

**“Study of Gender
Discrimination in the
Universities of
Kazakhstan”**

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ABSTRACT

This research examines the prevalence of gender discrimination in universities of Kazakhstan. By employing Morley's micropolitics framework, this study focuses on the experiences of people and groups in order to understand how gendered power relations operate within universities. Three dependent variables were established through a survey and focus group discussions: gender-based undervaluation, sexual objectification, and sexual harassment. According to the findings, female students are significantly more likely to face all three types of discrimination. Personal accounts of discrimination were shared during the focus group discussions, including biased grading and feedback, sexual remarks, stalking, and sexual assault. Recommendations are provided for university administrations, the Ministry of Education, and the Mazhilis of Parliament to address these issues, such as developing anti-discrimination and harassment policies, offering education and training, and establishing reporting procedures.

1. INTRODUCTION

Higher education is an essential factor for the personal and professional development of students. It provides specialized knowledge and skills in their field of study necessary for a future career. Moreover, the university community can be a place for developing networking for its students by bringing beginners and experienced professionals together. By this, higher education playing a crucial role in a student's personal growth is an essential step towards better employment opportunities and a higher standard of living. However, the experience of university years and related professional success can significantly differ based on the gender of students. Existing societal gender norms, prejudices and stereotypes of students, professors and staff become a barrier to fully enjoying the resources and opportunities of higher education. Moreover, under patriarchal traditions, women are more likely to become victims of sexual objectification and harassment, which affects their mental and physical health, and hence, their academic performance, social life, and networking at university. Therefore, it is crucial to study gendered experiences and existing gender discrimination in higher education.

According to the Bureau of National Statistics (2022), there are 122 higher education establishments in Kazakhstan and 575,5 thousand students studying in them. More than half of them, 53,7% are women. However, the number of women students is highly dependent on the major. For example, women are highly represented in education majors and much less represented in IT and other STEM majors. By this, in the major “Information and communication technologies” there are only 26.6% of women and in “Engineering” only 15.1%. It shows that despite female students being the majority among students, there might be obstacles that prevent them from getting into certain career paths. Additionally, it might show the unique challenges that female or male students face in studies in their underrepresented majors. Therefore, the study of the students’ experiences can shed light on issues of gender discrimination, bias, and inequality that may be prevalent in university settings, particularly in traditionally male-dominated fields such as IT or Engineering.

Moreover, the number of women in decision-making positions is disproportionately low. The proportion of women in leadership positions in Kazakhstan is 39% (2021). The low number of women in managerial roles is present in almost all spheres including those that traditionally have more women. For example, despite there being overrepresentation of

women students in the education sector, the share of women in executive positions in the higher education system is only 21% (2021). In particular, in 2022 the number of female rectors of higher education organizations is 25 against 94 male rectors. It shows that even though girls have a high level of education and are interested in pursuing careers, men are more likely to reach higher positions. Such disparity can be related to the traditional roles of men and women where women are not associated with ruling positions.

Taking into account the existing disparity in gender statistics this study focuses on the identification of gender discrimination in higher education in Kazakhstan and the gendered experience of students. We intend to understand the experiences of students from diverse gender backgrounds that can help to promote empathy and understanding, creating a gender-sensitive educational environment. This information can be used to develop policies, targeted interventions and support services that promote gender equality and inclusivity.

For the purpose of this study, we used three different concepts derived from the literature to define gender discrimination: gender-based undervaluation, sexual objectification, and sexual harassment. All three forms of discrimination affect the students' university experience differently including academic performance, mental and physical health, and further career. While there are different hypotheses for every type of the discrimination, confirming one of the forms implies the presence of gender discrimination in the universities of Kazakhstan.

2. LITERATURE REVIEW

This section presents an overview of the existing literature on gender inequality persisting in higher education in Kazakhstan. Firstly, the concept of gender inequality is to be clarified using the definitions made by international organizations and prominent researchers. Secondly, it analyzes gender inequality in the context of Kazakhstan, specifically existing prejudices and social norms will be discussed. Thirdly, the existing research on gender disparities among university students in different countries is reviewed and compared to Kazakhstan's cases in order to find the gap in the literature.

2.1. Definitions

Firstly, gender must be defined in order to understand the context of the following passages. *Gender* is different from sex, rather than biological or physiological differences between men and women, gender means “characteristics of women, men, girls and boys that are socially constructed” (WHO, n.d.). Social construction refers to the cultural factors that influence socialization processes, particularly how people are typically taught to differentiate gender roles, norms, and attitudes attributable to men and women (Lindsey, 2015). Gender inequality was traditionally explained by biological reasons, but in-depth analysis advocates the role of social and cultural norms (Mukhamadiyeva et al., 2019).

Gender inequality is defined as a “legal, social and cultural situation in which sex and/or gender determine different rights and dignity for women and men, which are reflected in their unequal access to or enjoyment of rights, as well as the assumption of stereotyped social and cultural roles” (European Institute for Gender Equality, n.d.). The notion of equal opportunities to men and women was not chosen as a definition in this study because gaps in outcomes of education are also a great indicator of gender disbalance. To explain, despite women enjoying the same right to access to education as men, it is argued that they still face discrimination in employment after graduation (Khamzina et al., 2020). As a result of socially constructed gender roles and gender power relations, women usually express lower-quality experiences than men in various social spheres, including education, consequently, their status lags behind that of men. Still, gender equality policies should aim at both men and

women because men can also suffer from high patriarchal demands on men and various gender discrimination practices (United Nations, n.d.).

Gender discrimination means “any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise... of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other fields” (United Nations, 1979). It can be either *de jure* (written in law) or *de facto* (used in practice), and both types of discrimination have to be addressed according to the Convention on the Elimination of all Forms of Discrimination Against Women (ibid.).

Gender discrimination can be visible in different forms. The following definitions are taken from the systematic review on measuring gender discrimination by de la Torre-Pérez et al. (2022):

Undervaluation is the act of assigning a lesser value to a person's skills and prospects because of their gender. This can show itself in a variety of ways, including uneven acknowledgment for equivalent accomplishments (e.g., grading), asymmetrical access to resources (e.g., research grants or study trips), and different assessment standards based on gender roles (e.g. certain skills may be deemed less important because of gender).

Different treatment refers to unpleasant actions done against a person because of their gender in terms of their dignity and authority, but can also be expressed in social exclusion, and lack of assistance. Different treatment can even lead to abusive behavior towards a person based on their gender, for example, derogatory jokes or other negative comments.

Sexual objectification is a situation in which people are treated as sexual objects first, meaning that their body images are assessed by others. As a consequence, they experience inappropriate actions from others, such as catcalling and staring.

Sexual harassment is expressed in unwelcome behavior of sexual nature when people receive requests for sex through different means of communication, including phone or texts. Harassment can also be manifested in a physical form, for instance, unwanted touching or even sexual assaults and rape.

2.2. Gender inequality in Kazakhstan

Since the time Kazakhstan gained independence, various policies, laws, strategies on gender equality have been adopted (McLaughlin, 2018). They are aimed at women empowerment and involvement in the economic and political life of the country. The policies include the creation of the special Commission on Women's affairs, implementation of the Strategy of Gender Equality until 2030, introduction of gender-related courses to education, increasing gender awareness of journalists and mass media (Shakirova, 2015). Moreover, in 2021 President Tokayev announced joining Action Coalitions on Gender-Based Violence and signing Decree on Further Human Rights Measures, which prioritizes gender equality (Astana Times, 2021). However, scholars agree that despite all the formal policies, gender equality remains an important issue (Khamzina et al., 2020; McLaughlin, 2018; Shakirova, 2015). That is to say, women in Kazakhstan are still underrepresented in decision-making political roles; they are more unemployed and economically vulnerable. This part of the literature review analyzes the country's social context in order to understand the roots of gender inequality.

The first factor is the existing gender stereotypes. In public discourse, there is the traditional image of women's role as a wife, daughter, and mother-in-law while men are expected to be breadwinners (McLaughlin, 2018; Alshanskaya, 2020). These stereotypes affect the professional self-determination of women. They usually try to take more flexible work schedules that prevent them from career development in favor of family (Alshanskaya, 2020). CohenMiller et al. (2021) also supports this statement, pointing out that working women in Kazakhstan are expected to advance both family and work, while men can focus on their careers. Moreover, despite the Labour Code allowing both parents to take parental leave, this opportunity is usually used only by women (McLaughlin, 2018). It demonstrates that there is a high level of social burden to take care of a family placed on Kazakh women that affects their career and education choices.

The difference in career choices also can be seen from the representation of women in different fields. Women are more represented in public sector such as education and public health that usually are paid less, while men predominantly occupy higher-paying technical industries (Mynbayeva, 2017). In political life, women are underrepresented in senior

positions. According to the Bureau of National Statistics (2021), for 670 men in political posts, there are only 67 women. Women are also a minority in the Parliament of the country and make up 27.49% of all members. According to Dautova (2020), the social norm of women's role excludes them from political participation. It means that the existing cultural context prevents women from enrolling to higher executive positions and being chosen among men.

This statement is supported by the experiment conducted by Herrick and Sapieva (2008) that aimed to determine voters' prejudices about male and female political candidates. In this research participants were asked to evaluate similar speeches from male and female candidates. The results show that in Kazakhstan women are usually perceived as less competent and less trustworthy in almost every sector such as economics, foreign and domestic policy. Research of people's perception of women in politics by Utrobina (2020) shows that despite improvement in people's attitudes, there are still stereotypes that cause the negative attitude towards female politicians. Women are perceived trustworthy in spheres such as social policy, education, and labor, while in Herrick and Sapieva (2008) men are prioritized in all spheres. It shows that there is a differentiation in the policy spheres and people are not ready to view women occupying executive positions in less "feminine" areas.

Women's position in labour and education is also intertwined with sexual harassment, which is usually gender-based. Although the law prohibits any form of discrimination, workplace harassment is not criminalized. Moreover, in stories of harassment women are usually blamed for their triggering behavior (Seydakhmetova, 2018). For example, in the "Belousova case" the woman of 35 years old was fighting for almost six years to prove that she was the victim of sexual abuse by her boss. During the process, police and government officials often ignored her complaints. Even when the court decided in her favor, there was no compensation from the government (ibid.). Similar cases have taken place in the education sector. There were students at the universities who accused faculty members of sexual abuse (Osipian, 2020). However, most of the cases were kept silenced and victims were accused of being provocateurs. Because of this, many stories are unreported and unpublicized. The sector of education also shares the culture of silencing sexual misconduct and male domination (ibid.).

Summing up, analysis of the social and cultural context of Kazakhstan shows that there are gender stereotypes about women's roles and responsibilities. It is important to analyze these factors in the context of this research because students and faculty of universities can also be carriers of these socially widespread norms. As a result, it may affect the students' perception of gender problems and their experience at university.

2.3. Gender inequality in education

Most members of the Organization for Economic Cooperation and Development (OECD) and countries of the UN Economic Commission for Europe reported an increasing proportion of women in tertiary education (Marcus, 2019). This growing trend is also applicable to Kazakhstan, in particular, women account for almost 56% of university students (Khamzina et al., 2020). So, formally, one can argue that gender equality in higher education in Kazakhstan has been achieved if it is perceived as an equal opportunity to enter university for men and women. Moreover, evidence from OECD countries points out that women are as 1.3 times more likely than men to attend higher education institutions, which indicates a shift in the dynamics of gender involvement in colleges (Vincent-Lancrin, 2008). However, educational gender equality goes beyond equal access to higher education establishments due to possible gender disparities within the learning process. Prominent research done by Morley (2006) brings to attention the existence of hidden practices of gender discrimination in higher educational institutions. A study of unfair treatment towards male and female students can provide a clearer picture of the existing gender gap.

2.3.1. Undervaluation

Extensive research has been conducted on the subject of different treatment among students, and some studies concluded that gender and academic performance do not exhibit statistically significant disparities. For instance, gender differences are not found in the academic performance of college students in Borno State (Goni et al., 2015). However, that particular research lacks control variables, such as socio-economic status, prior academic achievement, and cultural background. Another study conducted in India fails to find a correlation between a student's gender and their academic performance, highlighting an alternative determinant of teacher bias - the student's caste, which reflects their social class (Hanna & Linden, 2012).

Similar findings on family's background were discovered in the United Kingdom, where students from higher socioeconomic status tend to receive better grades than their peers from lower status (Doyle, Easterbrook & Harris, 2022). These findings provide insight into our research, particularly emphasizing the significance of alternative factors, for example, a student's socioeconomic status, and then controlling for these variables.

Besides the student's family income, another determinant of grading bias found in the literature is the student's major. According to the research conducted by Breda and Ly (2015), students may be treated differently depending on whether their subject is male- or female-dominated. Female students perform better in male-dominated fields in terms of grades, whereas the reverse is true for male students in female-dominated departments. In STEM, Moss-Racusin et al. (2012) found that female students lack positive feedback from professors and are less likely to be mentored by them, consequently questioning their own merit as a scientist. When students encounter unfair treatment by the faculty, including their research advisors, they become less motivated to pursue academic careers. In academia, hidden discrimination practices can be expressed in a lack of mentorship opportunities or limited access to vital resources for career advancement (Morley, 2006).

Because the majority of studies on gender-based prejudice concur that gender bias in marking occurs, the discussion has moved to whether female or male students face more unfair treatment. Certain literature suggests that male students receive lower academic evaluations, particularly at the primary and secondary levels of education (Protivínský & Münich, 2018). However, even in this context, Lavy and Sand (2018) argue that male students still tend to benefit from preferential treatment in subjects like math and science, which have a greater impact on future employment and income. Scholars found similar practices at high schools in Kazakhstan, where students reported a biased attitude of teachers towards girls: "teachers tend to like boys more, boys are likely to express their opinions" (Davletiyarova, 2020). It can be explained by different gender expectations in verbal communication so that men are to be more active and have a louder voice than women. Such culturally ingrained expectations lead to better grades for those students who align with engagement in classroom discussion (Howe, 1997).

In universities, grading bias against women continues to take place due to growing in-group bias and gender imbalance among staff members (Jansson & Tyrefors, 2018). It means that when faculty are mostly represented by male professors, they can give preferential treatment to male students to the detriment of female students' academic performance. In the work of Morley (2006), students shared that there is a difference in attitude, some lecturers can ignore the female students' opinions or diminish the value of their questions. One of the students reported that for the same piece of work, the professor gave lower grades to the female student. Gender bias in academic evaluations works in the other direction too, i.e., when students give feedback on professors, it often happens to the disadvantage of female faculty (MacNeill, Driscoll & Hunt, 2015).

Gender bias towards students can be explained by the persistence of gender stereotypes that are deeply rooted in culture. Interestingly, the attribution of specific qualities to men and different ones to women is common among different nations. One research conducted in 25 countries finds similar results (Williams & Best, 1990). Particularly, an *agency* type, which is described as “competent”, “independent”, and “logical” is referred to as a male stereotype, while a *communality* type that includes such adjectives as “collaborative”, “obedient”, and “caring” reflects stereotypically female qualities.

A similar narrative of behavioral expectations from men and women described as agency and communality types exists in Kazakhstan too. For example, gender stereotypes evidently affect the decision-making of female applicants to higher educational institutions. Despite strong academic preparedness, girls are less confident than boys to enroll in STEM (Almukhambetova & Kuzhabekova, 2020). Additionally, girls have misperceptions that STEM careers are not associated with communal and altruistic goals that they are often interested in (ibid.). A similar situation can be observed when male students are hesitant to choose a social science or humanities path because they are taught to view these fields as more feminine than technical specialties.

Another example that showcases gender undervaluation is gender bias in the content of the assigned readings because of a disbalance in gender representation of characters and a stereotypical portrayal of female characters, which can be explained by sexism among teachers themselves (Abraham, 1989). In most of the literature, men are the leading

characters, and women are their wives. The study of Japanese textbooks by Lee (2014) shows that despite the gender-neutral terms, there is the problem of women's invisibility and men's priority. Sunderland (2000) argues that victimization of women in texts leads to the signal for female readers about their less valued gender roles. Therefore, the choice of textbooks as the main source of educational content affects the spread of gender prejudices and misrepresentation.

2.3.2. Sexual objectification

Study that incorporated the method of daily diaries of undergraduate students found that 94% of female participants have been exposed to objectifying sexual behavior and heard unwanted comments in that regard (Swim et al., 1998). Although men can also be a target of sexual objectification, the number of such events is twice as low compared to women's experience (ibid.). A more recent study confirms the claim that women are more likely to be treated as sexual objects in daily life on campus (Harris, 2016). Objectification can occur in different forms that treat the person as a sexual object, including undesirable comments, gaze, body evaluation, as well media representation (Kozee et al., 2007).

Using the framework of objectification theory by Fredrickson and Roberts (1997), Kozee et al. (2007) argue that sexual objectification can have detrimental effects on mental health through self-blame and internalization of sexually objectifying practices, which make women constantly monitor and surveil their own bodies. As part of the internalization of such degrading treatment, victims of sexual objectification also suffer from self-doubt, which means that they tend to doubt their own perception and interpretation of the objectifying events (Watson et al., 2012). Shaming and doubting oneself for being objectified leads women to psychological distress, so greater exposure to dehumanization and body evaluation can be one of the reasons why female students are more at risk of depression and eating disorders than their male peers (Kozee et al., 2007). In addition to the negative impact on self-worth by recurrent sexual objectification, objectification theory emphasizes the possibility for heightened worry about personal safety (Calogero et al., 2021). As a result of this concern, individuals take greater precautionary measures and limit their movements in order to protect their safety.

2.3.3. Sexual harassment

The occurrence of sexual harassment among university students varies depending on the source of harassment, with one study in American colleges finding that around 19% of students have experienced it from the faculty and staff, and 30% of students have been harassed on a peer-to-peer level (Wood et al, 2018). What is consistent in their research is that for both sources, female students are still at a higher risk of being harassed than men. For sexual harassment from faculty, being a female student increases the risk by 86%, from staff – by 147%, and by other students – by 56% (ibid.). Moreover, literature suggests that first-year female students are the most vulnerable to sexual assault. In particular, statistics show that 1 out of 9 freshman women are subject to harassment in their first semester (Carey et al., 2018). In line with these results, a study on the incidence of sexual harassment of Swedish students concludes that age is a significant risk factor, specifically younger age is associated with the higher vulnerability (Agardh et al., 2022). Additionally, according to the study of Ethiopian universities, the area type of student's origin influences the experience of harassment (Molla & Cuthbert, 2014). It claims that women from rural areas moving to urban setting of the university and far away from their cultural norms face additional challenges in dealing with sexual harassment.

While previous literature mostly focuses on the female students' experiences of sexual harassment, a study of South African students reveals that a non-verbal form of harassment (for example, text messages) affects students of both genders (Oni et al., 2019). Still, female students are two to three times more likely to go through other two forms of harassment: verbal and physical sexual abuse, including rape. In the U.S., the percentage of female students who admitted to being sexually assaulted and raped during their undergraduate studies reaches 26.4% (Cantor et al., 2020). That figure might be skewed due to the unwillingness of victims to report these cases due to various reasons, including the fear of reprisal from the perpetrator, victimization, and condemnation from society. Doubting the fairness and effectiveness of the post-report procedures is another possible cause of non-reporting (ibid.). Therefore, the percentage of victims of rape is probably even higher than that identified in the report and perhaps affect the findings of this research as well.

According to Monsalve et al. (2022), while women have a broader understanding and perception of harassment, they are also more likely to experience discomfort in comparison with men who suffered the same types of harassment. In a study on female students, victims of sexual assaults and rapes report symptoms of anxiety and depression (Carey et al., 2018). A similar German longitudinal study discovered that mental health consequences persist for years after the incident (Krahé & Berger, 2017). Besides the negative influence of sexual harassment on mental health, they also adversely affect their academic performance and college retention (ibid.). In addition, both men and women can experience a range of mental disorders after harassment, including depressive and anxious episodes (Fergusson, Swain-Campbell, & Horwood, 2002 in Choudhary, Smith & Bossarte, 2012).

In addition, women's perception of harassment can be different from those of men because they tend to be harassed in greater proportion by professors or people with authority roles. It shows that women are likely to be in more vulnerable positions because of the abuse of power of people in authority. By this, literature suggests that it is not only gender-based power dynamics, where sexual harassment occurs but all other power relations with hierarchical structure. In addition to instances of harassment occurring between professors and students, peer-to-peer interactions are also associated with harassing behaviors. Specifically, social events organized by student clubs are frequently identified as the most common venues for such harassment to occur (Agardh et al., 2022). Researchers attribute this problem among student groups to inherent power disparities, with younger members often assuming lesser positions, making them more vulnerable to discrimination by other members with authority roles.

2.4. Contribution to the literature

As seen from the literature, gender bias can have negative implications at universities in terms of unfair grading, allocation of research opportunities, or even cases of encountering unwelcome conduct (Kozee et al., 2007). However, there is a gap in studies based on primary data that show the experiences of students confronting gender discrimination at Kazakhstani universities. It is important to explore if there is an effect of gender on discrimination, and what cases of discrimination are common.

3. RESEARCH METHODS

In this study, we have used both quantitative and qualitative approaches to answer our two research questions:

- 1. Is there gender discrimination in the universities in Kazakhstan?**
- 2. What are the students' experiences of gender discrimination in the universities of Kazakhstan?**

3.1. Conceptual Framework

This research uses the conceptual framework of *micropolitics* proposed by Morley (1999). It suggests looking beyond the macropolitics of national and international legislation and mesopolitics of organizational policies, and rather focusing on individuals' and groups' experiences. Universities' institutionalized nature offers an ideal setting for the continuation of hierarchical structures and ingrained cultural beliefs that exacerbate socioeconomic imbalances inside these institutions (Morley, 1999 cited in Parsons & Priola, 2013). She argues that gendered power is manipulated in universities because regulations from the higher governmental structures often do not reach the micro-level of students' perceptions and experiences of gender inequality. The gendered structures of organization in higher education institutions create rules and norms that become normalized as hidden practices (Morley, 2006 cited in Hodgins & O'Connor, 2021). Therefore, despite a policy commitment to gender equality in Kazakhstan, there is still a possibility of hidden discrimination to be revealed after a careful examination of students' experiences due to gender-biased social and cultural context.

For operationalizing gender discrimination, we used three concepts: *gender-based undervaluation*, *sexual objectification*, and *sexual harassment*. These variables were defined using the systematic review of studies on gender discrimination of de la Torre-Pérez et al. (2022) that differentiated it into two components: undervaluation and different treatment, where the former part serves as a more subtle version of the latter one. In particular, the difference between undervaluation and different treatment lies in how visible acts of discrimination are. *Undervaluation* is defined as differences in four subdomains, namely differences in recognition, opportunities, evaluation standards, and expectations. In our

research, we asked survey and focus group participants on their experience with both undervaluation and different treatment, but then we decided to exclude different treatment from the analysis of quantitative data and instead focus on undervaluation results. In fact, we were still interested in exploring cases of different treatment in the qualitative research part.

We also decided to include *sexual objectification* and *sexual harassment* as parts of gender discrimination in our research even though de la Torre-Pérez et al. (2022) did not consider them as dimensions of gender discrimination. Aside from gender stereotypes, insulting behaviors, and exclusion, sexually objectifying remarks and physical harassment are also considered components of gender discrimination in multiple research works (Berg, 2006; Cochran, 2013). As stated by McKinnon (1979), because sexual harassment contributes to greater inequality between women and men, it should be regarded as gender discrimination. Although objectification is sometimes considered a mild form of sexual harassment, differentiating between the two aims to include a more diverse set of experiences.

3.2. Quantitative research method

Using quantitative analysis, we intended to answer the first research question on whether there is gender discrimination, and for that we used primary data. This data was collected by online survey with a total of 21 close-ended questions which could increase to 25 depending on the answers provided to the main four questions (the list of questions is available in the appendix section of this paper). They were asked if they have ever experienced four scenarios at university: gender-based undervaluation, gender-based different treatment, sexual objectification, and sexual harassment. For each form of discrimination, if they responded “yes”, they should have answered how often they have experienced it. Next question asked if there is a special office to report the cases of discrimination and receive support at their university, and the rest two questions covered place of discrimination and the source, i.e., who discriminated them.

We provided compensation for the survey, which is an opportunity to win 5,000 KZT in a lottery among survey respondents. The survey was distributed online through various channels, including social media accounts, bloggers, student group chats, and personal social

media accounts. The survey was distributed starting from November 2022 and results were collected till March 2023. The initial sample size is 319.

Data cleaning

In our research we are focusing on current university students of Kazakhstan. There were several respondents who are currently in college and have not yet enrolled at university, graduated from the university, or are studying abroad. We did not include these observations in our analysis as they are out of the scope of this research.

The variable “major” was recoded to a binary dummy variable “stem” (1 - if a student is from STEM majors, 0 - if a student is studying in a non-STEM major). Below is the table with a description of variables in our analysis:

Table 1

Description of variables in the analysis

VARIABLES	Definition	Measurement
<i>Dependent variables</i>		
Undervaluation	Have you ever experienced gender-based undervaluation at university?	0-1
Sex_objectification	Have you ever experienced sexual objectification at university?	0-1
Sex_harassment	Have you ever experienced sexual harassment at university?	0-1
<i>Independent variables</i>		
gender	Your gender	0-1
age	Your age	1-4
areatype	Which of the following best describes the area you live in?	1-3
familyincome	Monthly family income	1-9
stem	STEM or non-STEM major?	0-1
gpa	Current GPA (out of 4.0)	1-5

Hypotheses:

1. There is gender discrimination at universities in Kazakhstan.
2. Female students are more likely to experience gender-based undervaluation at universities in Kazakhstan.
3. Female students are more likely to experience sexual objectification at universities in Kazakhstan.
4. Female students are more likely to experience sexual harassment at universities in Kazakhstan.

Significance levels (confidence levels) to be tested will be 0.01 (99%), 0.05 (95%), 0.1 (90%).

Regression model:

$$Y = \beta_0 + \beta_1 \text{gender} + \beta_2 \text{age} + \beta_3 \text{areatype} + \beta_4 \text{familyincome} + \beta_5 \text{stem} + \beta_6 \text{gpa}$$

Dependent variables are whether a student has been undervalued (undervaluation), sexually objectified or not (sex_objectification), and sexually harassed or not (sex_harassment). We have included our variable of interest - gender in a list of independent variables as well as other control variables. As our dependent variables are dummy variables, we used logistic regression. The command “logistic” was selected for the convenience of the readers' understanding of the results of the regression, as the “logistic” command reports odds ratio rather than log odds for the variables.

As the area type variable is a categorical variable, in our regression model we will use “i.” command right before this variable. This method is used to see the effects of regression on each of the categories of variables. Regression results of the area type variable are interpreted relative to the base category in this variable. In the area type variable, the base category is “rural”.

3.3. Qualitative research method

For answering the second research question on the students' experience of gender discrimination we used the qualitative approach. In this part of our study, we conducted focus group discussions among university students. We aimed to see the concerns and stories of

students on gender issues and to study the nature of students' attitude towards gender issues, their roots, and their effect. During discussions students shared their stories about gender-related issues in their university life and perception of gender discrimination during their study. We decided to use focus groups over other qualitative methods to uncover stories through interaction among participants. Gender discrimination can take different forms and people are not always sure whether a certain story is considered as discrimination. When discussing in focus groups students were able to see other students' perspectives on gender issues and remember similar stories they had. We conducted focus groups after the survey and by this we analyzed their interpretation of the survey questions and how they were linking them to their experience. Moreover, because of the sensitivity of the topic focus groups have been divided by gender which decreased the hesitation of participants to share personal stories and created the sense of safety.

Overall, we conducted 3 focus groups: 2 female and 1 male. All focus groups took place at Nazarbayev University and all participants were NU students that were recruited through survey, snowballing and networking. Initially we wanted to conduct focus groups among different university students, however because of the time constraints and difficulties with fitting the schedule of the students we decided to focus only on the university with the highest number of survey respondents. NU students make up 27.5% of all survey participants, therefore it was interesting to see their interpretation of gender discrimination and to share the stories of the biggest group of respondents. Moreover, due to the sensitive nature of the topic of discussion we, as NU students, could ensure the highest level of safety for the participants. Being from the same background and knowing the context of NU campus life we could create a comfortable environment for sharing some triggering experience.

In every focus group we had several roles that were divided between our group members. The first role is moderator. This person is responsible for asking the main questions, encouraging discussion, keeping track of time. Female moderator led the female focus group and male moderator was leading male focus group. The second person who interacts with respondents is the facilitator who might ask additional questions for clarification as well as to create a comfortable environment for all. The third member of the group was a note-taker. Due to the sensitivity of the topic and possible traumatic experience, in order to create a more

comfortable and safer environment we decided not to record the discussion, only to take notes. The note-taker sat apart from the respondents and took notes of all stories that have been shared. For conducting focus groups, we chose the student lounge to create a comforting atmosphere outside of the class environment. It is a spacious room with several couches, round tables, kitchen, and big windows that allow sunlight. Participants with moderator and facilitator sat at a round table. Moreover, for ice-breaking and encouraging interaction we brought snacks, pizza, and tea.

In table 2 below you can see the information on details of conducted focus groups and division of roles.

Table 2

Focus group information.

Date	Gender of participants	Number of participants	Moderator	Facilitator	Note-taker
04.02.2022	Female	4	Kassiyet Temirzakhkyzy	Madiana Ryskulova	Yernur Abenov
05.02.2022	Male	5	Yernur Abenov	Kassiyet Temirzakhkyzy	Madiana Ryskulova
11.02.2022	Female	5	Kassiyet Temirzakhkyzy	Madiana Ryskulova	Yernur Abenov

For interpretation of the collected data, we used thematic analysis method. Reading through our notes we identified the main themes and points that participants discussed. Then, we compared the results from each focus group with other conducted focus groups to find similarities and differences in themes. Afterwards, the data collected through both qualitative and quantitative methods are compared and combined and presented in Findings and Discussion parts.

4. FINDINGS

4.1. Descriptive statistics

This section will provide descriptive statistics from our survey. Below is the descriptive statistic of dependent and independent variables of the model.

Table 3

Summary statistics

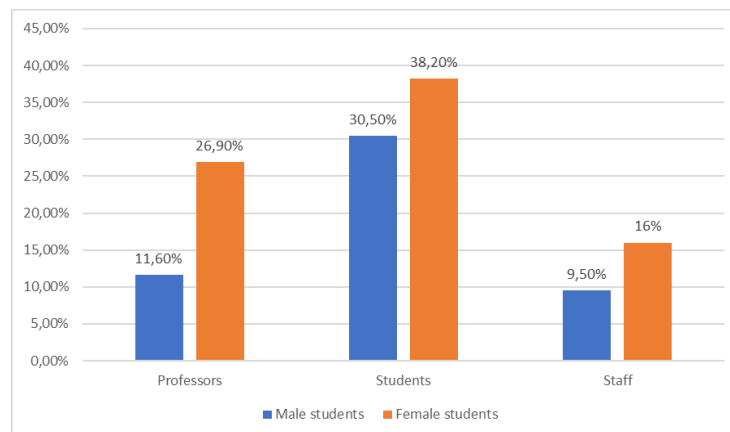
VARIABLES	(1) Obs	(2) Mean	(3) Std. dev.	(4) Min	(5) Max
age	284	1.394	0.732	1	4
gender	284	0.673	0.470	0	1
areatype	284	2.704	0.632	1	3
familyincome	284	4.803	2.249	1	9
gpa	284	4.120	0.928	1	5
undervaluation	277	0.603	0.490	0	1
sex_objectification	260	0.442	0.498	0	1
sex_harassment	259	0.205	0.404	0	1
stem	284	0.320	0.467	0	1

Our model consisted of 3 dependent variables and 6 independent variables.

Another interesting statistic is about the source of discrimination. Students were seen as the main source of discrimination, while professors are the second most mentioned source of discrimination.

Figure 1

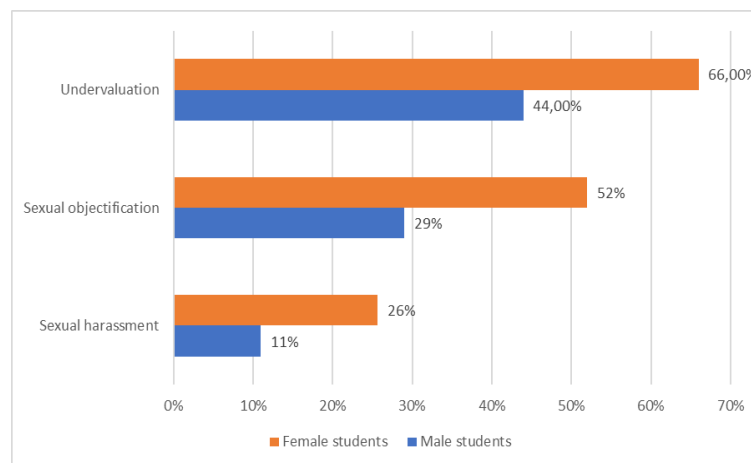
The source of discrimination of male/female students (% of respondents)



From our research, altogether 59% of respondents have experienced gender-based undervaluation. Also, 45% of respondents claimed that they have experienced sexual objectification. Regarding sexual harassment, just 21% of the students encountered sexual harassment. When gender is taken into account, undervaluation at university has been reported by 44% of men and 66% of women. The gender impact difference is stronger in sexual objectification. Comparatively fewer male students (29% of male respondents) than female students (52% of female respondents) have experienced sexual objectification. 10.9% of male respondents and 25.6% of female respondents reported sexual harassment.

Figure 2

Percentage of respondents experiencing each type of discrimination (by gender)



4.2. Inferential statistics

4.2.1. Undervaluation

Table 4 shows the results of the logistic regression with undervaluation as the dependent variable.

Table 4

Regression results of the undervaluation model.

VARIABLES	Dependent variable: Undervaluation			
	(1) Odds ratio	(2) Standard errors	(3) Confidence intervals	(4) p-value
gender	2.676***	0.731	1.567 - 4.573	0.000315
age	0.696**	0.121	0.495 - 0.978	0.0369
areatype				
1. Rural (base)	1			
2. Suburban	0.674	0.390	0.217 - 2.095	0.495
3. Urban	0.873	0.398	0.357 - 2.135	0.765
familyincome	1.113*	0.0653	0.992 - 1.249	0.0677
stem	0.930	0.260	0.537 - 1.610	0.795
gpa	0.937	0.135	0.707 - 1.244	0.654
Constant	1.242	0.963	0.272 - 5.680	0.780
Observations	277			

Statistical significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

As shown in table 4, the odds ratio for gender is 2.68. This means that the odds of a female being undervalued is 2.68 times larger than for a male (or 168% higher probability). Moreover, the gender variable is statistically significant as p-value is less than 0.01 significance level. This suggests that female students tend to be undervalued based on their gender more frequently than their male counterparts at universities in Kazakhstan. Thus, we reject the null hypothesis and favor the alternative hypothesis, which states that female students are more likely to experience gender-based undervaluation at universities in Kazakhstan.

Discussing other statistically significant variables, the variable measuring family income is statistically significant at 0.1 significance level. While having an additional higher step in monthly family income means that the probability of being undervalued increases by 1.11 times or by 11% at each higher step. This can imply that the richer the family, the higher probability for a child to be undervalued. As it was mentioned previously in the literature, higher socioeconomic status of students can have a positive effect on their grading. However, our findings suggest that students from richer families tend to be undervalued at universities.

This difference might be attributed to the differences in culture that Kazakhstan has compared to India and the UK.

Another statistically significant variable is the age variable. This variable is statistically significant at 0.05 significance level. The odds ratio is 0.685, which means that a unit increase in age variable will decrease the likelihood of being undervalued by 31.5%. According to the literature, first year female students are more likely to be sexually harassed than their older peers (Carey et al., 2018). Our findings can be complementary to the above-mentioned research, as younger students are likely to be undervalued.

Focus group discussion showed several stories mentioning undervaluation. Undervaluation of female students from teachers of the Kazakh language was reported multiple times in focus groups of both genders. Female students are expected to speak out in Kazakh language courses more often. Also, one male respondent remembered a case, when a Kazakh teacher delegated administrative work, such as creating an online group chat among students and considered only female students for this task.

Aside from the difference in expectations on classroom participation, female students pointed out the preferential treatment of Kazakh teachers towards male students, which was especially evident during “the best paper” awards at the end of the semester. Although when discussing among classmates, many agreed that the work of female students was equally good, prizes were still awarded to their male peers by a Kazakh language teacher of Kazakh ethnicity. When asked if similar cases happen at non-Kazakh-language classes of other faculty members with Kazakh ethnic backgrounds, the answers were negative and were explained by the educational background of those teachers. Students believe that if professors got their degrees in foreign countries, they are less likely to discriminate against students based on their gender.

The female focus group also discussed how Kazakh language teachers tend to promote traditional and patriarchal values in classes. It is traced in both lecture materials and the content of the required literature. In the class “Kazakh for Business”, the Kazakh teacher provided examples of successful businessmen in Kazakhstan, and during the whole presentation, no female entrepreneurs were mentioned. Another example was given by a

female respondent about the required reading materials on Kazakh literature. Although usually novels that students are assigned to read present women as stay-at-home obedient and passive wives, one novel had a different female character. During class discussion, a female student voiced her support for this narrative, because she liked how main female character worked hard to support her family. However, the professor's response to her comment was criticizing her way of thinking.

Aside from Kazakh faculty, female students reported cases when foreign professors also treated them differently from male students. For example, one respondent spoke about a professor who is unwilling to hire female students as research assistants because of the risk of their pregnancy. When asked if this attitude applies to married students, the response was negative, she said that “even young undergraduate students who are not married and are not planning to get married and have children soon can still be rejected”. Another example of the undervaluation of female students concerns economics professors, who are more likely to discuss many “advanced” topics, such as cryptocurrency, only with male students. Female students felt isolated in these class discussions because professors assumed that they lacked either knowledge or interest in these topics. One male respondent recognized that his professor was gender-biased in grading class participation to the disadvantage of his female groupmates. He also noticed that gender stereotypes were promoted in economics textbooks, for example, the battle of sexes demonstrates a scenario, where a couple cannot decide where to go, because a man is willing to go to a sports game, while a woman wants to go to a theater. In addition, one female student spoke about her interaction with the Math professor, who was surprised by the improvement in her academic performance during the semester. She said that she would prefer that the professor didn't show surprise in front of the class and was rather neutral in his emotions.

The undervaluation of female students by male peers was discussed during female focus groups. This gender-based attitude could be seen during group work and student clubs. In the former setting, female students in STEM complained about the division of responsibilities, when they are delegated “menial work” such as data clearing and preparing presentations. In contrast, other tasks regarded as “important” such as calculations and coding are done by male students even though female students believed that they had enough skills to perform

these tasks. During the male focus group discussion, participants from the Computer Science major confirmed that they try to take major technical work into their hands and not delegate it to their female peers. When asked for the reason behind this behavior, they explained it by their own expectations, i.e., they expect themselves to do all the work. In addition, one female respondent talked about a case, when her male groupmates of a physics major made offensive comments towards a female groupmate, saying “of course she doesn’t understand the task, she is a girl. What is she doing in physics?”.

In the latter setting, female students discussed how harder compared with male students is for them to get into student clubs related to STEM or in teams for case championships in the economics sphere. They claimed that male students hesitated to accept them to student clubs such as chess clubs or to their teams in case competitions. When a team or student club leader is a male student, they tend to demand CVs and generally higher requirements from female students, for example, experience in similar case competitions. In contrast, a female respondent learned that some male students could get into teams without prior experience. Respondents believe that it happens because these clubs are associated only with men. One female respondent admitted that as a result of these discriminatory practices she was unsure if she could get into engineering student clubs or workplaces, so she hasn’t yet applied for neither student club nor internships.

In male focus groups, there was a separate discussion about the unfair treatment based on gender from the third group of actors – university staff. Male respondents reported a case when dormitory managers decided to evaluate applicants on dormitory placement based on their gender. All freshman female students were given a place in a new dormitory, while most male students were placed in an old dormitory, although their grades were higher than their female peers. The administration explained that they are men, so it would be easier for them to accommodate in the old dormitory’s conditions. Often when male students complain, administrative officers respond with such comments as “you are a man, aren’t you?”. Male students also reported that dormitory staff tend to assume that male students cannot clean well in their rooms, so when a room is tidy, they get suspicious if a girl lives together in their room and check it. Male students also noticed that during the COVID-19 pandemic, when everyone was displaced from the dormitory, it was difficult for them to rent an apartment

because homeowners saw them as alcoholics or drug addicts. They believe it was easier for female students to rent an apartment.

4.2.2. Sexual objectification:

Table 5 shows the results of the logistic regression with sexual objectification as the dependent variable.

Table 5

Regression results of the sexual objectification model

VARIABLES	Dependent variable: Sexual objectification			
	(1) Odds ratio	(2) Standar d errors	(3) Confidence intervals	(4) P-value
gender	2.676***	0.779	1.513 - 4.735	0.000719
age	0.945	0.166	0.670 - 1.333	0.747
areatype				
1. Rural (base)	1			
2. Suburban	0.964	0.592	0.289 - 3.210	0.952
3. Urban	2.211*	1.026	0.891 - 5.490	0.0871
familyincome	1.040	0.0605	0.928 - 1.166	0.500
stem	0.907	0.263	0.514 - 1.600	0.735
gpa	1.057	0.151	0.799 - 1.398	0.698
Constant	0.157**	0.127	0.0322 - 0.769	0.0223
Observations	260			

Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

From the logistic regression we can see that the gender variable is statistically significant at a confidence level of 99% as its P-value is less than 0.01. That's why we reject the null hypothesis and favor the alternative hypothesis. Alternative hypothesis stated that female students are more likely to be sexually objectified than male students.

Considering the odds ratio of the gender variable we can see that being a female student increases the probability of being sexually objectified by 2.68 times (or by 168%) compared to being a male student. This finding suggests that female students are more likely to be victims of sexual objectification.

As the urban variable is statistically significant at 0.1 significance level, we should discuss the odds ratio of this variable. The odds ratio of the urban variable was 2.21 which means that living in an urban area increases the likelihood of being sexually objectified by 2.21 times or 121% compared to living in a rural area. A possible explanation for this finding is that students in urban settings are more willing to report sexual objectification.

In focus groups, respondents disclosed several stories regarding sexual objectification. The first type is inappropriate comments that objectify certain people. Respondents reported that they saw inappropriate messages in online chats among students, which objectify female students. Moreover, in some cases, gender intersects with sexual orientation, because many derogatory sexual texts are addressed toward lesbian students. Comments can take place not only online but face-to-face as well. A female respondent reported that she felt uncomfortable working with a supervisor in a lab because of him teasing her, asking inappropriate questions about dating and sex life, and giving unpleasant comments. In the male focus group, there was one reported case of objectification. It was a sexual comment from a girl toward twin boys. While the comment was addressed towards men, the respondent said that it might happen because of being a twin rather than being a man.

The second type of reported objectification is staring. One of the female respondents reported that her friend, who is also a female student, complained about a student always staring at her body when she ran into him in dormitory halls. However, for some time her friend could not identify if it was an inappropriate gaze and hence, sexual objectification, or if she misperceived it. Only when her friend also noticed this stare and confirmed, the student became more confident in recognizing this case as sexual objectification.

Because of cases of objectification, female students feel uncomfortable being around men. For example, when they use the elevator alone with other male students. Male students acknowledge that they feel it, so some of them try to avoid using the elevator if they see a girl inside. Some also try not to use the sauna on campus if they see female students inside because they heard that female students feel insecure in such situations.

4.2.3. Sexual harassment

Table 6 shows the results of the logistic regression with sexual harassment as the dependent variable.

Table 6

Regression results of the sexual harassment model

VARIABLES	Dependent variable: Sexual harassment			
	(1) Odds ratio	(2) Standard error	(3) Confidence interval	(4) P-value
gender	2.519**	0.984	1.172 - 5.416	0.0180
age	0.803	0.179	0.519 - 1.243	0.325
areatype				
1. Rural (base)	1			
2. Suburban	5.719	6.535	0.609 - 53.70	0.127
3. Urban	8.353**	8.704	1.083 - 64.39	0.0417
familyincome	1.015	0.0732	0.881 - 1.169	0.839
stem	0.911	0.331	0.447 - 1.857	0.797
gpa	1.209	0.223	0.843 - 1.734	0.302
Constant	0.0109***	0.0150	0.000729 - 0.162	0.00104
Observations	259			

Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

From the regression results, we can see that the gender variable is statistically significant at 95% confidence level, as its P-value (0.018) is less than the 0.05 significance level. We reject the null hypothesis and favor the alternative hypothesis which claims that female students are more likely to be sexually harassed than male students.

Considering the odds ratio of the gender variable, we can see that being a female student in Kazakhstan is associated with 2.52 times (152% higher probability) higher odds of being sexually harassed compared to being a male student. This suggests that for one male student who has experienced sexual harassment, there are almost three female students who was subject to sexual harassment.

Results of our regression analysis suggest that the urban variable is also statistically significant at 0.05 significance level. And considering the odds ratio of the urban variable, we can see that students who live in an urban area are 8.35 times more likely to be sexually

harassed in comparison to students who live in a rural area. This can be due to the fact that urban areas are usually more populated than rural areas and thus students living in urban areas might have higher sexual harassment occurrence rates. Moreover, students in urban areas might be more willing to report the cases of sexual harassment and might have more opportunities to do it.

In focus group discussions respondents reported that there were numerous cases of sexual assault happening on campus. They included unwanted sexual comments, stalking, touches, and rape. Some of the respondents were victims of harassment, but most of them talked about the cases when their friends and acquaintances were harassed on campus. Both female and male students mostly reported cases of sexual harassment of women. Men reported being the victims of verbal harassment and threat, but it was based not on their gender but on other identities such as sexual orientation. In all reported cases of harassment, the harasser was a man.

Moreover, focus group participants reported on grooming and they saw the connection between being harassed and the year of study. In many cases, the victims of sexual assault were students of younger ages, foundation or first-year students. They claimed that older male students tend to use the lack of knowledge and experience of freshers in order to manipulate them into sexual intercourse. A female respondent noticed that this scenario was especially visible in student clubs with close connections. She believed that student organizations became one of the main places of sexual harassment cases because of the hierarchical structure and belief in the trustworthiness of clubmates. Another female focus group participant argued that the harassers were not only students but teaching staff as well. She told a story of the stalking of a different female student by a male teaching assistant. He was chasing a student outside of the class and waited near her dormitory room, took a secret photo, and contacted her family. Because of feeling insecure and trying to avoid the stalker, the student had to move and take an academic leave.

It demonstrates that harassment leads to serious consequences on the lives of the victims. Respondents told stories when because of being the victim of sexual assault some female students had depressive episodes, which made them either leave student clubs, take academic leave, or even quit the university. Furthermore, even non-victims reported the change in their

perception of campus safety because of the existing discussion on harassment cases. The cases of harassment discussed at the university affected the students' behavior. Female students reported that they feel insecure, they no longer want to be in a closed room with male students and feel the necessity to be extra secure in both on-campus and outside public events. In contrast, male students said that they try to be careful around female students to not be labeled as "harassers". It shows the difference in the attitudes of students of two genders towards sexual harassment and abuse.

While according to respondents there are many harassment cases taking place at the NU campus, they report the lack of support from the university administration regarding this problem. Most of the punishment for harassers takes place on the student interaction level. Victims ask their friends for support; student clubs might ban the participation of reported harassers. However, there is a lack of a systemic approach to this issue. There has been a problem with adopting an anti-harassment policy for several years. Moreover, members of the student services department and other administrative staff can victim-blame and discourage reporting of harassment cases by students. It shows that there is a lack of clear and efficient procedures and policies that can combat sexual harassment and abuse on campus.

As our findings suggest that we favor alternative hypotheses which stated that female students are more likely to be undervalued, sexually objectified and sexually harassed, we also favor hypothesis 4, which states that there is gender discrimination at universities in Kazakhstan.

5. DISCUSSION

5.1. Undervaluation

Consistent with Hypothesis 2, both survey and focus group results show that practices of undervaluation based on one's gender mostly affect female students, and the probability of them being undervalued is 2.68 times higher than that of male students. The sources of this form of discrimination can be categorized into three groups: professors, students, and staff.

The biased attitude of professors against female students is expressed in grading, feedback, and research opportunities, which is generally consistent with the literature. Female students tend to receive lower grades for equal class participation and must speak up more often than male peers to get teacher's recognition. Although not limited to Kazakh language classes, this issue is especially evident in the Kazakh classroom setting, where teachers have a national educational background and more traditional values. A narrative of masculine qualities, which can be attributed to the agency type, and of feminine qualities of the communality type, is manifested throughout student textbooks, as well as class content and teacher's rhetoric. Male students themselves admit their privilege in Kazakh language courses, so they tend to not push hard during classes and still manage to get good grades, whereas girls must work hard to achieve similar results. Interestingly, most Kazakh language teachers are women, which contradicts the idea of in-group bias. As explained by focus group participants, the role of Kazakh culture, where boys are more favored, is so evident among Kazakh language teachers that even female faculty members give preferential treatment to male students at the cost of female students. The influence of patriarchal values in our society is also traced in how university's staff, who are mostly of Kazakh nationality, communicate with male students, which can be described as toxic masculinity – meaning they expect male students to conform to gender norms of being tough, not emotional, and strong.

According to the focus group, female students in STEM tend to receive gender-biased treatment not only from professors but also from male students. When male students hesitate to share group work responsibilities of equal value, female students feel diminished and can even start doubting their own skills. This is exacerbated by teachers creating a double burden to female students with a secretary type of work, such as creating an online group chat. A

clear representation of how undervaluing interactions among students can be internalized is the case of a female respondent who limits herself from entering an engineering student club or applying to opportunities outside of the university, such as internships. Perhaps, such derogatory peer-to-peer communication contributes to students' indecisiveness and self-doubt, especially in cases of offensive comments and jokes. This in turn has an influence on the retention from STEM careers (Bloodhart et al., 2020). This claim should be further examined because there might be a cumulative negative effect from all the missed opportunities presented in university life by female students.

5.2. Sexual objectification

Both quantitative and qualitative data showed that women experience sexual objectification more than men. They experience gaze, inappropriate comments, and questions. Even though male students reported cases of objectification, the occurrence of such cases is much lower. It is in accordance with the literature as Swim et al. (1998), as well as Harris (2016), that claimed that female students are more likely to face sexual objectification on a daily basis on campus. Examples from focus groups show that female students face objectification regularly both in study areas such as laboratories and in living areas of dormitories.

Moreover, according to Fredrickson and Roberts (1997) and Kozee et al. (2007) the consequences of objectification can be serious for mental health. Women can self-objectify their bodies which may lead to depression and other forms of mental illnesses. While focus groups did not reveal any evidence of such damage to mental stability, we do not reject the possibility of similar cases happening. The reason is that many people might not be conscious of the effect of objectification clearly and they will see it only after some time. Moreover, we saw evidence of self-gaslighting when a female student did not trust her perception and intuition that staring is considered objectification. It is comparable with Watson et al. (2012) findings when female students doubted whether their perception of being objectified was valuable. Moreover, they tend to blame themselves for clothing or behavior. It demonstrates that young people can have problems with self-identification of the problem and its effect on them. Therefore, there should be more work done on enhancing awareness of sexual objectification, how to identify it, how to combat as well as counseling for victims.

5.3. Sexual harassment

Our survey results indicate that being a female student increases the risk of experiencing sexual harassment by 152%. This result shows that scope of this is higher than in the findings of Wood et al. (2018), which stated that female students are 56% to 147% more likely to be sexually harassed than male students. According to Wood et al. (2018), the likelihood of being harassed is dependent on the source of harassment, whether it is student, faculty, or staff. Although we did not account for the source of harassment in the survey, the magnitude of our regression result is larger than any of the sources mentioned in the literature.

Additional insight that was provided by focus group participants is that harassment usually occurs when there is a power imbalance. Particularly, intra-student club relationships that are based on a hierarchical structure are conducive to the occurrence of sexual harassment. It demonstrates that members on a higher step of the hierarchy are not always the ones from faculty or staff but can also be leaders of student clubs that act as authority figures for newcomers, which creates an unequal power dynamic. These findings are in line with the discussed literature as well that proposed the effect of hierarchical student clubs and student authority figures (Agardh et al., 2022).

Moreover, focus group discussion shows that aside from exclusion and lack of support, such cases have a significant effect on the mental and physical health of victims of harassment, and consequently future prospects of victims of harassment at university. It is in line with previously mentioned points regarding the effect of abuse on mental health. Even though we did not find evidence of consequences for sexual objectification, respondents reported several cases of mental instability of victims of sexual harassment. Because of the health problems related to harassment, some students even had to drop out or take academic leave from the university. It is consistent with the literature (Monsalve et al., 2022) that suggested that women tend to have a negative perspective and discomfort in comparison with men. Other literature (Carey et al., 2018; Krahe & Berger, 2017) proposed that female students who experienced sexual harassment including sexual assaults and rape report mental instability and these consequences continue to affect them for years. Moreover, the impact on the academic performance mentioned by Krahe & Berger (2017) is consistent with our findings of the cases of academic leave and quitting the university by victims of sexual harassment.

5.4. Best practices

Considering that most of our results are consistent with the literature, we can conclude that the cultural and societal context of the Kazakhstani universities can be comparable with the educational environments across the world. Discrimination, sexual harassment, and sexual abuse can happen in different contexts, but the effect is usually similar.

Taking into account the existing problem with gender discrimination in the universities of Kazakhstan we should find ways of combating it at the university level. Considering the Kazakhstani context of universities, there are several examples of best practices around the world regarding gender discrimination at universities. One of the examples is the KDI School of Public Policy and Management located in Sejong, South Korea. This university is also one of the partners of Nazarbayev University in terms of exchange programs. At KDI, there is the special Human Rights center that is aimed to prevent and combat sexual harassment, violence, and any other human rights violation. Moreover, in the university every new student must watch several video lectures on the topic of human rights, gender and racial discrimination, and harassment and pass a test. These video lectures are mandatory to watch. If a student fails to watch these lectures and passes a test on them, they will face disciplinary punishment. Additionally, students would not be able to see their final grades and access their transcripts if they do not watch the lectures until the end of the semester. These kinds of requirements from students can be beneficial for the whole student community, as it may positively affect gender equality through raising knowledge on the issues of the discrimination, as well as through creating safe and supportive space for reporting and counseling.

6. LIMITATIONS

While conducting this study we identified three main limitations. Firstly, in the survey, we did not consider some other forms of discrimination such as sexual orientation and non-binary identity. In focus groups, it was mentioned several times that LGBTQ+ representatives might face objectification and harassment more than straight students. Moreover, in our survey, there were people who identified as non-binary gender, but because the number of them was low we decided to exclude them from analysis. By this, we admit that there might be some factors that influence the experience of gender discrimination that was not mentioned in this study. Secondly, focus groups have been conducted only among Nazarbayev University (NU) students. We did it because of the difficulties of gathering students from other universities and time and resource constraints. The context of NU, its policies, culture, and campus life can be very different from those of other universities in Kazakhstan. Therefore, in further research, it is possible to broaden the study to the context of other universities. Thirdly, we did not include attention-check questions to ensure that respondents answered each question carefully. During the online survey, there were respondents who made mistakes in their answers. For example, some respondents answered “Yes” to the question “Have you ever experienced gender-based undervaluation at university?”, but for the question “How often have you experienced gender-based undervaluation?” they answered “Never”. It shows that some of the respondents might not read the questions properly and we had to exclude those answers from the analysis.

7. CONCLUSION AND RECOMMENDATIONS

Quantitative and qualitative analysis demonstrates how widespread gender-based prejudices are and how they continue to impact women's educational experiences. Even though according to our results both female and male students can experience gender discrimination, female students are more likely to experience all three types of discrimination. Female students tend to be undervalued by students, faculty which is expressed in grading bias and unequal group work division. While male students received biased treatment from staff during dormitory accommodation. Female students also face sexual objectification and harassment on a daily basis on campus more than male peers. They experience unwanted staring, sexual comments, stalking, assault, and rape. It affects the physical and mental health of students and thus their academic performance. We identified cases when victims of harassment had to take academic leave or quit university.

Taking into account the pervasive nature of gender-based discrimination and violence we came up with recommendations that address this problem in universities. The recommendations were derived from the discussed best practices as well as the suggestions of focus group participants.

7.1. For university administration:

- a. Make public announcements regarding the university's compliance with zero-tolerance policy and address the students' concerns regarding campus safety.
- b. Include gender discrimination and sexual harassment to Student code of conduct.
- c. To adopt an anti-harassment policy on campus that will address all stakeholders (students, professors, TA, RA, administration, and other staff).
- d. Make a mandatory induction course on gender discrimination and sexual harassment for each student, administrative and teaching staff.
- e. Create a special center at university where students can address their concerns regarding the cases of discrimination and/or sexual harassment. Workers in these offices should be specially trained to communicate on a sensitive topic.

7.2. For the Ministry of Education

- a. Enforce individual universities to create clear policies and procedures against any form of discrimination, harassment, abuse.
- b. Under the Ombudsperson for the students' rights create the office for reporting gender discrimination and harassment cases. This office will consider the students' complaints if their universities do not resolve the issue.

7.3. For Mazhilis of the Parliament

- a. To initiate the law against harassment. This law should legally define the term "sexual harassment", and determine appropriate punishments for harassers.

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9. APPENDIX

9.1. Survey questions:

SECTION 1:

1. Your age:

- 18-20
- 21-23
- 24-26
- 27 and above

2. Your gender:

- Male
- Female
- Non-binary / third gender
- Prefer not to say

3. The region you are from:

- Astana
- Almaty (city)
- Shymkent
- Abay
- Akmola
- Aktobe
- Almaty region
- Atyrau
- East Kazakhstan
- Karagandy
- Kostanay
- Kyzylorda
- Mangystau
- North Kazakhstan
- Pavlodar
- Turkistan
- Ulytau
- West Kazakhstan
- Zhambyl
- Zhetisu

4. Which of the following best describes the area you live in?

- Urban
- Suburban
- Rural

5. Your ethnicity:

- Kazakh

- Russian
- Uzbek
- Uyghur
- Ukrainian
- Tatar
- Other, please specify

6. Primary language (i.e. the one you speak most of the time):

- Kazakh
- Russian
- English
- Other, please specify

7. Your family size:

- 1-3
- 4
- 5
- 6
- More than 6

8. Monthly family income:

- <100,000 tenge
- 100,000 to 199,999 tenge
- 200,000 to 299,999 tenge
- 300,000 to 399,999 tenge
- 400,000 to 499,999 tenge
- 500,000 to 699,999 tenge
- 700,000 to 899,999 tenge
- 900,000 to 1,100,000 tenge
- >1,100,000 tenge

9. University you currently attend:

- Aktau College of Foreign Languages
- Sh. Yesenov - Caspian State University of Technology and Engineering
- Aktobe State Pedagogical Institute
- K. Zhubanov Aktobe State University
- Kazakh-Russian International University
- M. Ospanov West Kazakhstan State Medical Academy
- Abai Kazakh National Pedagogical University
- Adilet Law Academy
- Al-Farabi Kazakh National University
- Almaty Management University
- Almaty Technological University
- Almaty University of Power Engineering and Telecommunications
- Kazakh National Medical University
- Central Asian University
- German-Kazakh University
- International Information Technology University
- Kainar University

- Kazakh Ablai Khan University of International Relations and World Languages
- Kazakh Academy of Labour and Social Relations
- Kazakh Academy of Sports & Tourism
- Kazakh-American University
- Kazakh Automobile Road Institute
- Kazakh-British Technical University
- Kazakh Leading Academy of Architecture and Civil Engineering
- Kazakh National Agrarian University
- KIMEP University
- University of Foreign Languages and Business Career
- Kazakh National Conservatory
- M. Narikbayev KazGUU University
- M. Tynyshbayev Kazakh Academy of Transport & Communication
- Narxoz University
- Satbayev Kazakh National Technical University
- Suleyman Demirel University
- Kazakh National Academy of Arts
- Turan University
- University of Central Asia in Tekeli
- University of International Business
- Atyrau University
- Atyrau Institute of Oil and Gas
- K.I.Satpayev Ekisbastuz Engineering & Technical Institute
- Karagandy State University
- Karaganda State Medical University
- Karagandy State Medical Academy
- Karagandy State Technical University
- Central Kazakhstan Academy
- Karaganda Economic University
- Sh. Ualikhanov Kokshetau State University
- A. Baitursynov Kostanay State University
- Kostanay State Pedagogical Institute
- Korkyt Ata Kyzylorda State University
- JSC Astana Medical University
- Akmola State Medical Academy
- Kazakh National Academy of Music
- L.N.Gumilyov Eurasian National University
- Nazarbayev University
- S. Seifullin Kazakh Agrotechnical University
- JSC "Financial Academy"
- Kazakh University of Economics, Finance and International Trade
- Astana IT University (AITU)
- West Kazakhstan State University
- West Kazakhstan Humanitarian Academy
- Zhangir-Khan West Kazakhstan Agricultural & Technical University
- D. Serikbaev East Kazakhstan State Technical University

- East Kazakhstan Regional University
- Kazakh-American Free University
- Sarsen Amanzholov East Kazakhstan State University
- Innovative University of Eurasia
- Pavlodar State Pedagogical Institute
- Pavlodar State University S. Toraigyrov
- North Kazakhstan State University
- Rudniy Industrial Institute
- Kazakh Finance Economical Institute
- Semey State Medical Academy
- Semey State Pedagogical Institute
- Shakerim Semey State University
- Kazakhstan University of People's Friendship
- Auezov South Kazakhstan State University
- M. Saparbayev South Kazakhstan Humanitarian Institute
- South Kazakhstan State Medical Academy
- Shymkent University
- Taraz State Pedagogical Institute
- Taraz State University M.H.Dulati
- Jambyl Hydromelioration and Construction Institute
- Jambyl of Humanities and Technique
- Ahmet Yesevi Üniversitesi
- O.A. Baikonurov Zhezkazgan University
- Other

10. Language of instruction (you can choose more than one answer):

- Kazakh
- Russian
- English
- Other, please specify

11. Educational level you are currently enrolled:

- Bachelor's
- Master's
- Ph.D
- Other, please specify

12. Year of study:

- 1
- 2
- 3
- 4
- 5
- 6
- Other, please specify

13. Current major:

- Science, Technology, Engineering & Mathematics (STEM)
- Social Sciences, Economics and Business

- Humanities (Languages, Literature, Philosophy, History, Archaeology, Anthropology etc.)
- Medicine, Health and Social security
- Education
- Law
- Arts (Music, Theatre, Film, Visual art, etc.)
- Agricultural sciences
- Services
- Veterinary medicine
- Other, please specify

14. Current GPA (out of 4.0):

- Less than 2.0
- 2.0-2.5
- 2.5-3.0
- 3.0-3.5
- 3.5-4.0

SECTION 2:

15. Have you ever experienced gender-based undervaluation at university?

Undervaluation - expressed lower value of a person's capacity as a consequence of their gender. A person is undervalued if he/she gets different:

- recognition as a merit to similar performed activities (for example, grades)
- opportunities as access to resources (for example, funding of research/trips)
- evaluation standards because of gender roles (for example, some skills might not have been acquired because of the gender role)
- expectations in attitudes, skills, or levels of proficiency in gender role segregated areas (for example, not to expect understanding of a car engine from women)

- Yes
- No

15.1. How often have you experienced gender-based undervaluation at university?

- Never
- Rarely
- Sometimes
- Often
- Always

16. Have you ever experienced gender-based different treatment at university?

Different Treatment - evident and obvious actions towards a person due to their gender. A person is treated differently if he/she receives:

- different behavior, including less respect, more isolation, and lack of support

- verbal abuse, including derogatory comments towards one's gender, offensive jokes based on gender

- Yes
- No

16.1. How often have you experienced gender-based different treatment at university?

- Never
- Rarely
- Sometimes
- Often
- Always

17. Have you ever experienced sexual objectification at university?

Sexual objectification - treatment of people as sexual objects rather than as persons that occurs in the form of unwanted body evaluation, including catcalling and whistling, sexually insinuating stares, leering, and inappropriate sexual comments.

- Yes
- No

17.1. How often have you experienced sexual objectification at university?

- Never
- Rarely
- Sometimes
- Often
- Always

18. Have you ever experienced sexual harassment at university?

Sexual harassment - unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature, including but not limited to actual or attempted rape or sexual assault, unwanted deliberate touching, and unwanted letters, telephone calls of a sexual nature.

- Yes
- No

18.1. How often have you experienced sexual harassment at university?

- Never
- Rarely
- Sometimes
- Often
- Always

19. Does your university have a special office to report the cases of discrimination and receive support?

- Yes
- No

- I don't know

The place of and the source of discrimination.

If you were discriminated, please answer next questions regarding this experience

20. Where have you faced discrimination? (You can choose more than one answer)

- Classroom
- Social clubs
- Entertainment events
- Academic events
- Personal interaction
- Dormitories
- Other

21. Who was the source of discrimination? (You can choose more than one answer)

- Professors
- Teaching assistants
- Administrative staff
- Service staff
- Students
- Other

SECTION 3:

If you are from Astana and want to participate in focus groups discussing gender discrimination, please leave your contacts. It will be a chance for you to share your experiences of gender discrimination as well as listen to the stories of other students.

Thank you for your participation! As a token of gratitude, we created a lottery among our research participants. If you would like to win 5000 tenge, please leave your contacts. It will be used only to inform winners.

9.2. Focus group guidelines for participants:

- Participation in the focus group is voluntary.
- It's all right to abstain from discussing specific topics if you are not comfortable.
- All responses are valid—there are no right or wrong answers.
- Try to be active in a group discussion and speak as openly as you feel comfortable.
- Please listen carefully and respect the opinions of others even if you don't agree.
- Try to stay on topic; we may need to interrupt so that we can cover all the material.

- Help protect others' privacy by not discussing details outside the group
- Below you can find the definitions of gender discrimination concepts:

Undervaluation - expressed the lower value of a person's capacity as a consequence of their gender. A person is undervalued if he/she gets different:

- recognition as merit to similar performed activities (for example, grades)
- opportunities as access to resources (for example, funding of research/trips)
- evaluation standards because of gender roles (for example, some skills might not have been acquired because of the gender role)
- expectations in attitudes, skills, or levels of proficiency in gender role segregated areas (for example, not to expect understanding of a car engine from women)

Different Treatment - evident and obvious actions towards a person due to their gender. A person is treated differently if he/she receives:

- different behavior, including less respect, more isolation, and lack of support
- verbal abuse, including derogatory comments towards one's gender, offensive jokes based on gender

Sexual objectification - treatment of people as sexual objects rather than as persons that occur in the form of unwanted body evaluation, including catcalling and whistling, sexually insinuating stares, leering, and inappropriate sexual comments.

Sexual harassment - unwelcome sexual advances, requests for sexual favours and other verbal or physical conduct of a sexual nature, including but not limited to actual or attempted rape or sexual assault, unwanted deliberate touching, and unwanted letters, and telephone calls of a sexual nature.

9.3. Consent form for focus group

Dear participant,

We are a group of young researchers from Nazarbayev University studying gender discrimination in the universities of Kazakhstan. The research intends to identify the level of gender discrimination in the universities of Kazakhstan as well as to figure out the experience of gender inequality among Kazakhstan students. We would like you to sign this consent before starting the discussion. By signing this form you are agreeing to the use of your responses for research purposes.

Procedures. As part of this study, you will be placed in a group of 5 – 10 individuals. A moderator will ask you several questions while facilitating the discussion. This focus group will not be audio/video-recorded. A note-taker will be present to take notes of this discussion. Your responses will remain confidential, and no names or personal identifiers will be included in the final report. Please note that there are no right or wrong answers to focus group questions. We want to hear the many varying viewpoints and would like for everyone to contribute their thoughts and experiences. Out of respect, please refrain from interrupting others. However, feel free to be honest even when your responses counter those of other group members. You can choose whether or not to participate in the focus group, and you may stop at any time during the course of the study. The discussion will take approximately 40-60 minutes.

Risks. No significant risks for survey respondents have been identified during the elaboration of the questionnaire.

Benefits. By conducting this research we want to contribute to the development of gender-inclusive education in Kazakhstan. Gender disparities are widespread in our country, both in culture and institutions. We believe that higher education plays a crucial role in promoting gender equality and reducing sexist stereotypes in society. Therefore, we want to identify the level of discrimination in the universities in order to understand the scale of the existing problem. Moreover, we would like to bring public attention to the gender issues in the education processes in Kazakhstan universities.

Points of Contact. In case of any questions and/or comments regarding this project and/or research-related inquiries, you may contact the researchers.

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Any other questions or concerns may be addressed to the Nazarbayev University Institutional Research Ethics Committee, resethics@nu.edu.kz.

I understand this information and agree to participate fully under the conditions stated above.

Signature _____ Date _____

9.4. Focus group questions:

1. Have you experienced any form of discrimination during your university years? If yes, can you please describe it?
2. Did you face any particular challenges or obstacles during your university years as a female student/as a male student? Can you please describe them?
3. Do you believe that there is indirect discrimination in the ways in which textbooks, school programmes and/or teaching methods promote stereotypical concepts for the roles of girls/women and boys/men? If yes, what types of examples are you aware of and how can these discriminatory practices best be addressed?
4. How well do university policies and procedures support gender equality? What improvements could be made?
5. What do you think: in what ways will university experience of gender discrimination affect your future career prospects?