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***«Work-life balance: analysis and perspectives of female engineers»***

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**WORK-LIFE BALANCE: ANALYSIS AND PERSPECTIVES OF FEMALE ENGINEERS**

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May 2022

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# **Abstract of “Work-life balance: analysis and perspectives of female engineers”**

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A lot of research is devoted to studying the role and influence of work-life balance on all aspects of employee productivity, however, the low representation of female engineers in Kazakhstan shows a different picture, where the main problem is to achieve that very balance. Work-life balance is the process of balancing multiple roles of a person, in particular work and family, which is defined as a positive interaction without compromising any responsibilities. Using the results of unstructured interviews with 27 female engineers in Kazakhstan, an assessment was made of the level of work-life balance of women in the field of engineering, where there are a number of stereotypes about the "male" profession. There is a direct relationship between work-life balance and job satisfaction, as well as between work-life balance and the commitment of women engineers to their profession. However, this study revealed some peculiarity between the respondents' answers about the existence of work-life balance in their lives and the real picture, where the main place is given to the very preference of women in choosing the main role for themselves at this stage of life. Ultimately, the results of the study highlighted the importance of further research into this issue and the implementation of a friendly work-life balance policy at the organizational level.

*Keywords:* Work-life balance, women, engineer, Kazakhstan, job satisfaction, job commitment.

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## **Introduction**

Work-life balance combines multiple human roles, in particular work and family, which is defined as positive interaction without compromising role responsibilities. Maintaining a healthy work-life balance among employees is directly related to the productivity of medium and large enterprises, which is an integral part of the development of the economy of the whole country.

Kazakhstan, as a developing country where women make up 51.5% of the total population (Bureau of National Statistics, 2021), needs to pay attention to harnessing and preserving women's potential by supporting friendly work-life balance policies. Job engagement, satisfaction, and commitment to the profession of female engineers in a field where male engineers have a significant lead (Hamzah, 2020) all depend on how well women manage to combine multiple roles at the same time (employee, wife, mother, friend), sisters and others) and how companies are involved in this process.

This article presents an analysis of a study of the work-life balance of female engineers and the prospects for improvement, which directly affect women's job satisfaction and their commitment to their profession. In particular, the results of the interviews demonstrated the presence of a work-life balance among female engineers, mainly working in western Kazakhstan. However, the real picture in life and in the presence of a high workload of respondents indicates the opposite, indicating the application of preference theory and the influence of culture on women's perception of stress and the presence of role conflict. The data obtained allows HR specialists to offer a different kind of recommendations for improving the performance of organizations.

## **Aims**

The overall aim of this dissertation is to determine the level of work-life balance of female engineers and to identify the relationship between work-life balance and its impact

on job satisfaction and commitment to the profession of Kazakhstani women engineers. Achieving this aim was achieved through the analysis and study of modern literature, as well as interviews with representatives of the female half of specialists working in the engineering environment. This paper also highlights the interests and plans of Kazakhstani women in relation to their current career prospects.

There are also practical aims in this research. Firstly, the attitude of female engineers in Kazakhstan to the work-life balance and what is important for them in terms of satisfaction with their chosen profession and in terms of their further desire to remain in the technical environment. Secondly, this study is intended to demonstrate the real practices of companies in which the respondents work, as well as the successful experience of foreign companies in relation to work-life balance policies, which will ultimately help Kazakhstani companies and HR professionals in building a favorable policy in relation to women engineers and work-life balance.

**Research objectives:**

- Determine the level of work-life balance among Kazakh women engineers.
- To study the relationship between job satisfaction and work-life balance.
- Explore the relationship between work commitment and work-life balance.
- Identify solutions that exist to maintain work-life balance for female engineers.

**Research questions:**

- What is the level of balance between work and personal life among Kazakh female engineers?
- How does work-life balance affect job satisfaction and commitment to the profession of women engineers in Kazakhstan?
- What should Kazakhstani companies do to maintain a balance between the work and personal lives of their employees, namely women engineers?

**Research hypothesis:**

Hypothesis 1: Work-life balance has a positive effect on job satisfaction among Kazakh women engineers.

Hypothesis 2: Work-life balance enhances the work commitment of Kazakhstani women engineers.

**Scope of study**

The analysis focuses on Kazakhstani women aged 25 to 39: married, single, with or without children. The study focuses on respondents who work only in an office in the city of Atyrau. This city is located in the western part of the Republic of Kazakhstan, where foreign and Kazakh companies mainly operate in the oil and gas, energy and construction industries.

## **Literature review**

### **Introduction**

A lot of research is devoted to the study and application of work-life balance in Western countries, where surveys and interviews show a high level of conflict among women between the work role and the role of mother or wife (Williams, 2017; Meeussen and Van\_laar, 2018). In Kazakhstan, this issue is no less relevant, where there is a significant lack of information and research that could be a starting point for many organizations to take the necessary measures to solve a common problem.

According to Kovyazina (2019), each female employee devotes more than 2 hours to housework, and a male employee about 30 minutes. As a result, the difference is 12%. When it comes to women working in a male-dominated engineering environment, the presence of stress and anxiety, which affects both job satisfaction and job commitment, plays a key role in the application of work-life balance policies in companies.

The growing economy and the relevance of gender equality define a new path for Kazakhstani women, who should be perceived as in-demand employees, whose productivity is not lower than that of a male employee.

Promoting the idea and encouraging work-life balance among working women is one of the measures presented in the Concept of Family and Gender Policy until 2030 in Kazakhstan, one of the stages in the implementation of the Gender Equality Strategy (Asian Development Bank, 2018). This study highlights the importance of further exploring this issue and implementing work-life balance friendly policies at the organizational level.

### **Balance between work and personal life**

Many studies and articles are devoted to the topics of study, impact, advantages and disadvantages of work-life balance; however, it is still difficult to give a precise definition of the term itself. In their paper, Kalliath and Brough (2008) offer six ways to define work-life balance:

1. Work-life balance is a set of personal roles where there is a possibility that family



responsibilities can negatively influence the achievement of work goals by reducing time and effort on productivity in the workplace.

2. Work-life balance is the achievement of a level when a person can consider himself/herself an excellent specialist and at the same time an excellent family person, devoting an equal amount of time to two roles and equal satisfaction from fulfilling his/her immediate duties.

3. Work-life balance is a state of compatibility of several roles, in which the peculiarity lies in the fact that a person himself/herself determines what is a priority at the moment of his/her life - family or work.

4. Work-life balance is the complete absence of any conflict in the performance of different roles.

5. Work-life balance is a person's self-control over the acceptance of which role is most important for a given period of life.

6. Work-life balance is the achievement of satisfaction in the performance of all role responsibilities through the correct balance between effort, time and a minimum level of conflict.

Considering all options, in this study, work-life balance is perceived as an individual's perception of work and any non-work related activities, which is defined as a positive interaction in accordance with current preferences and goals in a person's life. It is important to emphasize that this designation applies not only to those who have a family and responsibilities for the care of children and parents, but also to those employees who find it important to maintain a balance between work and personal interests, such as hobbies, sports, friends.

The study of work-family balance began as early as the 1970s, with the greatest interest in this subject in the 1990s (cited in: Ramarajan et al., 2017). However, a more significant contribution to the issue of work-life balance and women was made by Hakim (2005), using

five significant moments in history that allowed women the right to choose and have previously unavailable opportunities that give impetus to the development of work-life balance:

- The beginning of the time when women were able to regulate the right of fertility with the use of contraceptives;
- A historical moment that gave women equal access to professions and specialties;
- Increasing the choice of white-collar professions previously inaccessible to women;
- The right to choose a flexible work schedule if you wish to combine other roles;
- The expansion of new ideas and values in women according to their preferences, which especially influence their choice in building a career.

Since then, there has been a trend towards an increase in the number of working women, but at the same time, women continue to fulfill their responsibilities related to motherhood and household chores.

As a result, despite research into this conflict, women continue to experience stress, which is reflected in their performance as employees, as well as job satisfaction and career commitment.

The reasons why female employees are more likely to experience conflict between work and family life may be how often and how much women have to work overtime, inflexible working hours, a negative corporate culture, or misunderstanding among senior management (Rangarajan, 2014). As a result, the problem of retaining female staff is acute.

Today, there is a widespread tendency to be the perfect mother, who reads a lot of books about the upbringing and development of children, participates in all children's activities. The desire to meet the standards of an ideal mother clashes with the demands of employers for ideal workers, which inevitably leads to conflict (Meeussen, Van\_laar, 2018). However, scientists have come to the positive effect of the desire to be an ideal mother. Employees who have high ambitions on the labor front have the same high ambitions on the maternal front. Perhaps the individual perception and attitude to their responsibilities, both work and family,

make a woman strive for success in all roles. However, this does not change the picture that women's representation in leadership positions or in male-dominated professions remains low. One answer to why this continues to happen comes from Hakim (2006), who argue that work-life balance policies do not have a positive impact on gender equality among working women and men. An example is the experience of two countries, Sweden and the United States. In the first country, the idea of work-life balance and its application in practice in companies is very popular, but only 1.5% is the number of women in leadership positions. At the same time, this figure is 11% in the USA, where work-life balance is not as implemented as in Sweden. A work-life balance policy is necessary and has many advantages, but it cannot completely eradicate gender inequality.

The consulting company Kontakt InterSearch Russia conducted a survey among 987 senior executives. The proportion of women who participated was 45%, of which 59% said they had made the decision to sacrifice their family for their careers, and 51% were women who felt guilty about not spending enough time with their family (Forbes Women, 2021). ). There is another study where 28% of working parents in the US cannot find time for their children because of work, 40% say they don't even have time for a husband/wife, and 53% say they can't make time for their children due to work due to workload (quoted in Andreassy and Thompson: Family and Work Institute, 2008). It should be concluded that such problems exist in other countries as well.

### **Women in engineering**

The conflict between specialists and a wife or mother has always been difficult for working women, but the problem becomes more acute for women working in technology. It is no secret that there are many stereotypes that engineering is considered masculine; it requires strength and an analytical mindset. In engineering, this issue is even more relevant, as women face many stereotypes and barriers. Using the results of Fouad and Singh (2011), only less than 50% of women do not want to pursue an engineering career after completing an

engineering degree. This trend is evidenced by the data of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan (2017), where women employed in industry and construction make up 12.2%, and men - 28.5%.

There is clearly a significant shortage of women in the energy sector in Kazakhstan, with only 25% of the total workforce being women, although there is also a positive upward trend (Calderone et al., 2019). If we talk about the electricity, gas and steam industries in Kazakhstan, women make up 30% of oil and gas production - 20%. A report by the European Bank for Reconstruction and Development and the KAZENERGY Association (2019) notes that only less than 20% of women hold technical and production positions. The fact that women consistently make up less than 20% of the workforce in the energy sector reflects the underrepresentation of women in technical positions in this field and the underutilization of the potential of women engineers.

One of the reasons why there are so few women in the tech industry has to do with women's perceived approach to work itself. Company owners are subject to stereotypes about the soft style of managing a team by a female leader, predominantly consisting of sentimentality and sympathy. Considering that the industry itself, for example, the oil industry, is considered an area where work continues non-stop and there is a need to control several projects at the same time and manage several teams. However, this is not entirely true, as evidenced by Wajcman's (1996) study of 108 female executives and 216 male executives from five oil, gas, chemical and IT service companies. The result demonstrates the opposite - women led a more aggressive method of management, in particular, the "Thatcher factor" is noted, when female managers were noted for faster problem solving and a stricter approach to managing a firm than male managers.

The topic of work-life balance also applies to women working as engineers in the construction industry. In researching why women are less skilled in construction than men are, Watts (2009) came to the issue of work-life balance. Interviews with 31 women construction

workers about constant delays at work, 70 hours a week, a culture of lack of support from colleagues and management-exacerbated increases in stress and burnout among respondents. With regard to unmarried women builders, the issue was also relevant.

Another factor considered negative is 11% of companies with flexible hours and family support programs. It turns out that only 4 out of 36 companies surveyed reported that they are going to accommodate their employees in terms of changing work hours or providing vacation.

### **The impact of work-life balance on job satisfaction**

Job satisfaction is a positive outcome for any employee when there is a harmonious balance between his/her expectations and what he/she gets from their job (Rama Devi and Nagini, 2014). For example, this applies to salary expectations, relationships with management and colleagues, conditions and workplace, corporate culture, etc. Job satisfaction is demonstrated by the attitude of employees towards their work and responsibilities, “this is the degree to which people like (satisfaction) or dislike (dissatisfaction) with their work” (Spector, 1997).

The decisive influence of work-life balance on job satisfaction has been proven by many studies (Rama Devi and Nagini, 2014; Kanwar et al., 2009). If a woman can maintain a healthy balance between work and family or personal life, this only increases her level of job satisfaction. In most cases, women blame the ongoing conflict between work and family for this (Williams, 2017); however, the companies themselves play an important role.

Any female employee will have a high level of job satisfaction if she feels and sees support from a manager who understands the importance of a healthy work-family balance (Sumaiti, 2010). It should also be noted that all employees might have different needs in terms of role functions; therefore, there are cases where the application of work-life balance policy instruments does not increase job satisfaction.

As Clarke (1995) suggests, wages are not the most important factor in women's choice of work. When looking for a job, women are most often interested in working conditions, how

flexible the policy is regarding work schedules, and whether there are programs to support working mothers. Thus, according to Bender et al. (2005), the longer a woman stays in the office after work, the lower her job satisfaction.

It is no secret that the number of women in the world ratio is greater than that of men. However, nevertheless, women have to combine several roles simultaneously with the role of a specialist. In addition, job satisfaction plays an equally important role in this matter. However, studying the issue of job satisfaction between women and men in the UK, Clark (1995) concluded that despite the same conditions and positions at work, women have higher job satisfaction than male colleagues. Moreover, the likely reason may be the expectations of women themselves. It turns out that a woman has a high level of satisfaction with work tasks already from the fact that she works as an engineer, from the fact that she was accepted into the world of a "male" profession. The consequence of such data may be the low expectations of female engineers from the company and leaders in the implementation of a work-life balance policy.

### **The impact of work-life balance on work commitment**

Given the economic crisis during the pandemic, which affected almost all countries of the world, the issue of staff turnover, and, as a result, rising unemployment can have a significant impact on any country's economy. Therefore, the topic of commitment to the profession is acute, not only because it concerns the country's economy, but also the question of the attractiveness of working in a given company, in a given industry.

Dedication to work is defined as loyalty and interest in one's work, arising from increased satisfaction with the results of one's functional duties. More often than not, professional commitment is a combination of how engaged an employee is in their job and how well they feel about their profession (quoted in Hamzah in Meyer, Allen, & A. Smith, 2020).

At the beginning of the 2016-2017 academic year, the proportion of male students in the field of engineering science and technology is 65.9%, and women - half (34.1%) (Committee

on Statistics, 2017). Even with this percentage of young women pursuing engineering education, the proportion of those who will be employed in the future is very small.

According to the publication of the Asian Development Bank (2018), the proportion of Kazakhstani women working in the construction industry is only 3.3%, while the proportion of women employed in the mining industry, as well as in transport and warehousing, is less than one-fifth all workers. It turns out that while working, female employees leave their profession, and one of the reasons may be the emerging conflict of roles. The issue of work-life balance is important if we are to harness the high potential and intelligence of the female population as tech professionals. Ultimately, there is a positive relationship between job satisfaction and job commitment, where the former has previously been shown to be influenced by work-life balance policies.

### **Conclusion**

To date, the issue of work-life balance is no longer new and many studies and articles have been devoted to this topic, however, barriers to the implementation of the work-life balance policy are still relevant. Cieri et al. (2005) identified the most important barriers to making the work-life balance process work for the benefit of employees and the company. Significant attention is paid to the organizational culture of companies (maintaining the performance of work tasks after working hours, paying more attention to work than personal interests) and low the level of communication processes and training in work-life balance strategies.

Companies that care about their employees and pay equal attention to the working conditions of female engineers should recognize the importance and practice of a favorable work-life balance. In turn, this will lead to high levels of job satisfaction and commitment to the work of an irreplaceable workforce.

A report provided by Ergon Associates (2019) highlights the importance of implementing work-life balance policies, especially in the energy sector, and provides real-life examples from

leading companies. For example, the Brazilian hydropower company Itaipu introduced flexible working hours for employees to help mothers balance work and childcare. Also, the mining company SAP uses a program where some employees can work both in the office / on site and remotely, taking a holistic part in meetings and important projects.

In a study of a group of British female engineers, Fernando et al. (2018) suggest four types of supportive assistance to keep women engineers in the workplace. One of the most effective is the presence in the company of a woman who demonstrates the positive side of the balance between work and family. Seeing an example of real success in front of them, other female engineers may subsequently change their attitude and cling to the hope and belief that it is possible to avoid role conflict and build a brilliant career in a more male-dominated field.

Research by Hofstede (1984) suggests the existence of two types of cultures - individualistic (Australia, Canada, USA, UK) and collectivist (Korea, Thailand, Japan, Hong Kong). Consequently, Kazakhstan belongs to the second type, where women determine the work to improve family well-being. Using this division, Andreassi et al. (2014) conducted a study in 48 countries (Asia, Europe, North America and Latin America). They confirmed their hypothesis that there is less conflict between work and family in collectivist cultures than in individualistic cultures. In this regard, scientists suggest using as an example to follow the perception of collectivist cultures, where work is a voluntary investment in the well-being of the family, reducing stress amid conflicts between work and family. As a result, historical implications and oriental upbringing are likely to positively reduce work-life balance for Kazakh women.

Of course, some organizations are trying to help their employees overcome the pressures of the extra workload by offering flexible working hours or telecommuting. In the United States, companies have made it possible for about 55% of their employees to work remotely, and 9% of companies have organized special kindergartens near offices for the



children of their employees (quoted by Andreassy and Thompson in Galinsky and Bond, 2008). However, very few workers use this service because there is an unspoken belief that it can hurt a career or prove that the worker does not take their job seriously. For example, if an employee took frequent family leave, they were the least likely to be listed as employees for promotions or pay (Judiesch and Lyness, 1999).

Millennials born in the 1980s and 2000s are considered “transformational change agents,” employees who value a balanced lifestyle and dare to assert their rights in the workplace (Williams, 2017). Perhaps they will become the starting point for the process of changing the attitude of companies towards the implementation of the policy of balance between work and family.

An interesting conclusion was made in the work of Gray and Tudball (2002), where most often not all employees of the company used work-life balance programs. As a result, managers were aimed at retaining, through this practice, only those employees who had a high work experience in the company and who were trained at the company's expense. Such a distribution is perhaps understandable on the part of the company, which wishes to secure itself in this way. However, one should not forget about promising employees who have just started their journey in the organization or about potential talented personnel for whom it is important that future employers apply work-life balance practices. Given the high shortage of qualified engineers, betting on female engineers, for whom work-life balance or family comes, first, will be a big advantage over other competitors.

Thus, the study of work-life balance and its impact on women engineers' job satisfaction and professional commitment plays a key role in human resource management, especially in Kazakhstan. At the same time, it is important to take into account factors such as the level of trust and support between employees and top management, the state of the organizational culture and the very perception of employees what is important for them, work or family, at the moment of life. Hakim (2006) writes about this in an explanation of the theory of preference

that takes place in this study. Most likely, the work-life balance between female engineers and female non-engineers will not make much difference, but one should be aware of the additional stress that women experience in a world of "male profession" full of stereotypes and pressure.

## **Methodology**

Carefully crafted semi-structured interviews were conducted with 27 female engineers from the oil and gas and construction sectors. 67% of the companies in which the respondents work belong to service organizations (Schlumberger, Baker Hughes, Halliburton and Tenaris) engaged in servicing and providing equipment to customer companies. The remaining 33% of employers of respondents to this study are among the large operating companies for the extraction and processing of oil and gas (North Caspian Operating Company and Tengizchevroil) and a construction holding (BI Group). Of the 27 respondents, 5 women engineers occupy leadership positions, the rest are middle and junior specialists.

Respondents participating in the interviews were mostly selected using the "snowball" method. The list of positions occupied by the study participants: geologist, environmental engineer, geophysicist, well completion engineer, sales engineer, construction cost engineer, design engineer, chemical engineer. All respondents work in an office. Their age varies from 25 years to 39 years. Marital status: 16 women are married, of which 7 have children, 11 women are unmarried, two of whom are divorced and have children.

Semi-structured interviews, as one of the qualitative research methods, were conducted online using ZOOM and WhatsApp applications and lasted 30 - 40 minutes. All questions were open-ended, followed by a discussion of the marital status and the presence of children, the position of the respondents and the characteristics of work, the presence of hobbies and household chores, career plans and the difficulties encountered in achieving the set plans. The information collected during all interviews is necessary to confirm or refute the two prescribed hypotheses of this study regarding Kazakhstani female engineers and work-life balance.

This research work is unique in providing quality information about women engineers in Kazakhstan and work-life balance, which is directly related to job satisfaction and commitment by women engineers to their profession. In addition, although research on the impact of work-

life balance is not new to the modern world, nevertheless, there is currently a small amount of work related to the field of female engineering.

## Data collection and analysis

In the search for suitable respondents, it was difficult to find female engineers with children, since most of the respondents turned out to be engineers who did not yet have children, even if they were married. These statistics demonstrate that the field of activity itself implies an overactive workload, frequent work after hours, which affects the lack of time for personal needs and the needs of the family. Jacobs and Winslow (2004) observed a similar situation in the study with the participation of US teachers. Many respondents were convinced that in order to reach career heights and achieve professional goals, you must first work, and only then start a family or children.

<b>№</b>	<b>Job positions</b>	<b>Ages</b>	<b>Companies</b>	<b>Married</b>	<b>Children</b>
1	Division workforce manager	33	Schlumberger	yes	no
2	Well completion engineer	31	Baker Hughes	yes	yes, 3
3	Chemical application engineer	26	Baker Hughes	no	no
4	Field well test engineer	39	Schlumberger	yes	yes, 3
5	Drilling fluids engineer	32	NCOC	yes	no
6	Sales engineer	36	Tenaris	no	no
7	Construction cost engineer	30	BI Group	no	yes, 1
8	Sales engineer	29	Schlumberger	yes	no
9	Customer engagement coordinator	28	Schlumberger	no	no
10	Reservoir engineer	30	TCO	no	no
11	Electrical and instrumentation engineer	28	TCO	no	no
12	Engineer geophysicist	32	Schlumberger	no	yes, 2
13	Environmental engineer	34	NCOC	yes	yes, 1
14	Chemical engineer	33	Halliburton	yes	yes, 2

15	Development planning engineer	37	NCOC	yes	no
16	Civil design engineer	31	BI Group	no	no
17	HSE engineer	29	BI Group	yes	no
18	Engineer geologist	27	Halliburton	no	no
19	Well integrity engineer	31	Halliburton	yes	no
20	Quality control engineer	27	Tenaris	yes	no
21	Planning engineer	29	Halliburton	no	no
22	Senior project engineer	33	Schlumberger	yes	no
23	Contracts engineer	33	Baker Hughes	yes	yes, 1
24	Procurement services and support engineer	29	Tenaris	yes	yes, 2
25	HSE supervisor	35	NCOC	yes	no
26	Application engineer	29	Baker Hughes	no	no
27	Production engineer	34	Schlumberger	yes	yes, 2

Table 1

Hakim in her book “Work-lifestyle choices in the 21st century: Preference theory” (2000) divides women into three categories according to their lifestyle and work:

- Home centered (20% of women) - women who prefer not to work, but devote all their time and energy to caring for their families;
- Work centered (20% of women) - women for whom work comes first;
- Adaptive (60% of women) - women who are able to combine both work and family roles.

Judging by Table 1 and the examples of respondents' answers below, most of the respondents are of the work-centered type.

Respondent1:

*“At the moment, while there are no children, I focus on achieving my career plans. Moreover, I have been working in this company for only the third year, and now new opportunities are*

*opening up for me, both in terms of training and career advancement. Taking work home is common, but I still find time to meet up with friends.”*

Respondent2:

*“As a sales engineer, I often have to go on business trips. Last year I over fulfilled the plan and such indicators only motivate and inspire me. As long as I have no children and have the support of my husband, I will be able to devote myself to work with full force”.*

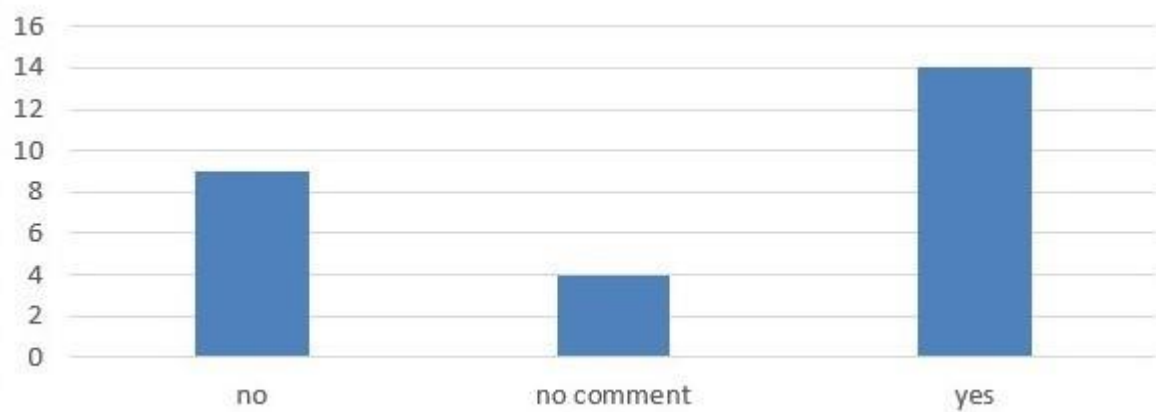
Respondent 3:

*“This balance does not exist, that is, I do not believe. Unfortunately, you always have to choose one thing - either a career, or family, friends. Moreover, although I do not have children and a husband, after work, I simply do not have the strength for anything, I just relax at home and that is it”.*

Most likely, the results of this study demonstrate the egalitarianism of female respondents and similarity with the work of Kaufman and White (2015). According to the Cambridge Dictionary, egalitarianism is "believing that all people are equally important and should have the same rights and opportunities in life", which means that the majority of respondents adhere to a similar outlook on life and work. Kaufman and White's study also involved people aged 29 to 41, similar to the study. The conclusion of their work was the assertion that for egalitarian women, a sense of pride in the work done and future career advancement is much more important than the work-life balance itself and the policies of companies regarding work-life balance. If we take into account the comparison between women and men, then women only slightly prefer the work-life balance policy, only 0.5 more.

The answers of an interview with 27 representatives of female engineers demonstrate that work-life balance is mostly present in their lives, but the real picture with a heavy workload and frequent overtime after a working day and on weekends testifies to the opposite. The reason most likely lies in preference theory, which has been written by Hakim (2000). The theory of preferences explains the choice of a woman in a certain period of her life depends on

her preferences. If a career is more important for her now, she chooses a job and devotes most of her time and energy to completing work tasks, and if she prefers a family, then being a wife or mother for her at that moment above all else. We should not forget the influence of social attitudes, the influence of culture and traditions, but as the study by Hakim (2000) shows, all of them have little effect on the choice of women.



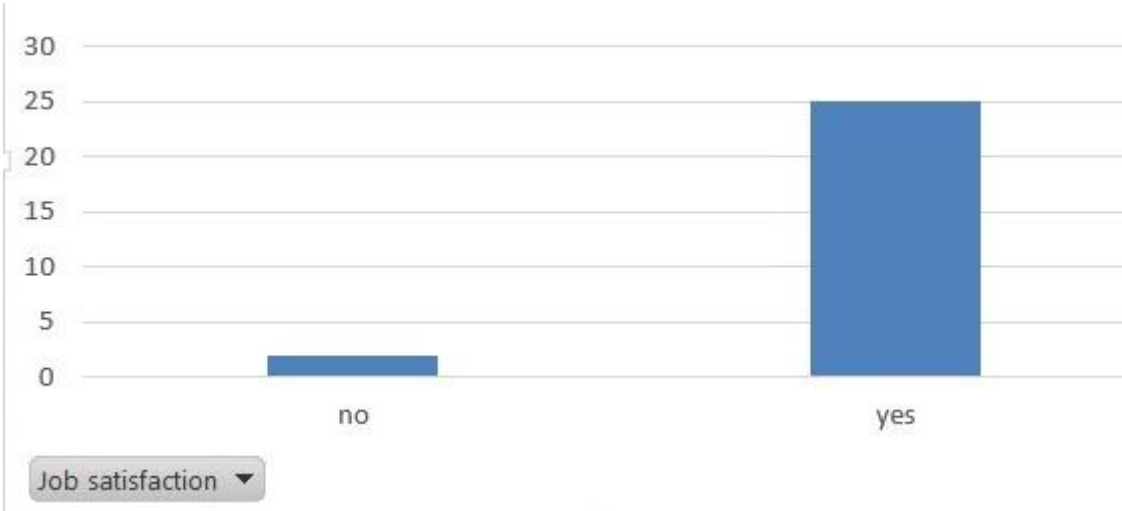
#### Schedule 1

Another likely reason why female engineers in this study deny the existence of a conflict between family and work in their lives is the influence of traditions and culture of the region of residence. The culture of women's multifunctionality, in which there is a great responsibility to family, parents, work, and subsequently an overload of work and personal tasks, leads to what is considered the norm for Kazakhstani women and not a problem in achieving work-life balance. Compared to women in Western countries, this alignment would undoubtedly lead to strikes and protests from women to be heard. As a result, the combination of several roles, where it is not uncommon for frequent delays at work, additional projects and postponing the role of wife and mother for later, seems acceptable to respondents. In turn, this fact can be considered an advantage and even an example to follow, according to Andreassi et al. (2014). Andreassi et al. It is believed that in countries with a collectivist culture, the conflict between work and personal life is less than in an individualistic one, which in turn is a plus from an economic point of view for Kazakhstan.

The majority of respondents (93%) fully agreed that the level of job satisfaction is



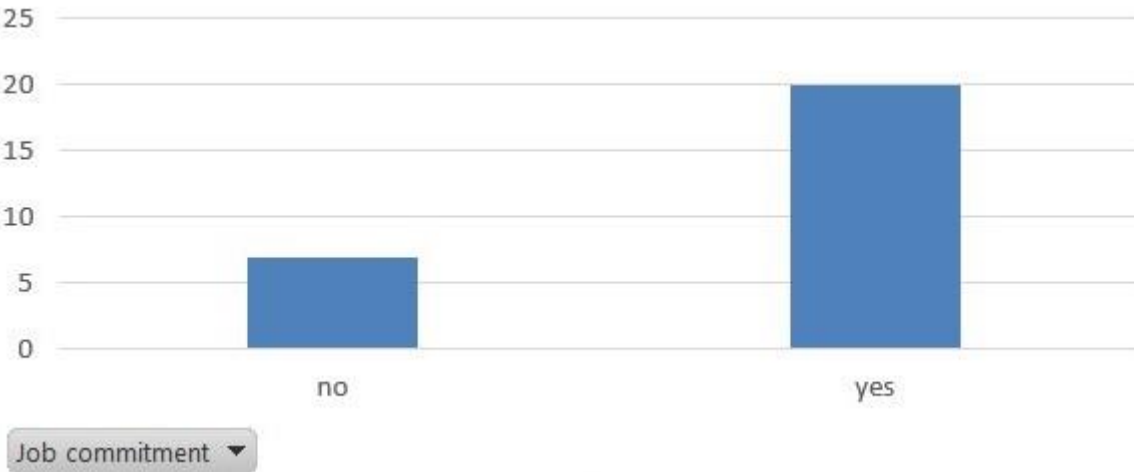
directly related to the extent to which work-life balance is present in their lives (schedule 2). In addition, even despite the fact that the duration of working hours was not limited to the presence at work from 09.00 to 18.00, women understood that this was a necessity and a norm for all employees who work in the oil industry. Conducting a questionnaire among 313 specialists (218 men and 95 women) in the IT field, Kanwar et al. (2009) also found a positive relationship between work-life balance and job satisfaction. Considering that the IT industry and the engineering industry have many of the same parameters, such as constant technical support for customers, work on weekends, overtime work tasks, it should be concluded that if a balance is achieved and maintained, the employee will be able to achieve job satisfaction. As a result, hypothesis 1 was confirmed by the results of the interview. Ultimately, this does not confirm the information described by Woodward (2007), which shows a negative impact on work-life balance if the length of time at work per week is high.



Schedule 2

20 respondents out of 27 (schedule 3) believe that if a person maintains a balance, then this has a positive effect on the fact that she will continue to work and develop in an engineering environment. Thus, hypothesis 2 is confirmed. A similar conclusion was also found in Jaharuddin and Zainol (2019), in which the issue of employee turnover is minimized when employees maintain a balance, which is also supported by the promotional

policy of the company itself. If an employee believes that in her life the performance of work tasks is favorably combined with the performance of the role of a wife, friend or mother, then the question of changing a profession is no longer relevant. It is important to consider that not only the presence of balance affect the commitment to the profession, but also the corporate culture, wages and training opportunities. It is also interesting that other respondents noted that even in the absence of balance, they do not intend to give up their career as an engineer. In this case, the only question will be to change the employer. This information only confirms the importance of implementing a work-life balance policy by companies, which will further strengthen the position of a female engineer to remain in the company.



Schedule 3

In one of the articles in Forbes (2019), Svetlana Balanova, one of the leaders of large IT companies in Russia, argues that there is no work-life balance, that given all the possibilities of the modern world with new technologies, it is necessary to develop work-life integration. This approach to work duties and personal affairs is reflected in the example of one of the respondents, who is a manager.

Respondent 4:

*“Three times a week I go swimming in the morning, and I come to work by 11 o'clock, I am also currently renovating my apartment and I have to leave the office for these issues.*

*Nevertheless, not all my personal affairs affect my work and productivity in any way. I often work on weekends; the people from my team know that I am available at any time. You need to be flexible and be able to combine all your tasks”.*

However, it is tedious to take into account that this style is not available to everyone, but only to top management.

Having a company policy on work-life balance does not always mean the practice is working. The main reason may be that even with flexible working hours, for example, women do not take advantage of the relevant offers, is the lack of support and approval from the manager. Allen (2001) also wrote about this in her work, where 553 respondents participated and emphasized the importance of supervisor involvement in the practical use of work-life balance policy by employees. The next benefit, found through a semi-structured interview, was the importance of retaining a qualified engineer by providing the necessary benefits so that the employee, after maternity leave, could balance fulfilling his work goals and fulfilling the role of the mother of young children.

Respondent 5:

*“I have been working for the company for the ninth year, considering that I went on maternity leave twice. Yes, at the very beginning of my career, I worked a lot, often stayed late at work or took it home with me. However, I liked it, because the field is interesting for me. Now, when you have two children at home who are not even five years old, I immediately made it clear to my management that after 6 I am not available for any work issues. I think, since I am an excellent specialist, my boss understands me and accepts my conditions”.*

This example demonstrates the importance of applying special conditions to women engineers. Before going on maternity leave, respondent 5 showed herself to be a professional in her field, whose productivity and dedication to work prompted the management that such employees should not be lost.

## Recommendations

The oil and gas industry and the construction sector are the largest, most influential and profitable areas for the country. According to a Forbes article (2020), the work of oil and gas companies in Kazakhstan brings up to 44% of the state budget, which undoubtedly affects the growth of the economy of the whole country. It follows from this that work in such companies represents a high level of employee involvement, the importance of the interests of not only employers, but also the staff in the first place, the construction of a policy and culture that reflects an increase in the level of employee job satisfaction through work-life balance. However, as practice and many studies show, the picture today is not so perfect, especially with regard to female employees. According to Williams (2017), there is no U.S. oil and gas company on the Fortune Top 100 Women-friendly Jobs list.

The age of the interviewed respondents ranges from 25 to 39 years, which implies the right to name respondents of the millennial generation. According to DeVaney (2015), people born between 1980 and 2000 are millennials who are characterized by the importance of the cause they pursue, a team spirit, an optimistic outlook on life, and the presence of work-life balance in their lives. It is assumed that such workers will fight for their interests, promote their ideas in order to be able to combine several roles, which will further affect positive changes on the part of employers. However, the majority of female engineers in this study absolutely do not blame their employers for not providing or not supporting the topic of balance. The main reason lies in the very choice of women - if you want to work, you will work, and this is a personal choice for everyone. Only one respondent said that such problems need to be addressed at the state level:

Respondent 6:

*“Perhaps companies need to implement some kind of programs to maintain a balance between work and family or personal life, but this is the choice of the person himself/herself and his/her ability or not the ability to combine everything. In 90%, it depends on the person*

*himself/herself, how he/she allocates time, how responsibly he/she treats his/her work tasks, and on his/her efforts in the end. If a person does not make any effort, then whatever the company does will help solve problems of work-life balance”.*

A similar pattern can be seen in Williams (2017), who also conducted interviews with scientists and engineers working in oil and gas companies in the United States. Williams conducted the study to examine the career development of its respondents, but the topic of work-life balance was mentioned in every interview. Women engineers understand the importance of work-life balance, understand all the consequences of the conflict between several roles that they have to take on, but the reason why this happens, they see only themselves. It follows that companies can do nothing to somehow correct the current situation. This demonstrates that millennials are incapable of being the starting point for a voluntary change in organizational policies regarding work-life balance.

On the other hand, competition for first-class specialists, in particular specialists with technical backgrounds, also exists among companies. The attractiveness of a company that is open to the proposals of its employees, takes into account their interests, accepts the need to implement policies and practices in relation to work-life balance is increasing. As Blair-Loy and Wharton (2002) point out, more often than not, companies just keep up some sort of work-life balance culture by introducing practices, but few actually use them. This kind of example is reflected in the answers of the respondents of this study:

Respondent 7:

*“Many foreign employees work in our company, most often they are managers, so the very word work-life balance is not new to us. I heard that our company has communities where participants share their successes, secrets of how to do everything; HR specialists often send various kinds of work-life balance materials. It seems that there are even online meetings of participants, but, unfortunately, I have never been to them”.*

Often on official websites, you can find in the list of company values or in the strategic

plan that there is a work-life balance policy, but judging by the answers of the respondents, this is just an imitation of such a policy. One reason is that taking advantage of a work-life balance policy, such as flexible work hours or sick leave for childcare, will affect career advancement later on. Participants in the Blair-Loy and Wharton (2002) study also confirm this, where two-thirds of respondents indicated their fear of promotion if they start a family or take parental leave.

In this study, only 11 female engineers among the respondents have children, which leads to an explanation of why so few women take advantage of the work-life balance policies implemented in their companies. Using data from Blair-Loy and Wharton (2002), women with children working in a male workforce are more likely to benefit from a work-life-friendly policy than women, whose work predominantly with female. An excellent example to recommend to other organizations is the example of a service company in the oil and gas industry, in which the respondent works:

Respondent 8:

Before going on maternity leave, I worked in the office as a geophysicist. After the birth of a child, I did not have the opportunity to go to work, but I did not want to spend materially. As a result, the company offered me a contract job. I did not have a monthly salary; I was paid purely for the work done for a specific project. I worked from home; I controlled time and resources myself. Subsequently, when the child grew up, I officially went to the office with the usual work schedule.

The ability to work remotely on assigned projects is a significant plus not only for the employee (not losing work and financial income), but also has a number of advantages for the company. Firstly, the company does not lose such a qualified employee, whose knowledge and experience are needed in working projects. Secondly, such assistance increases the employee's loyalty to the company, increasing feelings of commitment and loyalty to their profession and to the company itself. Thirdly, the availability of this kind of

practice increases the attractiveness of the company against competitors, which has a beneficial effect on the marketing move in relation to work-life balance.

The study of work-life balance in relation to female engineers also shows a positive application for employees of the HR department. Hakim's (2000) preference theory subsequently opens up another perspective for HR practitioners. Given that, there are three types of orientation for women: home-centered, adaptive and work-centered, this gradation should be taken into account when selecting staff. Moreover, young school graduates who are already enrolling in educational programs in engineering, already at that stage of life, choose to build a career and realize ambitions rather than building a family. The study by Kaufman and White (2015) described above and its findings provide a fresh start for HR professionals. Undoubtedly, a policy aimed at introducing and constantly improving the work-life balance for women is necessary and important, but it is necessary to take into account the interests of today's women workers, for whom the issue of wages is much more important. Given that we are talking about the oil and construction industries, the pay gap between men and women should be eliminated, so female engineers will be more committed to their profession.

It is hard to disagree that there are far fewer female engineers today than male colleagues are, and therefore there is a lot of research being done to narrow the gender gap. In their work, Fernando et al. (2018) offer four ways to keep women willing to stay in engineering and thereby increase their levels of commitment and job satisfaction. One of the recommendations is the presence of a role model in the company - a woman who excels in her work tasks and has authority and respect among colleagues, and at the same time is a mother and wife. Among the respondents to this study, the following ideas were expressed:

Respondent 9:

*"It is a pity that our company does not have a role model so that, having looked at the experience of such a specialist, maybe even the head of a department, I would be more confident in my aspirations. A female engineer who has been working for the company since*

*the very beginning of her career and has reached great heights, and at the same time she has a family and children - this is a kind of support for all girls and the belief that there is a balance between work and personal life”.*

Another recommendation from a study by Fernando et al. (2018) is the support of colleagues and the recognition of management; however, these practices for improving the current situation are more related to building a corporate culture, where there is an atmosphere of friendliness and support not only from colleagues, but also from higher specialists. This is evidenced by the work of Ayre et al. (2013), which was attended by 34 Australian civil engineers. One telling example is the relationship between women's commitment to their profession and a sense of recognition of themselves and their results in the company and belonging to the culture of the company. All this can be achieved only thanks to the built program of organizational culture, which is part of the work of the specialists of the HR department.

There is also a downside to the application of the work-life balance policy, when such an example, on the contrary, worsens the situation. For example, several respondents to Ayre et al. (2013) noted that the use of flexible working hours or leaving work early caused negative attitudes from male colleagues, which further influences whether a woman wants to stay in such a team and continue to do work. The only reason for this situation is the low level of support from the management. Therefore, any undertaking towards improving the work-life balance of women engineers must begin with organizational culture.



## **Conclusion**

Today, in an era of rapid growth in technological processes and equal opportunities for everyone, having female employees who are no less qualified than men is a great opportunity and superiority for companies that support this direction. In order for any organization to have a positive experience in attracting women engineers, there are various means, among which the work-life balance policy plays a key role. Most often, it is working women who suffer from constant role conflict when it is necessary to be a wife, mother, daughter or friend and at the same time a professional, especially in an engineering environment where competition is high and there is a constant need to prove that women can work, demonstrating high performance.

The results of this study demonstrate a positive relationship and influence between work-life balance and job satisfaction of the respondents. The majority of respondents note that in the absence of work-life balance, job satisfaction also suffers or is absent. The next conclusion of the data obtained during the interviews is the impact of work-life balance on the commitment of female engineers to their profession. If respondents achieve work-life balance in their lives, then their commitment to their work increases. These two conclusions lead to the fact that there is a direct relationship between three variables: work-life balance, job satisfaction and commitment to the profession in relation to female engineers working in Atyrau.

In general, the study shows that women engineers have a work-life balance and their positive attitude towards the advantages of the practice of this term in their lives and the politics of the companies where they work. However, there is a significant discrepancy between the parameters describing work-life balance and the picture from the life of respondents about constant delays at work, stressful situations, lack of time to meet friends and family. For female engineers in this study, having a work-life balance does not mean devoting equal amounts of time and energy to work tasks and personal obligations (family, children, parents, friends, hobbies). It is important to remember that work-life balance is

primarily a human condition, its balance and harmony in the performance of various roles (Ogechi and Nwaeke, 2019). The decision not to marry or have children while there is an opportunity to build a career and realize all professional ambitions is the choice of women engineers themselves today. This new job orientation trend provides a different approach for HR referrals to the recruitment and promotion processes for women who have chosen to become engineers. Work-life balance and company policies regarding work-life balance will play only on the positive side, the issue of developing such a policy should be mandatory. However, judging by the results of the study, there is no justification for the urgent need to develop this problem.

## References

- Allen, T. (2001). Family-Supportive Work Environments: The Role of Organizational Perceptions. *Journal of Vocational Behavior* 58, 414–435.
- Andreassi, J.K., Lawter, L., Brockerhoff, M. & Rutigliano, P.J. (2014). Cultural impact of human resource practices on job satisfaction. *Cross Cultural Management*. Vol. 21 No. 1, 2014. pp. 55-77.
- Andreassi, J.K. & Thompson, C.A. (2008). *Work-Family Culture" Current Research and Future Directions*. Handbook of Work-Family Integration. Research, Theory, and Best Practices, p.331-351.
- Asian Development Bank. (2018). *Kazakhstan Country Gender Assessment*. Institutional Document.
- Ayre, M., Millsa, J. & Gillb, J. (2013). "Yes, I do belong": The women who stay in engineering. *Engineering Studies*. 5:3, 216-232.
- Bender, K.A., Donohuey, S.M. & Heywoodz, J.S. (2005). Job satisfaction and gender segregation. *Oxford Economic Papers* 57, 479–496 479.
- Bender, K, Susan M.& John S. (2005). "Job satisfaction and gender segregation", *Oxford Economic Papers*, vol. 57(3), pp. 479-496.
- Blair-Loy, M. and Wharton, A. (2002). Employees' Use of Work-Family Policies and the Workplace Social Context". The University of North Carolina Press *Social Forces*, 80(3):813-845.
- Bureau of National Statistics, Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. (2021). The demographic situation in Kazakhstan for January-February 2021.
- Calderone, M., Bergenholtz, T., Akhмурzina, L. & Kazembekova, L. (2019). The Role of Women in the Energy Sector. *Ergon Associates*.
- Cieri, H., Holmes, B., Abbott, J. & Pettit, T. (2005) Achievements and challenges for work/life balance strategies in Australian organizations, *The International Journal of Human*

- Resource Management, 16:1, 90-103.
- Clark, A. (1997). Why are women so happy at work? *Labour Economics*, 4, 341–72.
- Committee on Statistics, Ministry of National Economy of the Republic of Kazakhstan. (2017).  
Women and Men of Kazakhstan, 2012-2016.
- DeVaney, S. (2015). Understanding the Millennial Generation. *Society of Financial Service Professionals*. Vol. 69, No. 6 | pp. 11-14.
- Families and Work Institute (2004). 2002 National Study of the Changing Workforce Public-Use Files (CDROM). NewYork: Families and Work Institute.
- Fernando, D., Cohen, L. & Duberley, J. (2018). What helps? Women engineers' accounts of staying on. *Human resources management*. Wiley online library.
- Forbes women. (2021). Research: 59% of women leaders sacrifice their families for their careers. <https://www.forbes.ru/forbes-woman/422511-issledovanie-59-zhenshchin-rukovoditeley-zhertvuyut-semey-radi-karery>.
- Galinsky, E. & Bond, T. (1998). The *1998 Business Work-Life Study: A Sourcebook*. New York: Families and Work Institute.
- Gray, M and Tudball, J (2002) Family-Friendly Work Practices: Differences within and between workplaces (Research Report No 7): Australian Institute of Family.
- Hakim, C. (2006). Women, careers, and work-life Preferences. *British Journal of Guidance & Counselling*, Vol. 34, No. 3.
- Hamzah, H. (2020). Influence of Job satisfaction, social support system and work-life balance on Malaysian engineers' professional commitment. *Universiti Teknologi Malaysia*.
- Hofstede, G. (1984). The Cultural Relativity of the Quality of Life Concept. *Academy of Management Review*. Vol. 9. No. 3, 389-39S.
- Jacobs, J. & Winslow, S. (2004). The academic life course, time pressures and gender inequality. *Community, Work & Family*, 7:2, 143-161.
- Jaharuddin, N. & Zainol, L. (2019). The Impact of Work-Life Balance on Job Engagement and

- Turnover Intention. *The South East Asian Journal of Management*: Vol. 13: No. 1, Article 7.
- Judiesch, M. & Lyness, K. (1999). Left behind? The impact of leaves of absence on managers' career success. *Academy of Management Journal*, 42, 641-651.
- Kalliath, T. & Brough, P. (2008) Work–life balance: A review of the meaning of the balance construct. *Journal of Management & Organization*. 14: 323–327.
- Kanwar, Y., Singh, A. & Kodwani, A. (2009). Work-Life Balance and Burnout as Predictors of Job Satisfaction in the IT-ITES Industry. *Journal of Business Perspective*, 13: 1.
- Kaufman, G. & White, D. (2015). What Makes a “Good Job”? Gender Role Attitudes and Job Preferences in Sweden. *Springer Science+Business Media*. New York 2015.
- Kent Malone, K. & Issa, R (2013). Work-Life Balance and Organizational Commitment of Women in the U.S. Construction Industry. *Journal of professional issues in engineering education & practice*.
- Kovyazina, K. (2019). Why do Kazakhstani women work more and earn less. *Steppe*.
- Meeussen, L. & Van\_laar, C. (2018) Feeling pressure to be a perfect mother relates to parental burnout and career ambitions. *Front. Psychol.* 9:2113. <https://cabar.asia/ru/author/annaalshanskaya>
- Meyer, J., Allen, N., & A. Smith, C. (1993). Commitment to Organizations and Occupations: Extension and Test of a Three-Component Conceptualization. Article, Vol. 78.
- Mitkevich, A. (2019). "Dying at work is wrong." Career advice from the head of IBS. *Forbes Woman*. <https://www.forbes.ru/forbes-woman/387673-pomirat-na-workote-nepravilno-karernye-sovety-glavy-ibs>.
- Ogechi, E. and Nwaeke, L. (2019). *Assessment of Work-Life Balance and Employees Job Performance in Oil Servicing Companies in the Niger Delta Region of Nigeria*. IIARD International Journal of Economics and Business Management ISSN 2489-0065 Vol. 5 No. 3.
- Rama Devi, V. & A.Nagini, A. (2014). Work-life balance and burnout as predictors of job

- satisfaction in private banking sector. *Skyline Business Journal* (1), 50-53.
- Ramarajan, L., McGinn, K. & Kolb, D. (2012). An Outside-inside Evolution in Gender and Professional Work. *Harvard Business School Working Paper*.
- Ronen S. & Malach Pines A. (2008). Gender differences in engineers' burnout. *Equal Opportunities International*, Vol. 27 Iss 8 pp. 677 – 691.
- Spector, P. E. (1997), *Job Satisfaction: Application, Assessment, Causes, and Consequences*, Thousand Oaks, CA: Sage.
- Sumaiti, R. (2010). The Work Life Balance and Job Satisfaction in Oil and Gas organizations in the UAE context. The British University in Dubai.
- Wajcman, J. (1996). Desperately Seeking Differences: Is Management Style Gendered? *British Journal of Industrial Relations*, pp. 333-349.
- Watts, J. (2009). 'Allowed into a man's world'. Meanings of Work–Life Balance: perspectives of women civil engineers as 'minority' workers in construction. *Gender, Work and Organization*. Vol. 16 No. 1.
- Williams, C. (2017). The Gendered Discourse of Work-Family Balance in the Oil and Gas Industry. *The Southern Sociological Society*.

## Appendix 1

### Interview questions

1. What is your name? How old are you? Are you married or not? Do you have any children?  
What is your position in the company? How long have you been working in this position and in the company?
2. What motivates you to work in this field? What thoughts do you have when you go to work?
3. What do you enjoy outside of working hours? Hobby?
4. Can you combine?
5. How often do you play overtime? Business trips?
6. Have you ever heard of the term or expression Work-life balance? (What do you think? How do you feel? Do you believe?)
7. Do you think there is this balance in your life?  
Yes, how did you define it? What helps you?  
- No: what do you think is stopping you? What is missing? What is the reason?
8. Do you think the concept of Work-life balance is the same for women and men?  
- Yes - what unites?  
- No, why? What makes it different? Who is more difficult and why?
9. What role does the company play in achieving work-life balance for employees?
10. Does your company have programs to support and develop Work-life balance (master classes, trainings, communities)?
11. How do you think work-life balance affects job satisfaction?
12. How do you think work-life balance affects career commitment?
13. Do you have any ideas for improving the program or what would you recommend implementing to support women engineers in achieving balance?