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**EFFECTS OF SKILLS MISMATCH ON JOB SATISFACTION IN KAZAKHSTAN:
EVIDENCE FROM PIAAC DATA**

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Abstract

Effects of Skills Mismatches on Job Satisfaction in Kazakhstan: Evidence from PIAAC Data

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This paper explores the effects of skill mismatch on job satisfaction in Kazakhstan. Additionally, the impact of education, gender, and sector on job satisfaction were examined too. Data for skill mismatch and job satisfaction indicators were sourced from OECD Survey of Adult Skills (PIAAC). The answers on questions from PIAAC questionnaire was used for analysis. Our sample consisted of 2,893 responses in the age range from 16 to 65.

The results suggest that educational mismatch shows greater effects on job satisfaction than skill mismatch. Skill mismatch doesn't have significant impact on job satisfaction. At the same time, data analysis revealed the probability of job dissatisfaction is negatively correlated with education: people with higher level of education are less likely to be dissatisfied with their work.

Additionally, data analysis results showed job satisfaction among Kazakhstan respondents is high. Also showed high rate of skill mismatch among respondents. Only small amount of people think they have propered skills for their job. Most of people self-esteem as underskilled, overskilled and wrong skilled.

These research results provide significant theoretical and practical implications for scholars and professionals.

1. Introduction

Over the past 50 years, labor productivity has significantly developed due to the increase in the number of educated people. Alongside with the fact, the ability to transform knowledge into skills is becoming more recognized and valued rather than the knowledge itself. In other words, those with more advanced skills will benefit from the knowledge they possess, and this will further increase income inequality within countries in the next ten years. (Braconier et al., 2014). The assessing criteria for employees are changing. Today, possessing certain skills is becoming more important than having a formal education. The economic importance of skills will grow. The skills are becoming a key stretch, which helps substantially enhance productivity and efficiency.

New technologies change the requirements to the skills. According to the OECD “Job creation and local economic development” research (OECD, 2014), there is a shift towards more highly-skilled jobs. In the developed world the speed of creating skilled jobs is noticeably faster than the rate of training the skills of employees. The developing and emerging economics keep up with them as well. As the report “The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution” notice, since 2001, the proportion of people working in professions where cognitive and social-behavioral skills that are not related to routine work play an important role has increased in emerging market economies from nineteen to twenty three percent, and in developed countries from thirty three to forty one percent. Possession of these skills yields more income to their owners (World Economic Forum, 2016).

The interaction between skills and the overall well-being of the countries shows that per capita income is higher in countries with a large proportion of adults achieving the highest levels of reading and computer literacy skills (OECD, 2014). Countries with lower skill levels risk losing their competitiveness as the global economy becomes increasingly dependent on the development of these skills.

Paradoxically, many employers report difficulties in finding suitably skilled workers (BCG Global, 2021). Companies, regardless of the sector, complain that they cannot fill the vacant positions. Employers come up with and develop different approaches to attract talents. Along with that, using online platforms advancing the job search process is available everywhere and makes it possible to search for a candidate for any job.

Also, over the past year, the development has made the availability of remote work more accessible. Notwithstanding the above mentioned, McKinsey research (McKinsey Global Institute, 2015) states that 30-45% of the working-age population in many countries is unemployed, inactive in the workforce, or working only part-time. Meanwhile, those who are employed often face the misuse of skills, wasting human and economic potential.

There is a lack of data on the issue of skills mismatch in low- and middle-sized economies. Besides, the most researches focus on just one aspect of skill mismatching, like insufficient or excessive education.

The purpose of this paper is to investigate skill mismatches in the Kazakhstan labor market and analyze the impact of skill mismatches on job satisfaction based on OECD PIAAC data.

2. Literature review

This literature review covers relevant theoretical and empirical literature in the fields of labor economics, business, organizational behavior management and psychology allowing to study and better understand the concept of skills mismatch, the impact of types of skills mismatch on job satisfaction, and to determine the importance of the interrelation between these two concepts.

2.1 Job satisfaction

Traditionally, when it comes to life satisfaction, the analysis showed that most people tend to overestimate the relative importance of money and underestimate the value of non-monetary factors. Although they also noted that the main factors for human well-being are health, job satisfaction, relationships, income and employment. Thus, job satisfaction determines 25% of life satisfaction (Allas, T., & Schaninger, B., 2020).

The concept of “job satisfaction” was first introduced by Locke in 1976 and defined as “a pleasant or positive emotional state resulting from the appraisal of one’s job or job experiences” (Locke, A. E., 1976).

The results of these studies revealed a positive trend of job satisfaction on customer loyalty, company profitability, and even on shareholder value. It turns out that job satisfaction is connected with effective company performance. The research by Keller, S., & Meaney, M. (2017) has shown that high-performance teams demonstrate 1.9 times higher financial performance.

Additionally, the nature of employment is changing. Employees are increasingly focusing on job satisfaction. Generation Z is actively entering the labor market with completely different values. It is widely believed that for them the balance of work and personal life, job satisfaction, and the meaning and purpose of the work are more preferred than financial rewards and a career. There are about 72.8 million of such people (Stillman, D., & Stillman, J., 2017). Therefore, it is necessary to understand the priorities of Generation Z employees, including their career prospects and motivators. Only 36% of this group considers career development as a top priority. By 2025, they will constitute approximately 25% of the labor market. Organizations will have to adapt to their values. Generation Z is willing to settle for 10% fewer earnings to fewer work hours (Puckett, J. et al, 2020). They have a relaxed attitude to material benefits because they grew up in an environment where their basic needs were satisfied. Intangible motivations for them are valuable as follows: self-realization, the matching values of the company's mission with personal purposes, the social component of the business. One of the factors that keeps Generation Z employees in the company and encourages productivity is their desire and interest in work. It makes the fact of job satisfaction an essential condition for employee engagement and performance.

Also, many researches (Demushkan et al, 2018), (Bogapova, N., 2018) have confirmed that job satisfaction has a positive effect on work performance. Job satisfaction is a representation of the employee’s behavior in the company in terms of performance. Low job satisfaction turns into unproductive behavior in the company. The study proved that job satisfaction has a direct impact on the effectiveness of an employee’s organizational behavior. The lower the rate of job satisfaction is, the less effective is the job performance.

The study by Nasurdin and others (Nasurdin et al, 2020) is based on a survey that involved 639 full-time nurses at major private hospitals in Malaysia. The results show that job satisfaction can positively influence the attitude and employees’ work behavior. In particular, it contributes to increasing labor productivity. It turned out that job satisfaction helps to improve the economic performance of the organization and achieve its strategic goals.

Job satisfaction can be specified as a significant production factor, which directly affects the attitude to work, labor productivity, the quality of work performed, and initiative (Pang, K., and Lu, C., 2018). The attitude to work affects the self-assessment of employees’ business qualities both positively and negatively.

One of the major studies (Demushkan et al, 2018) determines the degree of satisfaction with the work in public and private sector health workers. 2790 respondents aged 25-35 participated in the survey. According to the results, the atmosphere in the team, cooperation, and mutual assistance between colleagues are essential for medical activity. The ability to make decisions independently, the variety of work processes that contribute to the development of skills and competencies are also important, as well as the compliance of material and non-material compensation with the level of professionalism. The main activity of medical personnel is to provide medical services. At the same time, the successful work of a medical organization depends on many factors. The contribution of the

factors is actively investigated to find internal capacity and develop mechanisms for improvement of work efficiency. One of these factors is the satisfaction of the medical staff. Satisfaction in the hospital is the part of performance and quality management. The satisfaction of medical personnel determines the results of the provision of medical services, including medical safety, quality of service, the relationship between doctor and patient, patient satisfaction, which affects the productivity and efficiency of the organization. A medical worker who is satisfied with his work has higher labor productivity and efficiency, uses working time rationally, and is more disciplined. The degree of dissatisfaction can lead to significant risks and a negative impact on the quality of medical care. These results can likely be generalized far beyond the medical services.

To conclude, job satisfaction assessment is a tool for the rational use of financial, material, and human resources. It also can contribute to the development of a strategy for retaining staff and attracting new specialists.

2.2 Skills mismatch

Rapidly changing external conditions and growing uncertainty, global crises force people to be in constant tension regarding their place of work. Besides, globalization, digitalization, and remote employment, which are becoming increasingly popular, create additional pressure on human capital. The structure of the labor market is changing. Employers are not competing at the regional level as they used to, but are competing for talents with companies worldwide. On the one hand, this allows highly qualified employees to implement their potential in leading companies, but on the other hand, the pool of talents with the necessary skills and experience at the regional level is reducing. As a result, employers hire underskilled people or people without the skills. So the company needs train or retrain the workers, which increase the company's costs.

In analytical report "Fixing the global skills mismatch" by Boston Consulting Group Global (BCG Global) (Puckett et al., 2020) noted that skills mismatching is a hidden tax because overskilled employees do not employ their skills for a long time and gradually lose them. So it turns out that companies overpay overskilled employees. Besides, when companies have to retrain the wrong-skilled or underskilled employees, they not only increase costs but also lose profits due to time spent. Companies do not effectively use the skills of their employees, which have a direct impact on the company's productivity and profitability (Comyn, 2017, Strietska-Ilina, 2008).

Skills mismatch is a fundamental barrier to human capital development. According to the OECD (OECD, 2015), two out of five employees in the world do not meet the required skills.

Skills mismatch costs the government a lot. According to the estimates (BCG Global, 2021) in 2018, the loss from unrealized productivity amounted to eight trillion dollars of GDP. It is forecasted that by 2025 it can reach 8-11% of GDP, which is of 18 trillion dollars in total. According to the observations of the Boston Consulting Group, skills mismatch negatively affects the sustainable development of the country. The higher the skill mismatch is, the lower the score on the Global Talent Competitiveness Index, the Global Innovation Index, and the UN Sustainable Development Goals are. In 2016, the OECD countries experienced an average decline in labor productivity for 6 per cent. The negative correlation between performance and skills mismatch explains the loss which further leads to an economic inequality.

A significant obstacle to the development is the discrepancy between skills and education system. The transition to an economy of knowledge requires a workforce with highly developed digital skills, as well as the ability to solve complex problems, a high degree of adaptability. Meanwhile, the number of new professions is growing rapidly. Many of them have appeared in the last 10-15 years, bringing alongside with it a deeper specialization and new, independent areas of knowledge. According to the calculations of the Boston Consulting Group (BCG Global, 2020), it is expected that by 2022, another 27% of the jobs that do not exist, will appear. As a result, some technical skills become obsolete in two to five years faster than the average training period of highly qualified professionals.

At the same time, the education system does not keep up with changes in the needs of employers producing many workers who lack the skills required by the labor market and therefore experience a skills mismatch.

According to the study (Palmer, R., 2017), the middle-income countries experience the trend that is also relevant for Kazakhstan: academic training does not meet the needs of the labor market. It is assumed that those who have received higher education have acquired professional skills. But in fact, their skills often do not meet the requirements of the actual labor market, and it is challenging to apply knowledge in practice.

Top companies, such as Google, Apple, and IBM, Ernst & Young do not require higher education diplomas for employment - relevant experience is often enough (Ernst & Young, 2018). It does not matter what level of academic knowledge workers have, the experience and skills are more valuable. Academic education is conceptually extensive, has little applied character, and sometimes, on the contrary, is very narrowly specialized. In practice, it is necessary to combine the knowledge and the skills to solve specific tasks. New working conditions make new requirements for employees. In this days companies often organize expensive on-the-job training specifically designed for the company needs that effectively replaces formal education. Recruitment competition for the most talented and qualified employees has considerably increased, as has the desire of employers to retain the best employees. Human capital, especially specialists with the necessary skills, is becoming a key resource in the competitive strategy of the companies.

The PIAAC results showed that about half of employees with low levels of literacy and numeracy skills are employed; these employees are at greater risk of losing their jobs, being unemployed, and receiving low wages than employees with higher levels of reading skills (OECD, 2013a; OECD, 2013b).

The impact of low skills on quality of life goes beyond employment and earnings. OECD data show that in all countries, people with low numeracy and literacy skills are more likely to report poor health, believe that they have little influence on politic processes, and do not participate in volunteer activities (OECD, 2013b). People with low basic skills often do not understand the need to improve their level of reading and computer literacy, which is the reason for their inability and lack of desire to improve their skills which leads to low self-esteem.

Thus, people with low qualifications are more likely to be left behind. Not only are they more likely to be unemployed or to have low-paid jobs, and to have lower levels of health and civic engagement, but they are also less likely to be able to improve their skills through education and training (OECD, 2013a).

Studies show that people with low qualifications often either do not see the need to improve their skills, or they lack the motivation to learn, due to low expectations (Bynner and Parsons, 2006).

According to numerous studies (Comyn, P., Strietska-Ilina, O., Bergin, A., Delaney, J., Michael Hande, & Seamus McGuinness., 2019), skills mismatch is the result of people's initial educational and professional choices and typically imperfect awareness about job opportunities. Especially in low- and middle-income countries, the cause of skill mismatching might be unequal access to professional training, low or absence of previous education experience, and underdeveloped skills markets.

The International Labor Organization (ILO) (Comyn et al., 2019), analyzed the recommendations of different countries and organizations and concluded that the skills mismatching is still a vague concept for many. This term is often used without specifying the type of mismatch.

It is important to understand the difference; depending on the type the ways to solve each relevant problem will differ. If policy aimed to reduce underqualification generally focuses on improving training incentives, both among existing workers and employers, and does not affect overqualification rates, policy initiatives aimed at overqualification, such as matching labor supply with demand, labor mobility, and reducing information asymmetry, can also affect indicators of the underskilled.

International Labor Organization (Comyn et al., 2019) qualified skills mismatching into:

- Vertical mismatch: education mismatch and skill mismatch.
- Skill gaps and skill shortages.
- Horizontal mismatch: wrong match.
- Skill obsolescence: can be typically either technical or economic.

In this study I will investigate three types of mismatch: skill mismatch and wrong match.

Education mismatch consists of the overqualified and the underqualified. The overqualified is when the level of education exceeds the level of knowledge required by the employer. The underqualified is, on the contrary, when an employee does not have the required level of education.

Skill mismatch includes overskilling and the underskilling. The overskilled is an employee who has more skills and exceeds the requirements for the current job. The underskilled is an employee whose current skills are below the job demands.

Wrong skills - when employees, usually higher education graduates, are engaged in a profession or jobs that are unrelated to their main field of study and competencies and do not have the needed skills at all.

Even though, overskilling and underskilling and overqualification belong to the same category of vertical mismatch. ILO asserted that overskilling and underskilling more accurately reflect the discrepancy between skills and the content of the work itself. While when it comes to education, it is assumed that the theoretical knowledge gained within the training fully reflects the content of the work, academic training is still not always fully applicable in practice.

Therefore, skills mismatch is a more reliable measure of a labor market mismatch, as the employee compares their skills and abilities, whether they were learned in class or not, with the actual requirements at their current jobs.

Skills mismatch refers to various types of imbalance between the skills and qualifications available in the labor market and those required in the workplace. This concept is broad and includes several different kinds of mismatches, both qualitative and quantitative, covering academic qualifications and technical and soft skills.

But often, even in the academic literature, for simplicity researches sometimes use the terms "overqualification" and "overskilled" interchangeably (Belfield, 2010). These are different concepts which proved that excessive education ignores the fact that job entry requirements may be related to job content since individual human capital consists of skills acquired through experience and training in the labor market (Mavromaras et al., 2009). Overskilled may be a comprehensive measure of non-compliance, as it requires the employee to compare all of their skills and abilities, whether learned in class or at work, with the actual skills requirements of their current job.

Although overskilled and overeducation measure excess human capital, they appear to be weakly correlated (Green and McIntosh, 2007 and Flisi et al., 2014).

It is overskilling and underskilled that most fully reflects the inconsistencies, since it requires the employee to compare their skills, regardless of whether these skills were obtained through formal training, with the actual skill requirements of their current job (Comyn, 2019).

Skills mismatch increasingly affects people throughout their lives. Skills mismatch affects people at different stages of their careers. In increasingly dynamic labor markets, people face challenges not only after leaving school and entering the labor force but also every time they change jobs or return to the labor market after long periods of unemployment or inactivity. Skills mismatch is also a progressive phenomenon affecting employees in their workplaces and throughout their working careers, especially if they are unable to improve their skills or they become obsolete.

The European skills and jobs survey (European Centre for the Development of Vocational Training, 2018) identifies a correlation between skill mismatch and differences in the technical or soft skills of the individuals. This stresses the combined inconsistencies which can be attributed to both skills acquired primarily during academic training, like literacy, numeracy, technical skills, and workplace skills, including customer service, communication skills. The findings suggest that high level of overqualification among EU workers is generally associated with a high mismatch of both on-the-job literacy skills and transversal skills, such as inadequate opportunities to apply their problem-solving skills. In contrast, a high level of underqualification is usually supported by a high technical or digital skills deficit and a lack of planning and organizational skills.

In the literature on skill mismatch, the evidence suggests that overqualification has a wage penalty. Overqualified people earn less than those with an equivalent level of education. Numerous studies have attempted to explain this issue, and the average salary penalty, based on 38 estimates, is 7.5 percent.

The study found that the penalty for overskilled is less than the penalty for overqualification (McGuinness and Sloane, 2011; Sánchez-Sánchez and McGuinness, 2015; DiPietro and Urwin, 2006). In addition to the wage penalty, overqualification also increases the likelihood of future unemployment (Mavromaras et al., 2015) and is associated with lower job satisfaction (Mavromaras et al., 2012; Sloane, 2014; Green and Zhu, 2010; Congregado et al., 2016) and lower workplace environment (Belfield, 2010). Overskilled workers are also more likely to want to quit their jobs (McGuinness and Wooden, 2009) and experience less skill development (Cedefop, 2015a). Several studies examine the determinants of overskilled and find that it is more likely for those who were overskilled in the past (Mavromaras et al., 2013), as well as for those with low levels of education (Mavromaras and McGuinness, 2012; Mavromaras et al., 2013). McGuinness and Byrne (2015).

Gian Carlo Cainarca and Francesca Sgobbi noted that countries, depending on how they develop, face different types of mismatch. In some developing countries, where unsustainable economic growth is accompanied by a poorly educated workforce, a lack of skilled employees, and an insufficient workforce tend to risk economic development. On the contrary, for many developed economies and some developing countries, significant investment in education, which is not accompanied by employment growth, contributes to high rates of graduate unemployment and skills mismatches (Strietska-Ilina, 2019).

Not matching skills negatively affects productivity. MügeAdalet McGowan and Andrews (McGowan, M. A., & Andrews, D., 2015). identified connections between skill mismatch and labor productivity: a high level of skill mismatching leads to a low level of labor productivity. The solution can be found in training the necessary skills, which will require additional costs in the absence of a guarantee of return on investment by increasing the results of work. The negative connection between overqualification and productivity is due to a less efficient allocation of resources. From the point of view of a company, hiring an overskilled worker can be beneficial for productivity, provided that there is no negative impact on job satisfaction, and higher wages are offset by productivity gains. However, from an economic point of view, the consequences can be very different. Assuming that wages do not adjust to these tensions in the short term, the mismatch may have a redistributive effect if a skilled labor force is accumulated in low-productivity firms. The negative interrelations between overqualification and productivity are due to less efficient resource allocation. When employees with high qualifications work for an inefficient company, the pool of employees with high skills becomes smaller. As a result, more productive companies have difficulty attracting skilled labor and gaining market share at the expense of less productive companies, which has a negative impact on the economy as a whole.

As a result of a mismatch in the labor market, it is difficult for people to find jobs that match their skills. They also get jobs where their skills are underutilized.

Studies showed (McGuinness and Sloane 2011; Badillo-Amador and Vila 2013; Mavromaras et al. 2013) that workers who underutilize their skills are paid less than those who fully utilize their skills at work. Although, the impact of disparity in educational attainment on wages is greater than the disparity in skills itself.

A skill imbalance is not always a bad thing. Rolf van der Velden, Dieter Verhaest explained that beginning employees with a small skills deficit confirmed a more noted increase in skills than workers starting with the corresponding job because they keep challenging themselves. They show more comprehensive skill growth than those employees whose skills perfectly matched their initial skill level. Learning opportunities are worst when workers start working in a job for which they have a surplus of skills. The study also found that workers who started with a small skill deficit were no less satisfied with their work than workers who started with a well-chosen job. So skill matching has a positive effect on satisfaction, but a small skill deficit is even better. This allows a person to constantly show their potential and get satisfaction from achieving new goals, which also has a positive effect on motivation and job satisfaction.

3. Data

I used the data from the PIAAC study in the analysis.

In 2012, the Organization for Economic Co-operation and Development (OECD) has launched a global survey among adults - the Program for the International Assessment of Adult Competencies (PIAAC).

The research (OECD, 2019) allows to assess and compare adult skills and competencies worldwide. The results illustrate a complete picture of the working population, evaluating participants on literacy, numeracy, and digital problem-solving skills. The first round took place in 2012-2017 in 39 countries. The second round is to start in 2021 and will include 33 countries.

The survey consists of two parts (OECD, 2016):

- The background questionnaire
- The direct assessment of cognitive skills (literacy, numeracy, and problem-solving).

The PIAAC background questionnaire includes a different range of information regarding the factors which influence the development and maintenance of skills, such as education, social background, engagement with literacy and numeracy and ICTs, languages, as well as information of outcomes that may be related to skills. Respondents answered questions about their current activity, employment status, and income. In terms of non-economic outcomes, PIAAC data includes questions on health status, volunteering, political efficacy, and social trust. The Direct-Assessment component of the survey evaluates the skills of adults in three fundamental domains.

PIAAC survey (OECD, 2019) was conducted in Kazakhstan from August 2017 to April 2018. 6050 adults, in age range of 16-65 answered different questions and performed the tests in literacy, numeracy, and problem-solving domains. The results are measured according to the scores in each separate domain, dividing them into levels. The Survey of Adult Skills uses an innovative “job-requirements approach” to ask adults about several generic skills they use in the workplace. The survey investigates how intensively and how frequently adults use these skills at work.

Advantages of the PIAAC study:

- A large number of respondents ensures representativeness of the sample;
- Geographical coverage throughout Kazakhstan
- Analysis in the context of other countries allows comparing the results of Kazakhstan with other countries to grasp strengths and weaknesses and a room for improvement.

In this study was used row data from the PIAAC questionnaire to analyze the impact of different types of skills mismatch and other indicators on job satisfaction.

4. Methodology

There is no correct measure to assess skills. Indicators related to skill measurements are complex. It makes it more difficult, because it is hard to collect unambiguous data for analysis (Braňka, 2016).

According to the previous studies, skill mismatch can be measured in several ways each of which has advantages and disadvantages. The objective method goes through job observation, interviews, and tests of skills following agreed standards (Allen, 2005). This method is expensive and time-consuming. The subjective method is when employees are asked to compare their skills with the required on their jobs. Nonetheless, this method of self-assessment solves the problem of partial measurement of skills. This method does not identify specific skills deficiencies or surpluses. (Allen and van der Velden, 2001). Overskilling and underskilling more fully reflect inconsistencies, as it requires the employee to compare their skills, regardless of whether these skills were obtained through formal training, with the actual skill requirements of their current job.

In this paper, I use PIAAC data, where the compliance of skills was assessed by the respondents themselves. The studies in organizational psychology show that the use of skills at work is a source of individual satisfaction. Therefore, it is important how a person himself evaluates his skills and their utilization at work.

The purpose of this study is to analyze data for Kazakhstan and understand the impact of skills mismatch and job satisfaction.

The study model was based on Lucinda Mateos Romero and Magna del Mar Salinas Jimenez (Mateos-Romero, L., & Salinas-Jiménez, M. D., 2018), who also conducted their analysis of impact of labor mismatch on wages and job satisfaction in 17 OECD countries based on PIAAC data. The empirical evidence showed that the mismatch in education has a significant impact on wages, and the gap in skills is better explained by job satisfaction. Both phenomena seem crucial for understanding the economic consequences of a mismatch in the labor market and suggest that a mismatch in education is not an accurate indicator of a skills mismatch, essentially when the non-monetary consequences of a mismatch in the labor force are taken into account.

To analyze the effects of skill mismatches on job satisfaction I employ the probit model:

$$JS_i = \alpha + \beta M_i + \delta X_i + \mu_i$$

Where:

JS_i is a variable indicating self-assessed job satisfaction;

M_i is the skill mismatch experienced by respondents;

X_i is the set of observed characteristics: education, gender, age, sector of employment;

μ_i is the error term.

All the initial data for the study are taken from the responses to the PIAAC questionnaire (OECD, 2010).

The outcome variable is a respondent's answer to the question: "All things considered, how satisfied are you with your current job?" Respondents can choose one of five options: "Extremely satisfied", "Satisfied", "Neither satisfied nor dissatisfied", "Dissatisfied", "Extremely dissatisfied".

In total, 3611 surveyed people answered this question. The sample excluded respondents who could not determine whether they were satisfied or dissatisfied by job. Thus, 2893 responses were considered. Due to the small number of responses, "Dissatisfied" and "Extremely dissatisfied" were merged into "Dissatisfied". Using the same principle, "Extremely satisfied" and "Satisfied" were merged into "Satisfied".

The main explanatory variable is the skill mismatch. According to the PIAAC questionnaire, the skills assessment is based on subjective assessments by directly interviewing employees whether the skills meet or do not meet the requirements of their work. Specifically, the PIAAC database includes two questions (OECD, 2010) related to the use of the skills:

1. "Do you think that you have the skills that would allow you to handle more complex tasks than those that you perform in your current job?"

2. "Do you feel that you need further training to be able to handle your current responsibilities well?"

The first question gives an idea of the incomplete use of skills. The second one helps to understand whether employees lack skills necessary to perform their work.

According to the answers on two questions, skills classified as: proper skills match, wrong skills, overskilled, underskilled.

Workers, who responded to both questions negatively are identified as having proper skills match. Adults, who answered both questions positively belong to wrong skilled match. The workers who respond positively to the first question but negatively to the second are identified as the workers underusing their skills or as overskilled. Last category is underskilled - those who responded negatively to the first question and positively to the second question denoting a deficit of skills (Mateos-Romero, L., & Salinas-Jiménez, M. D., 2018) (Table 1).

Table 1

Proper skills match	Those workers who respond negatively to both questions are considered to have the proper skills for their current job
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Wrong skills	Those workers who respond positively to both questions are the workers who may possess skills to perform more demanding jobs but do not have sufficient skills for their current position, so they are the workers with unsuitable skills.
Overskilled	Those workers who respond positively to the first question but negatively to the second are the workers under using their skills.
underskilled	Those who respond negatively to the first question and positively to the second are the workers with a deficit of skills.

5. Outcomes and discussion

Job satisfaction and skills

The study's results showed that the level of satisfaction among respondents is 75.6%. There is a high indicator, which was also confirmed by data from the recruitment agency Antal. The annual report of the Kazakhstan Labor Market showed that 78% of respondents were ready to recommend their employer in 2020 (Antal *Kazakhstan*, 2020). The study has (SHRM, 2016) proved that employee satisfaction with work was proportionally related to their willingness to recommend their employer.

Job satisfaction is an indicator consisting of many factors that explain various actions of employees, both individually and in a group. Identifying and ranking components and determining their impact on the final indicators of job satisfaction is quite a complex process. In some studies, job satisfaction was used as an indicator of skill mismatch. Based on the results employees reported dissatisfaction with their work when they have an imbalance between their work and skills. According to an Australian study (Mavromaraset al., 2011), even minor skill mismatches reduce job satisfaction.

However, according to the results of my study, skill mismatch affects job dissatisfaction insignificantly. Overskilling and underskilling have little impact on job satisfaction. This result is rather unexpected considering the evidence provided by the previous studies investigating the discrepancy between qualifications in the labor market.

The only statistically significant result is the incorrect skill matching. People with incorrect skill matching are 3.6% more likely to be dissatisfied with their job (Table 2).

Table 2

	<i>Dependent variable:</i>					
	Job satisfaction					
	(1)	(2)	(3)	(4)	(5)	(6)
Skills mismatch - Overskilled	0.005 (0.017)	0.001 (0.016)	0.002 (0.016)	0.003 (0.016)	0.003 (0.016)	0.013 (0.021)
Skills mismatch - Underskilled	0.009 (0.024)	0.005 (0.025)	0.010 (0.023)	0.010 (0.023)	0.009 (0.023)	0.029 (0.035)
Skills mismatch - Wrong skills	0.040*** (0.015)	0.034** (0.015)	0.038** (0.015)	0.038** (0.015)	0.034 (0.037)	0.052 (0.055)
Education		-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.004 (0.004)	-0.004 (0.004)

Age			0.001 (0.000)	0.001 (0.000)	0.000 (0.001)	0.001 (0.001)
Gender (Male)				0.002 (0.008)	0.007 (0.011)	0.017 (0.019)
Sector - Non-profit organization					0.051*** (0.004)	0.048*** (0.005)
Sector - Private sector					-0.030 (0.031)	-0.034 (0.036)
Constant	0.161*** (0.017)	0.196*** (0.020)	0.174*** (0.026)	0.172*** (0.026)	0.193 (0.191)	0.163 (0.167)
Observations	2,880	2,880	2,880	2,880	2,880	2,121
Akaike Inf. Crit.	1,248.728	1,236.770	1,236.820	1,238.756	1,228.161	903.844
<i>Note:</i>	* p<0.1; ** p<0.05; *** p<0.01					

Job satisfaction and education

The present study found that the probability of job dissatisfaction is negatively correlated with education: people with higher level of education are less likely to be dissatisfied with their jobs. In other words, the more educated an employee is, the higher is the job satisfaction.

Some research (Gürbüz, A., 2007) found that job satisfaction and level of education have positive correlation. Based on the data from a survey of Flemish workers (Verhofstadt, E., & Omeij, E., 2003), determined that people with higher level of education are more satisfied with their jobs because they get better job opportunities. Borjas (Borjas, 1979) found that higher level of education is associated with greater possibility of employment and promotion, greater mobility, and lower risk of being unemployed. In addition, more educated workers can find jobs that match their qualifications the best. It was also identified that people with higher level of education pay more attention to growth opportunities in comparison to job place and pay levels (Ward 2000). The results have also revealed that allowing young employees to use their skills in a variety of jobs contributes significantly to their job satisfaction.

At the same time, exceeding the level of education than it is required negatively affects job satisfaction. According to various research results, the correlation between the mismatch in education and job satisfaction is ambiguous. Skills mismatch has a wage penalty. Employees with overeducation receive smaller salary than the peers who have the required academic level. The explanation can be hidden in the expectations, or the self-assessment of the level of education. Nonconformity reduces job satisfaction and affects general and non-monetary aspects of the job, especially for those whose skills are not utilized. Trends show a significant reduction in earnings for those who have too high level of education. The educational mismatch is often considered together with skills mismatch, and both affect job satisfaction.

Therefore, it can be concluded that education has a positive impact as long as knowledge is relevant and applicable at work, as well as when skills are developed and acquired. However, when workers reach the level where the necessary skills at work are lower than the required education and the knowledge is not applicable at work, the employee begins to be dissatisfied with the workplace.

Non-compliance with qualifications is an essential factor in employee satisfaction. At the same time, non-compliance with education has a much weaker impact on employee job satisfaction. However, both skill mismatch and education mismatch have a negative influence on wages.

Enormous papers investigating educational skills mismatch concluded that mismatch essentially

costly for employees. Naturally, when there is a benefit from the knowledge but it is better when knowledge turns into skills. In the opposite case, it is a loss of time, effort and financial resources directly or indirectly. The results obtained in the literature on the impact of qualifications on wages and job satisfaction only partially support this hypothesis.

Job satisfaction and industry

Controlling for education, age and gender does not essentially change the skills mismatch coefficient. However, as soon as I control the sector of employment, even wrong skills match is not significant any more. Therefore, observed effects are fully driven by the sector of employment: people employed by non-profit organization are about 5% more likely to be dissatisfied than those employed by the government sector, while the difference between the government and private sector is not statistically significant.

It is impossible to identify the causes of such dependences due to the lack of data within the study.

Some studies have found a significant effect of the industry on job satisfaction. But they did not conduct further research and have not found out the reasons why people get different satisfaction levels depending on industry or type of activity. Since there are few studies comparing across industries, job satisfaction is most often researched in the context of a particular industry or company, and there are few cross-industry studies. Also, work satisfaction factors can be different. Possibly, in Kazakhstan job satisfaction is predominantly determined by differences in working environment in different sectors of employment, however, more research is required to understand the underlying mechanism. I leave it for further research.

Figure 1 - Job satisfaction ratio among respondents in Kazakhstan (%)

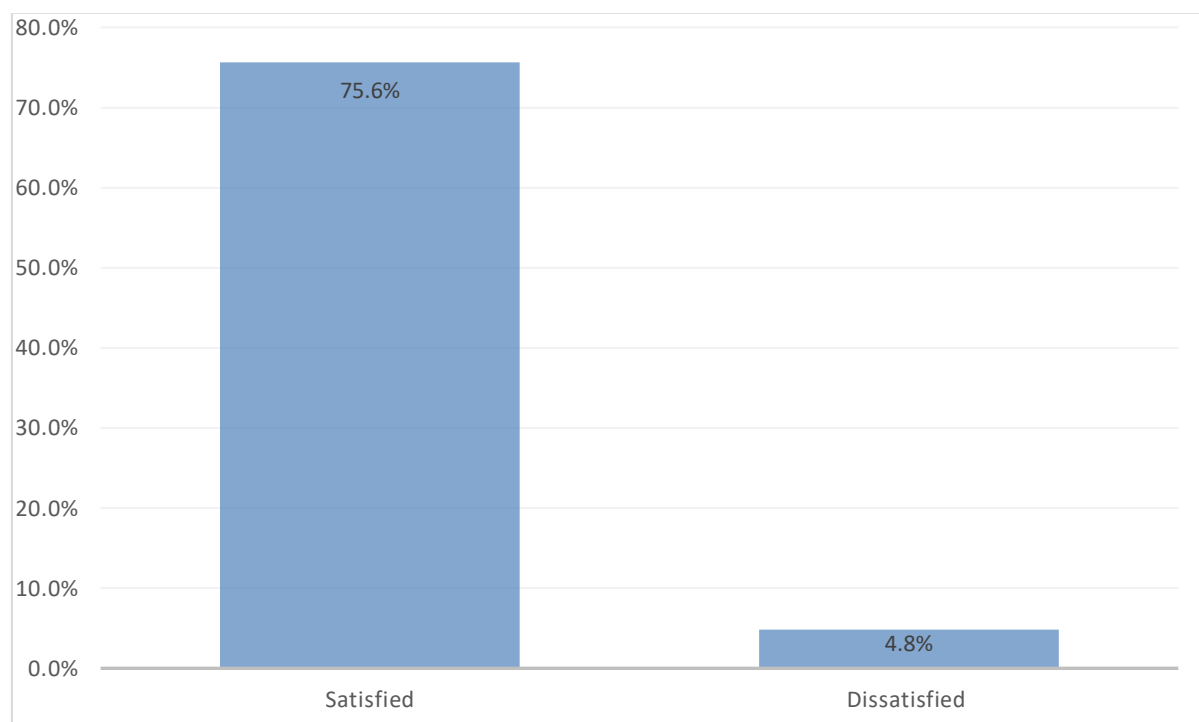
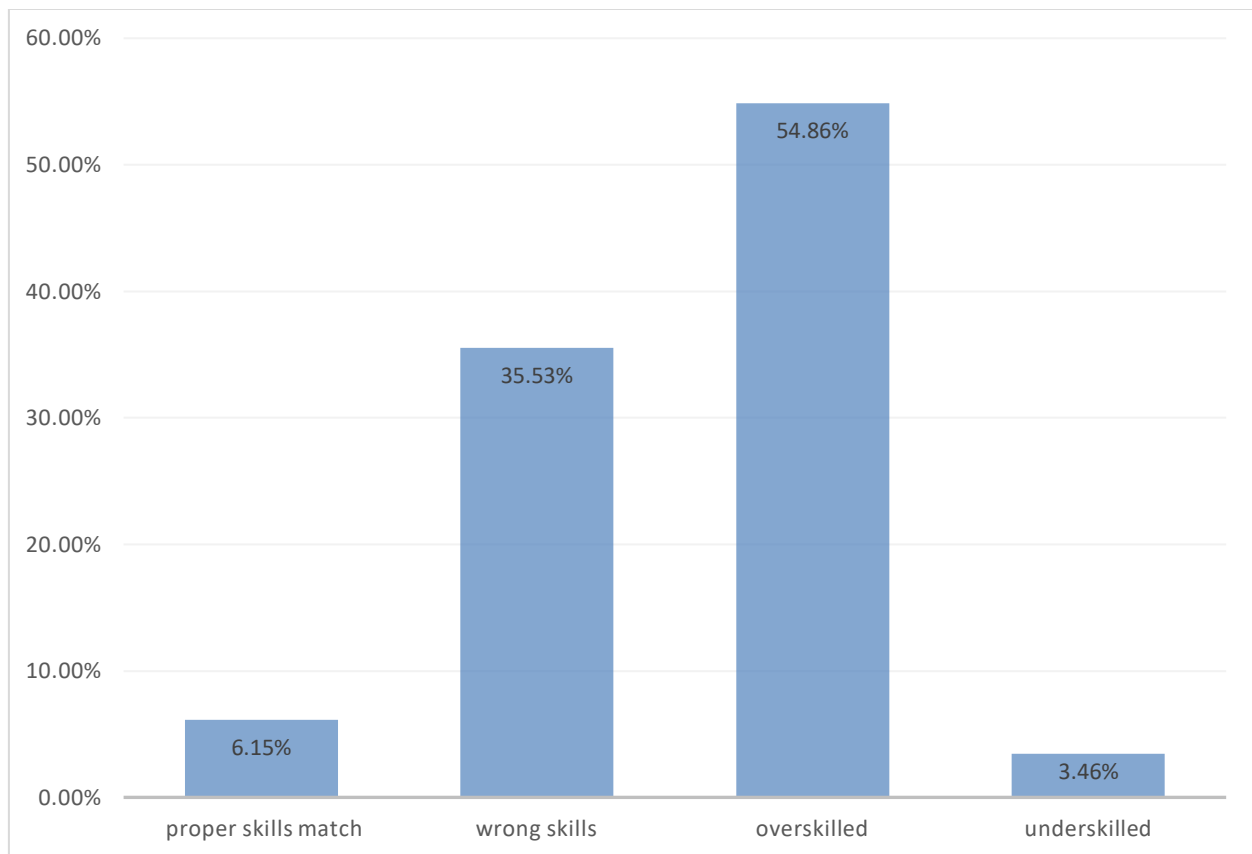


Figure 2 - Skill acquisition rates among respondents in Kazakhstan (%)



The high level of satisfaction is quite unexpected when one considers the fact that the majority of respondents believe that their skills do not meet the requirements at work and define themselves as overskilled (54.86%), underskilled (3.46%), and wrong skilled (35.53%). Only 6.15% reported themselves as having proper skills and match their job. Follow the patterns of previous studies, one should expect a higher level of dissatisfaction among respondents.

More than a half rated themselves as overskilled, meaning they believe they are doing easier tasks than they are able to do in the workplace. It turns out that their skills are not in demand in the workplace. And at the same time, they feel satisfied possibly because they are satisfied with other conditions. Thus, we can conclude that for respondents from Kazakhstan, job satisfaction may depend on other factors. In the Antal study (Antal *Kazakhstan*, 2020). and an empirical study (Bogapova N., 2018) on determining the level of job satisfaction among employees in Kazakhstan, it has been found that the main factors affecting the employees' satisfaction are wages, relationships with colleagues, access to technical equipment and information, general atmosphere in the team and relations with the direct supervisor.

Especially for employees, the level of salary and material bonuses is crucial. The study determined a very high percentage of job satisfaction when education and skills do not match the work performed. It can be assumed that this is due to the existing shortage of jobs when the availability of actual earnings is crucial. According to the Maslow theory, satisfaction is determined by satisfaction of the physical needs first, then security needs, and only then self-realization through recognition and achievement of inner potential. The theory assumes that the transition to the next level occurs when the needs of the previous level are met. Wages provide stability and are an indicator of life security. Job satisfaction analysis results do not correlate significantly with skill mismatch which suggests that people prioritize other factors for assessing their job satisfaction. According to Antal (Antal *Kazakhstan*, 2020), when choosing a job, Kazakhstanis are more focused on the level of wages than career prospects. Although they recognize the importance of career development, the main factor is the salary.

According to the ILO analysis (Comyn, 2017), in middle-income countries, overqualification increases as workers compete for fewer high-quality jobs. It can be assumed that in Kazakhstan a

limited number of jobs require high skills and the labor market generally demand simpler or even primitive skills. This additionally might explain why most people think that their skills are higher than required.

According to the results of skill assessment tests (OECD, 2019), Kazakhstan performed below average. Moreover, amount of low-performing adults in Kazakhstan is larger than the average in the OECD countries.

Based on the conclusions of the PIAAC study for Russia (OECD, 2019), there is a dependency between the average level of development of the country and the average level of skills development within the population. According to the results of PIAAC, Kazakhstanis have below-average reading and computer literacy skills. Based on this, I can conclude that the level of skills demanded in the labor market of Kazakhstan is not high. People with intermediate and higher-intermediate skills self-evaluate as overqualified.

The relationship between skills and the overall well-being of countries shows that per capita incomes are higher in countries with a high proportion of adults who have achieved the highest level of reading and computer literacy skills. Countries with lower skills levels are at risk of losing competitiveness as the global economy becomes increasingly dependent on the development of these skills.

According to the survey among young professionals (IOM, 2019) the majority of respondents from Kazakhstan would like to move abroad because they believe that there are no career opportunities and the tasks demanded by employers are simple and not interesting. This also hints on limitations of the labor market in Kazakhstan suggesting it does not provide enough opportunities self-realization and use the skills in full. A high percentage of overskilled workers, according to some research, might increase overall company efficiency and innovation.

Overqualified employees should be allowed to make full use of their skills, as the longer an employee works, the more likely it is that their abilities match their responsibilities. In other words, highly qualified employees will lose their skills and over time will not be able to bring the super-productivity that they had at the beginning of their career.

At the same time, this result also suggests that people who have identified themselves as underskilled and wrong skilled will be able to become properly skilled over time and gain proper skills through professional experience.

6. Conclusion

The paper evaluates the impact of skill mismatch on job satisfaction in Kazakhstan with the OECD PIAAC data. Additionally, the impact of education, gender, and sector of employment on job satisfaction were examined.

First of all, the study found that Kazakhstani employees have high rate of job satisfaction. The results of previous studies on the negative impact of skill mismatch on job satisfaction have not been confirmed with Kazakhstani data. The result was statistically significant only for the respondents with wrong skill matching. One can conclude that the job satisfaction of Kazakhstani employees is determined by other factors.

At the same time, data analysis revealed that the probability of job dissatisfaction is negatively correlated with education: people with higher level of education are less likely to be dissatisfied with their work.

Controlling for education, age, and gender does not significantly change the skill mismatch estimates. However, once the employment sector is controlled for, even mismatched skills no longer matter. Thus, job satisfaction likely depends on various factors determined at a job level, such as sector of employment, etc.

Although for Kazakhstanis, the discrepancy between skills and their job expectation is not associated with job dissatisfaction, normally it is characterized by both reduction in wages and a decrease in job satisfaction, and eliminating the discrepancy should benefit both employers and employees.

To conclude, skills mismatch and their effects is an important topic future research, as it is an

indicator that affects productivity, human capital development and has a direct impact on the economy both at a company and the country level.

7. Bibliography

1. Mateos-Romero, L., & Salinas-Jiménez, M. D. (2018). Labor Mismatches: Effects on Wages and on Job Satisfaction in 17 OECD Countries, 140(1), 369-391. <https://doi.org/10.1007/s11205-017-1830-y>
2. Alleviating the heavy toll of the global skills mismatch. (2020, December 15). BCG Global. <https://www.bcg.com/publications/2020/alleviating-the-heavy-toll-of-the-global-skills-mismatch>
3. A future skills assessment advances lifelong learning and labor productivity. (2021). BCG Global. <https://www.bcg.com/industries/public-sector/future-skills-architect-tool>
4. Puckett, J., Boutenko, V., Hoteit, L., Polunin, K., Loshkareva, E., Perapechka, S., Stepanenko, A., & Bikkulova, G. (2020). *Fixing the global skills mismatch*. BCG Global. <https://www.bcg.com/publications/2020/fixing-global-skills-mismatch>
5. Palmer, R. (2017, October). Jobs and skills mismatch in the informal economy. International Labour Organization. https://www.ilo.org/wcmsp5/groups/public/ed_emp/skills/documents/publication/wcms_629018.pdf
6. Comyn, P., Strietska-Ilina, O., Bergin, A., Delaney, J., Michael Hande, & Seamus McGuinness. (2019). Skills and jobs mismatches in low- and middle-income countries. International Labour Organization. https://www.ilo.org/wcmsp5/groups/public/d_emp/documents/publication/wcms_726816.pdf
7. Sloane, P. J. (2014, November). Overeducation, skill mismatches, and labor market outcomes for college graduates. IZA World of Labor. <https://faculty.smu.edu/millimet/classes/eco4361/readings/sloane%202014.pdf>
8. McGuinness, S., Pouliakas, K., & Redmond, P. (2017). *How Useful is the Concept of Skills Mismatch?* International Labour Organization. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_552798.pdf
9. Strietska-Ilina, O. (2017, May). *Skills and Future of Work: Challenges and issues* [Presentation]. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/presentation/wcms_554345.pdf
10. Gian Carlo Cainarca & Francesca Sgobbi, 2012. "The return to education and skills in Italy," *International Journal of Manpower*, Emerald Group Publishing, vol. 33(2), pages 187-205, May.
11. Manyika, J., & Spence, M. (2015, September). *Job-saving technologies*. <https://faculty.smu.edu/millimet/classes/eco4361/readings/sloane%202014.pdf>
12. Davos-Klosters. (2012). *Matching skills and labour market needs building social partnerships for better skills and better jobs*. <https://doi.org/10.1787/9789264177338-sum-en>
13. Butenko, V., Polunin, K., Kotov, I., Sycheva, E., Stepenenko, A., Zanina, E., Lomp, S., Rudenko, V., & Topolskaya, E. (2017). Russia 2025: from staff to talent. The Boston Consulting Group. https://image-src.bcg.com/Images/Skills_Outline_v1.8_preview_tcm9-175469.pdf
14. Braňka, J. (2016). Understanding the potential impact of skills recognition systems on labour markets. International Labour Organization. https://www.ilo.org/wcmsp5/groups/public/ed_emp/ifp_skills/documents/publication/wcms_552798.pdf
15. Allen, J. *Interdisciplinary differences in attitudes towards deposit in institutional repositories.*, (2005) Masters thesis, Manchester Metropolitan University (UK). <https://core.ac.uk/download/pdf/231303644.pdf>
16. AntalKazakhstan(2020, September). *Labor market research and salary survey in Kazakhstan 2020: Benefits, satisfaction and willingness to recommend your employer [Issledovaniyerynkatrudaiobzorzarabotnykh plat v Kazakhstane 2020: L'goty, udovletvorennost' igotovnost' rekomendovat' svoeyegorabotodatelya]*. AntalKazakhstan. <https://www.antalkazakhstan.kz/news/issledovanie-rynka-truda-i-obzor-zarabotnykh-plat-v-kazakhstane-2020-igoty-udovletvorennost-i-gotovn/>
17. Nasurdin, A.M., Tan, C. L., & Naseer Khan, S. (2020). *Can high performance work practices and satisfaction predict job performance? An examination of the Malaysian private health-care*

- sector. *International Journal of Quality and Service Sciences*, 12(4),521-540. <https://doi.org/10.1108/ijqss-06-2019-0090>
18. Tran, L. T., ThiVinh Hien, H., & Baker, J. (2020). *When supportive workplaces positively help work performance*. *Baltic Journal of Management*, 16(2), 208-227. <https://doi.org/10.1108/bjm-06-2020-0220>
 19. Sembiring, N., Nimran, U., Astuti, E. S., &Utami, H. N. (2020). *The effects of emotional intelligence and organizational justice on job satisfaction, caring climate, and criminal investigation officers' performance*. *International Journal of Organizational Analysis*, 28(5),1113-1130. <https://doi.org/10.1108/ijoa-10-2019-1908>
 20. Ye, Z., Liu, H., &Gu, J. (2019). *Relationships between conflicts and employee perceived job performance*. *International Journal of Conflict Management*, 30(5), 706-728. <https://doi.org/10.1108/ijcma-01-2019-0010>
 21. Pang, K., & Lu, C. (2018). *Organizational motivation, employee job satisfaction and organizational performance*. *Maritime Business Review*, 3(1), 36-52. <https://doi.org/10.1108/mabr-03-2018-0007>
 22. Demushkan, O., Umralin, T., &Salhaev, B. (2018, December). *Approaches to Increase Motivation and Satisfaction of Healthcare Workers [Podkhodypopovyshenyumotivatsiiudovletvorennostirabotnikovmeditsinskikhorganizatsiy] [Presentation]*. Republican Center for Healthcare Development.
 23. Kulchmanov, A., &Kaliannan, M. (2014). *Does money motivate employees? Empirical study of private and public financial sector in Kazakhstan*. *International Journal of Business and Management*, 9(11). <https://doi.org/10.5539/ijbm.v9n11p214>
 24. Bogapova, N., (2018). *"Teacher Job Satisfaction within Intellectual Schools in Kazakhstan: A Mixed Methods Study"* ETD collection for University of Nebraska - Lincoln. AAI10793740. <https://digitalcommons.unl.edu/dissertations/AAI10793740>
 25. Braconier, H, Nicoletti, G. and B. Westmore (2014), "Policies challenges for the Next 50 Years", *OECD Economics Department Policy Papers, No 9, OECD Publishing*.
 26. OECD(2015). *Labour market mismatch and labour productivity*.*OECD Economics Department Working Papers*. <https://doi.org/10.1787/5js1pzx1r2kb-en>
 27. McGuinness, S., & Sloane, P. J. (2011). Labour market mismatch among UK graduates: An analysis using REFLEX data. *Economics of Education Review, RePEc* . 30(1):130-145
 28. Stillman, D., & Stillman, J. (2017). *Gen Z work: How the next generation is transforming the workplace*. HarperCollins.
 29. OECD. (2010). *PIAAC Background questionnaire* (MS version 2.1 d.d. 15-12-2010).
 30. OECD. (2014).*Job creation and local economic development*. OECD. <https://doi.org/10.1787/9789264215009-en>
 31. World Economic Forum. (2016). *The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution*. https://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf
 32. McKinsey Global Institute. (2015). *A labor market that works: connecting talent with opportunity in the difital age*. McKinsey & Company. https://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf
 33. Vedder, R., Denhart, C., & Robe, J. (2013). *Why Are Recent College Graduates Underemployed?* Center for college affordability and productivity. <https://files.eric.ed.gov/fulltext/ED539373.pdf>
 34. Locke, A. E. (1976). The nature and causes of job satisfaction. *Handbook of industrial and organizational psychology*, 1304. Chicago, IL: Rand McNally
 35. Keller, S., & Meaney, M. (2017). *High-performing teams: A timeless leadership topic*. McKinsey & Company. <https://www.mckinsey.com/business-functions/organization/our-insights/high-performing-teams-a-timeless-leadership-topic>
 36. European Centre for the Development of Vocational Training. (2018). *Insights into skill shortages and skill mismatch: Learning from Cedefop's European skills and jobs survey*. European Centre for the Development of Vocational Training (Cedefop). 978-92-896-2520-3

37. Verhofstadt, E., & Omeij, E. (2003). The impact of education on job satisfaction in the first job. *International Journal of Manpower*. <https://doi.org/10.1108/01437720710747965>
38. GÜRBÜZ, A. (2007). An Assessment on the effect of education level on the job satisfaction from the Tourism sector point of view. *Doğuş Üniversitesi Dergisi*, 1(8), 36-46. <https://doi.org/10.31671/dogus.2019.240>
39. Sánchez-Sánchez, N., & McGuinness, S. (2013). Decomposing the impacts of overeducation and overskilling on earnings and job satisfaction: An analysis using REFLEX data. *Education Economics*, 23(4), 419-432. <https://doi.org/10.1080/09645292.2013.846297>
40. Allas, T., & Schaninger, B. (2020). *The boss factor: Making the world a better place through workplace relationships*. McKinsey & Company. <https://www.mckinsey.com/business-functions/organization/our-insights/the-boss-factor-making-the-world-a-better-place-through-workplace-relationships>
41. Ernst & Young. (2018). Can the universities of today lead learning for tomorrow? Retrieved from <https://cdn.ey.com/echannel/au/en/industries/government---public-sector/ey-university-of-the-future-2030/EY-university-of-the-future-2030.pdf>
42. McGowan, M. A., & Andrews, D. (2015). *Labour market mismatch and labour productivity: Evidence from PIAAC data (JT03375317)*. OECD.
43. OECD. (2019). *Skills matter: Additional results from the survey of adult skills*. Retrieved from OECD website: <https://doi.org/10.1787/1f029d8f-en>
44. OECD. (2016). *Skills matter: Further results from the survey of adult skills*. Retrieved from OECD website: <https://doi.org/10.1787/9789264258051-en>
45. OECD. (2019). *Skills matter: Additional results from the survey of adult skills -Kazakhstan*. https://www.oecd.org/skills/piaac/publications/countryspecificmaterial/PIAAC_Country_Note_Kazakhstan.pdf
46. Society for Human Resource Management (SHRM). (2016). Employee Job Satisfaction and Engagement: Revitalizing a Changing Workforce. Retrieved from <https://www.shrm.org/hr-today/trends-and-forecasting/research-and-surveys/Documents/2016-Employee-Job-Satisfaction-and-Engagement-Report.pdf>
47. IOM (2019). *External Youth Migration in the Countries of Central Asia: Risk analysis and minimization of negative consequences*. International Organization for Migration (IOM) https://publications.iom.int/system/files/pdf/external_youth_migration_en.pdf
48. Mavromaras, K., McGuinness, S., Richardson, S., Sloane, P., & Wei, Z. (2011). *Over-skilling and job satisfaction in the Australian labour force*. National Centre for Vocational Education Research website: <http://www.ncver.edu.au/publications/2365.html>