant stated:

> The definition of politics has been utilized incorrectly; therefore, problems have been created in the school education system. We need to understand politics and its role in improving school education. The fact is that school premises should be free from politics and there should be no protests and unrest in the school premises since school is like a holy place.

Another participant stated:

> Isolating education from politics is hypocrisy. The fact is that politics will determine educational policy. But teachers should not be cadres of political parties, and they should not be involved in politics. Teachers' unions are deteriorating the image of school education, including the teaching profession itself.

Similarly, according to another participant:

> The teaching profession is not well respected in a Nepalese society because teachers become cadres of political parties. Political parties also tend to appoint their cadre whenever there is a teacher vacancy. As a result, ironically, the image of teachers and the teaching profession have become notorious to the general public.

The second theme, qualitative analysis, is related to the formation of the SMC and political influence in teacher selection, recruitment, and promotion. The data revealed that the teacher selection

process in the public school system is not fair, particularly for short-term and temporary teachers. One of the participants stated:

> The teacher selection process needs to be based on individual qualifications, skills, and capacity rather than nepotism and favoritism. Furthermore, the school principal and the SMC need to treat all teachers fairly and equally, regardless of the political affiliation of the teachers. Teachers' performance and evaluation processes based on political affiliation must be terminated.

The analysis concluded that the process of formation of the SMC was not appropriate because it is based on dividing and power-sharing rules among political parties. The unfair teacher selection, appointment, promotion, and transfer processes should be based on an individual's qualifications and skills, rather than nepotism and favoritism. Furthermore, another participant stated:

> The SMC formation process is wrong. As a result, teacher selection, recruiting, and promotion processes are disrupted. The ill-formed SMC appoints short-term and temporary teachers based on their qualifications and teachers' political faith and affiliation. We often see a national-level protest in the school premises by politically-affiliated teachers for their tenure without having the basic criteria to be licensed teachers.

The data further indicated that the different teacher organizations have not been working for the teachers' rights since unions were sister organizations of national political parties, and unions are guided by the underlying motives of their associated political parties. One of the participants stated that there is a requirement for a purely nonpolitical teacher organization that can work for teachers' rights and welfare.

Discussion

This study revealed mixed findings with regard to the mathematics teachers' job satisfaction. An examination of mean scores from the survey showed that teachers generally rated themselves satisfied with their profession. However, the lowest mean scores in the Likert-scale item also indicated that teachers wanted to leave their profession if they could get a different appropriate job, which likely infers job dissatisfaction. Furthermore, the qualitative data revealed various important factors for mathematics teachers' professional growth and job satisfaction. The findings of this study are partly supported by the findings of Shrestha (2005). Despite Shrestha's findings, this study found that additional training and educational resources turned out to be the most important factor for professional growth and job satisfaction. The importance of professional growth was a key factor in this study, which is consistent with the findings of Toropova et al. (2021) and Fuming and Jiliang (2007). The findings of this study also supported the finding of Thadathil (2015) that teachers were not satisfied with the teachers' professional growth, recruitment, tenure, and promotion processes.

This study revealed that the school education system, teaching profession, and procedure to form SMC must be free from politics, supporting Shrestha's findings (2005) and Brinkmann's (2018) findings. The findings are also consistent with Poudel's (2015) report, which found that teachers' unions in Nepal were not working for teachers' welfare. Similarly, this study revealed that the SMC did not treat teachers fairly and equally. The formation of the SMC was politicized by different political parties, which is consistent with the findings of Shrestha (2005). The findings of this study contradicted the findings of Brunnetti (2001) and AlZhrani (2017) and were partly supported by James et al. (2013). One of the reasons for inconsistent results is likely to be demographic

differences and economic discrepancies between the countries. Nepal is a developing country, and educational sector investments are significantly lower than in developed countries.

Moreover, as reported by James et al. (2013), job satisfaction also depends on culture, context, hiring and retention policies, job security, the complexity of organizational structure, and recognition from the government and community. Similar to the findings reported by Roberts and Foster (2016), this study also revealed that one of the important factors for job satisfaction is emphasizing professional development programs such as teacher training to retain the teachers in the profession. An, Li, and Wei (2021) suggested that to improve job teachers' job satisfaction and self-efficacy, the Chinese government should invest more funds to strengthen the schools' infrastructure, raise teachers' salaries, and provide more professional development training/programs, which is consistent with the findings of this study.

After December 2019, the COVID-19 pandemic was accompanied by economic interruptions across the globe (Mandciwalla & Flanagan, 2021), which also impacted the financial, psychological, and mental health of many individuals. Indeed, COVID-19 also had a negative impact on teachers' job satisfaction. For example, switching in-person teaching to an online format increased stress levels for teachers as they prepared lectures (Besser et al., 2020). Moreover, teachers' mental health and well-being declined because of the pandemic (Johnson & Coleman, 2021; Kim et al., 2021). Job satisfaction is linked to workload, working environment, and teachers' physical and mental well-being. While recent studies reported that the pandemic negatively impacted teachers' job satisfaction, more studies have yet to investigate these effects further.

Implications, Limitations, and Conclusions

This study has implications for policy-makers at the national and local levels. The data revealed in-service training and educational resources and teaching learning materials are the important factors for mathematics teachers' professional growth and job satisfaction. Thus, policymakers would likely (re)formulate a policy that helps to improve mathematics teachers' professional growth. Professional development is also essential for mathematics textbook writers, who are presumed to be experts in the field (Basyal & Mainali, 2022). Indeed, salary is one of the important factors for job satisfaction. However, this study revealed that the professional development of teachers and educational resources appeared to be more important than salary. Thus, this is an important implication for policymakers regarding what aspect requires more attention to improve the school education system. The Nepal government should invest more funds to improve schools' infrastructures, provide more professional development programs for teachers, and supply adequate educational resources to schools. The local and central governments of Nepal need to give more voice to teachers to understand teachers' needs, desires, and expectations to enhance teachers' professional growth and job satisfaction, as suggested by Hogan, Thompson, and Chandra (2022). Similarly, policymakers need to formulate rules and regulations that will keep school premises free from politics by prohibiting party politics on the school premises.

Additionally, the procedure of forming an SMC must be independent of any intervention by local politics. SMCs need to treat each teacher fairly and equally. Teachers must be prohibited or discouraged from participating in politics as a political cadre. The roles of teachers' organizations must be professional, and they need to work for teachers' rights rather than carry their political parties' agendas and ideologies.

This study also had limitations. The sample was relatively small, and the participants were not randomly selected. Furthermore, the findings of this study cannot be generalized since they were based on a small population of mathematics teachers. A larger sample size may have given a

different result. From the study's findings, however, we can conclude that high school mathematics teachers in Nepal are satisfied with their job despite the negative public image of the profession. They emphasized that the additional training and resources for their professional growth would help them satisfy the profession. The government of Nepal needs to have a policy in place that encourages dynamic, qualified, and young college graduates to join the teaching profession. The teacher recruitment process should happen through the Teachers Service Commission for teachers, both temporary and permanent. The findings further suggest that the Nepal government needs to form a mechanism that aids in the recruitment of good teachers based on merit rather than political affiliation.

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Appendix
Teacher Job Satisfaction Survey

Thank you for participating in this survey. Your personal information will be confidential and used only for this study.
Age-group: Below 30_____ 30-40_____ 41-50 ____ Above 50____

Gender: Male. Female Teaching Experiences:

School's Name:----------

Average number of students in the class:_____

Average working periods:_____

Please rate your level of agreement with each of the following statements.
Strongly Disagree →1 Disagree→2 Agree→ 3 Strongly Agree→ 4

I look forward to coming to teach every day.	1	2	3	4
I would like to be in teaching still in 5 years.	1	2	3	4
I am satisfied with my job.	1	2	3	4
I am satisfied with what I have achieved so far in my profession.	1	2	3	4
I feel good at my work.	1	2	3	4
I am ready to leave the profession if I am able to get a different suitable job.	1	2	3	4
Nepalese people have a negative impression of the teaching profession.	1	2	3	4

What needs to be done to improve your personal and professional growth as a mathematics teacher? How do you personally evaluate the importance of the following statements?
Not important→1 Of little importance →2 Somewhat important→3 Very important →4

Pay scale raise.	1	2	3	4
Need to improve school's infrastructure.	1	2	3	4
Make the smaller class-size.	1	2	3	4
Increase the salary to improve teachers' morale	1	2	3	4
Provide additional training and resources for the professional development of teachers.	1	2	3	4
Need to decrease the teaching periods.	1	2	3	4

If you have any other suggestions, please explain.

What needs to be done to improve the public perception of the teaching profession? Please provide your suggestions.

Please rate your level of agreement with each of the following statements:

Strongly Disagree →1 Disagree→2 Agree→3 Strongly Agree→4

School education must be free from politics.	1	2	3	4
The teaching profession needs to be separated from politics.	1	2	3	4
Teachers should be discouraged to involve in politics as a political cadre.	1	2	3	4
Teachers must be prohibited to involve in politics as political cadre	1	2	3	4
Different professional organizations that are established for the rights of the teaching profession should be isolated from politics.	1	2	3	4
Different professional organizations that are established to seek the welfare and rights of teachers are doing good work.	1	2	3	4
The School Management Committee (SMC) and the procedure to form the SMC needs to be isolated from politics.	1	2	3	4

Do you have other suggestions regarding the relationship between Nepal's teaching profession and politics? Please explain.

Thank You!

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