

**IFTE 2019**  
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**INTER-GENDER FEATURES OF STUDENTS' ATTITUDE**  
**TO THE EDUCATION PROCESS**

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***Abstract***

The concept “student engagement” is an important issue in education as a whole, since this concept allows us to establish the relationship between the institutional environment of a university, student behavior, and learning outcomes. Furthermore, this concept can help to interpret the student’s attitude to learning, and to study the effectiveness of the university performance. The concept of student engagement remains poorly studied by Russian scientists. There are not enough researches devoted to the study of inter-gender characteristics of student engagement. The purpose of our research is to study features of male and female students’ engagement in university practices, as well as to investigate the experience that students gain as a result of studying at university. Research methods: analysis of psychological and pedagogical literature, analysis, generalization, stating experiment, questioning. Pearson’s chi-squared test ( $\chi^2$ ) was applied to check the significance of differences. The study sample: 1039 students (437 male students and 602 female students) of different faculties of the university participated in the study. Kazan (Volga) Federal University was the research experimental base. Key results: individual and social engagement, institutional conditions of male and female students’ engagement, male and female students’ experience gained in the process of studying at university were studied. The results obtained provide the idea that male students are more inclined to demonstrate a passive type of engagement in the educational process than female students. It is typical for male students to delay the performance of work, skip lectures and not to concentrate on the material taught.

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**Keywords:** Student engagement, education process, gender specificities, higher education.



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## 1. Introduction

The success of the university is certainly inseparable from the success of its students and is determined not only by the results of research work, consulting activities but also by individual victories and achievements of its students and graduates. Astin (1984) and Pascarella (1985) suggested using indicators of student engagement and experience gained during their studies at university as criteria aimed to evaluate the performance of an educational institution. Due to longitudinal studies, it was proved that in universities with a low student engagement, a high level of students expelled from this university is observed; this process is taking place for a considerable period of time.

The term “engagement” describes a range of behaviors exhibited by learners. Researchers often define student engagement as a student’s readiness to participate in everyday university activities, such as attending classes, preparing and submitting work, and “listening” to the lecturer during classes. However, student engagement is also used in wider terms, including students’ extracurricular activity and participation in the design of the educational process.

Some authors consider engagement as a multidimensional construct that incorporates emotional and cognitive aspects (Skinner, Pitzer, & Brule, 2014; Sinatra, Heddy, & Lombardi, 2015; Ben-Eliyahu, Moore, Dorph, & Schunn, 2018). Behavioral engagement is studied separately (Guthrie, Wigfield, & You, 2012; Skinner et al., 2014; Sinatra et al., 2015; Guthrie & Klada, 2016; Latinia, Bratena, Anmarkruda, & Salmeronb, 2019). Kuh (2007) defines student engagement as participation in effective educational practices in the classroom and extracurricular time, which leads to a number of measurable results, as well as the degree to which the student is engaged in activities which, as investigations in the field of higher education show, are associated with a high level of learning outcomes.

Such researchers as Coates (2005), Chickering & Gamson (1987) analyzed multi-year experience of empirical investigations and identified seven characteristics that educational activities should have which a student should be involved in at an educational institution (encouragement of contacts between students and lecturers; development of mutual exchange and cooperation among students; student activity promotion; availability of quick feedback from the lecturer, attentive attitude to the time intended for the assignment; high expectations and respect for different talents and ways of learning).

The term "student engagement" is rarely used by Russian researchers. The concept is interpreted in compliance with the one proposed by Tinto (2003).

The experience presented is quite interesting for our research as the author developed a research tool to study student engagement which reflects three components of student engagement:

1) individual student engagement featured in the student’s own efforts invested in learning, observance of explicit norms, such as the need to take and pass exams, as well as following the normative academic values of the university.

2) assessment of the university activities to create a favorable educational environment, including fairness of university educational policy, as well as lecturers’, administration and university staff attitudes towards students.

3) social engagement determined through the student’s engagement in relations with other students and lecturers. Social engagement reflects the student’s integration into the university community, relations with other students and lecturers as an integral component of learning and development.

## 2. Problem Statement

Analysis of literature showed that the issue of student engagement at universities and colleges has become a fairly common subject of research in recent years, but the concept of student engagement is still not popular among Russian researchers; there are practically no studies on the inter-gender characteristics of students' behavior and their attitude to educational activities, though interest in gender-role stereotypes has sharply increased in foreign and Russian psychology in the recent years (Ananyev, 1974; Zimnyaya, 2002; Zhukova, 2014),

Research problem: what are inter-gender characteristics of student engagement in the educational process at university?

## 3. Research Questions

The following research tasks were solved in the course of our study:

1. To identify individual, institutional conditions and social student engagement, as well as gender differences according to diagnosed indicators.
2. To study the experience that male and female students obtain in the process of studying at university.

## 4. Purpose of the Study

The purpose of the research is to study characteristics of male and female students' engagement in university practices.

## 5. Research Methods

- theoretical (analysis of psychological and pedagogical literature, analysis, comparison),
- empirical (stating experiment, questioning),
- qualitative and quantitative analysis of the data.

An online survey was conducted using the questionnaire “Trajectories and experience of university students in Russia”, developed by Higher School of Economics of the National Research University. The questionnaire consisted of 39 questions, divided into several groups. Each group was aimed at studying such components of student engagement as: individual and institutional conditions for involved learning and social engagement.

Pearson's chi-squared test ( $\chi^2$ ) was applied to check the significance of differences.

Kazan (Volga) Federal University was the research experimental base. 1039 students (437 boys and 602 girls) of different faculties of the university participated in the study.

## 6. Findings

Analysis of students' answers concerning issues related to individual student engagement allow us to state with a high probability that male students participate in seminar discussions from time to time

(24.89%). Male students more often than female students use ideas and concepts from different academic disciplines when doing homework (21.94% and 19.33%, respectively). In turn, female students participate in a lesson with a report or presentation more frequently than male students (26.93% and 19.83%, respectively) (Table 1).

**Table 01.** Individual student engagement

Question	Gender	Never	Seldom	Occasionally	Rather often	Often	Very often	Difficult to answer
Participated in seminar discussions <sup>a</sup>	Female/	2.24*	6.73*	23.57*	18.83*	23.82*	24.31*	0.5*
	Male students	6.33*	12.24*	24.89*	16.03*	21.1*	18.99*	0.42*
Used ideas and concepts from different courses during class discussions <sup>b</sup>	Female/	4.11	17.83	27.31	18.2	19.33	10.72	2.49
	Male students	8.86	15.19	22.36	17.72	21.94	10.55	3.38
Asked questions about course content during a lesson <sup>c</sup>	Female/	4.49	20.07	32.79	16.33	16.96	8.35	1
	Male students	6.75	16.03	29.96	17.72	17.72	10.55	1.27
Considered the subject so interesting that they worked on it more than the lecturer required <sup>d/</sup>	Female/	9.85	25.44	30.42	12.09	13.22	6.61	2.37
	Male students	8.44	20.25	26.58	15.19	14.77	12.24	2.53
Made a report or presentation in class <sup>e</sup>	Female/	1.12***	8.23***	20.07***	20.2***	26.93***	23.19***	0.25***
	Male students	4.64***	15.19***	24.47***	23.21***	19.83***	11.39***	1.27***
Attended training courses where the lecturer recognized and remembered their names <sup>f</sup>	Female/	11.6*	12.22*	13.34*	14.46*	20.2*	23.19*	4.99*
	Male students	10.97*	11.81*	14.77*	17.72*	13.5*	21.52*	9.7*
Used facts and examples to	Female/	1.5	10.6	25.31	21.32	24.44	14.71	2.12
	Male students	2.11	13.5	24.89	21.1	18.99	16.88	2.53

substantiate their own point of view <sup>g</sup>								
Applied ideas and concepts from different academic disciplines while doing homework <sup>h</sup>	Female/	1.87	10.1	23.94	23.07	25.31	14.21	1.5
	Male students	2.53	13.08	28.69	18.57	24.47	9.7	2.95
Studied how other people collected and interpreted data, evaluated the validity of their conclusions <sup>i</sup>	Female/	4.49	19.33	24.69	20.45	19.2	8.73	3.12
	Male students	4.22	17.3	24.89	20.25	18.99	8.44	5.91
Rethought their opinion of a particular situation after evaluating other people's arguments <sup>j</sup>	Female/	2.37	16.46	28.93	21.57	18.95	9.1	2.62
	Male students	2.95	17.72	26.16	22.36	14.35	11.39	5.06
Submitted training course assignments after the deadline <sup>k</sup>	Female/	50.62***	34.66***	8.85***	3.12***	1.37***	1***	0.37***
	Male students	34.18***	36.29***	15.61***	7.17***	3.38***	2.95***	0.42***
Attended classes being unprepared <sup>l</sup>	Female/	31.05***	47.51***	16.08***	3.49***	1.12***	0.5***	0.25***
	Male students	20.25***	43.46***	22.36***	5.49***	5.06***	2.23***	0.84***
Missed classes for no good reason <sup>m</sup>	Female/	58.6**	32.29**	5.74**	2.12**	0.62**	0.37**	0.25**
	Male students	45.67**	36.29**	8.86**	5.91**	2.11**	0.42**	0.84**

Note: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

<sup>a</sup>  $\chi^2=20.318$ , df=6; <sup>b</sup>  $\chi^2=11.561$ , df=6; <sup>c</sup>  $\chi^2=5.281$ , df=6; <sup>d</sup>  $\chi^2=12.378$ , df=6; <sup>e</sup>  $\chi^2=43.265$ , df=6; <sup>f</sup>  $\chi^2=12.969$ , df=6; <sup>g</sup>  $\chi^2=4.855$ , df=6; <sup>h</sup>  $\chi^2=10.234$ , df=6; <sup>i</sup>  $\chi^2=4.251$ , df=6; <sup>j</sup>  $\chi^2=7.58$ , df=6; <sup>k</sup>  $\chi^2=35.055$ , df=6; <sup>l</sup>  $\chi^2=37.652$ , df=6; <sup>m</sup>  $\chi^2=23.92$ , df=6

It can be noted that if lecturers remember students' names, then male (21.52%) and female students (23.19%) attend such classes very often. Female students less often submit training assignments

after deadline; they never miss classes without a good reason. Male students more often than female students attend classes being unprepared (22.36% and 16.08%, respectively).

Having considered issues related to institutional conditions for involved learning, we obtained the following results (Table 2).

**Table 2.** Institutional conditions for involved learning

Question	Gender	Never	Seldom	Occasionally	Rather often	Often	Very often	Difficult to answer
Recognize or address certain facts, terms, concepts <sup>a</sup>	Female/	0.87	5.24	19.95	21.2	27.43	23.82	1.5
	Male students	0.42	7.59	20.68	19.41	27.43	20.68	3.8
Address methods, ideas or concepts and use them to solve problems <sup>b</sup>	Female/	1.12	7.48	16.08	25.31	29.18	18.58	2.24
	Male students	0.42	8.02	15.61	24.05	25.32	21.52	5.06
Analyze arguments and conclusions made on their basis <sup>c</sup>	Female/	1.87	7.73	21.45	22.19	27.06	16.96	2.74
	Male students	2.11	9.7	21.94	21.94	25.74	13.92	4.64
Determine the value of information, ideas or conclusions, based on the reliability of the source of information, the correctness of methods and argumentation <sup>d</sup>	Female/	3.12	11.97	21.07	22.32	24.06	13.59	3.87
	Male students	5.06	13.92	18.99	19.83	19.83	15.19	7.17
Generate new ideas, create own developments and concepts <sup>e</sup>	Female/	8.6**	19.33**	25.94**	18.58**	14.34**	10.1**	3.12**
	Male students	15.19**	25.32**	23.21**	13.08**	11.81**	7.17**	4.22**

Note: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

<sup>a</sup>  $\chi^2=8.148$ , df=6; <sup>b</sup>  $\chi^2=7.963$ , df=6; <sup>c</sup>  $\chi^2=4.181$ , df=6; <sup>d</sup>  $\chi^2=9.502$ , df=6; <sup>e</sup>  $\chi^2=17.924$ , df=6

Female students use obtained formulas to solve problems more often (29.18%) than male students (25.32%). Female students are better at conducting analysis and formulating conclusions on the basis of analysis (27.06%) than male students (25.74%). Furthermore, female students generate new ideas and create their own developments and concepts more often (14.34%) than male students (11.81%).

Having regarded issues related to social student engagement, we obtained the following results (table 3). Female students are occasionally involved in group work in the classroom (23.57%) unlike male students (24.47%) who never worked on a group assignment. At the same time, male students more often

help fellow students to better understand the material of the discipline during joint preparation for classes than female students (16.46% and 15.46%, respectively).

As we see, more than half of the respondents, both among male students (58.23%) and female students (50.12%), never worked with a lecturer on social or creative projects that were beyond the scope of educational activities. But, among the second half of the respondents, the highest percentage of participation in such events was among female students.

**Table 03.** Social student engagement

Question	Gender	Never	Seldom	Occasionally	Rather often	Often	Very often	Difficult to answer
Worked on a group assignment/project with group mates during extracurricular time <sup>a</sup>	Female	9.23 <sup>***</sup>	17.33 <sup>**</sup>	23.57 <sup>***</sup>	19.33 <sup>**</sup>	17.46 <sup>**</sup>	11.72 <sup>**</sup>	1.37 <sup>***</sup>
	Male students	20.68 <sup>**</sup>	24.47 <sup>**</sup>	22.36 <sup>***</sup>	14.77 <sup>**</sup>	9.70 <sup>***</sup>	6.33 <sup>***</sup>	1.69 <sup>***</sup>
Helped a fellow student to better understand the material of the discipline during joint preparation for classes <sup>b</sup>	Female	4.24 <sup>*</sup>	17.83 <sup>*</sup>	31.67 <sup>*</sup>	19.70 <sup>*</sup>	15.46 <sup>*</sup>	10.22 <sup>*</sup>	0.87 <sup>*</sup>
	Male students	6.75 <sup>*</sup>	16.46 <sup>*</sup>	34.18 <sup>*</sup>	11.39 <sup>*</sup>	16.46 <sup>*</sup>	13.08 <sup>*</sup>	1.69 <sup>*</sup>
Communicated with the lecturer in person, by phone, or by email <sup>c</sup>	Female	17.08	23.69	24.94	11.1	12.97	8.98	1.25
	Male students	18.14	26.58	23.21	12.24	12.24	7.17	0.42
During extracurricular time, ideas or concepts related to the training course were discussed with lecturers <sup>d</sup>	Female	28.3	25.56	21.57	10.22	8.73	3.62	2
	Male students	22.36	26.58	24.89	13.92	5.91	5.06	1.27
Worked with the lecturer on social or creative projects that were beyond the scope of educational activities. <sup>e</sup>	Female	50.12 <sup>*</sup>	20.32 <sup>*</sup>	12.22 <sup>*</sup>	6.61 <sup>*</sup>	4.74 <sup>*</sup>	3.74 <sup>*</sup>	2.24 <sup>*</sup>
	Male students	58.23 <sup>*</sup>	16.88 <sup>*</sup>	11.39 <sup>*</sup>	3.38 <sup>*</sup>	1.69 <sup>*</sup>	5.91 <sup>*</sup>	2.53 <sup>*</sup>
Invested more effort into the study of the course than usually because	Female	3.62 <sup>**</sup>	14.21 <sup>**</sup>	29.68 <sup>**</sup>	21.32 <sup>**</sup>	19.2 <sup>**</sup>	10.47 <sup>**</sup>	1.5 <sup>**</sup>
	Male students	8.02 <sup>**</sup>	16.03 <sup>**</sup>	29.11 <sup>**</sup>	26.16 <sup>**</sup>	10.97 <sup>**</sup>	7.59 <sup>**</sup>	2.11 <sup>**</sup>

of the lecturer's high requirements <sup>f</sup>								
Significantly reworked the written paper, at least once before submitting it to the lecturer for assessment <sup>g</sup>	Female	7.86**	22.57**	24.81**	20.45**	14.21**	8.60**	1.50**
	/ Male student	14.35**	29.11**	21.94**	15.19**	12.24**	5.49**	1.69**
Asked the lecturer or assistant for help when it was necessary <sup>h</sup>	Female	28.93	29.30	24.56	7.86	5.74	2.12	1.50
	/ Male student	32.07	27.85	18.99	11.81	4.22	2.95	2.11

Note: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

<sup>a</sup>  $\chi^2=39.568$ , df=6; <sup>b</sup>  $\chi^2=12.679$ , df=6; <sup>c</sup>  $\chi^2=3.127$ , df=6; <sup>d</sup>  $\chi^2=8.941$ , df=6; <sup>e</sup>  $\chi^2=13.088$ , df=6; <sup>f</sup>  $\chi^2=19.133$ , df=6; <sup>g</sup>  $\chi^2=17.583$ , df=6; <sup>h</sup>  $\chi^2=8.21$ , df=6

Moreover, female students invest more efforts to learn the course due to high requirements of the lecturer than male students (19.2% against 10.97%), and they more often substantially reworked the written paper, at least once, before submitting it to the lecturer for assessment than male students (14.21% against 12.24%). Also, female students ask for lecturer's help while preparing work or when having questions more often (5.74%) than male students (4.22%).

Having examined issues related to "initial institutional conditions" of student engagement, we obtained the following results. 29.68% of female students and 25.74% of male students are fully satisfied with the quality of general education subjects teaching, 28.05% of female students and 21.1% of male students are happy with the availability and variety of general education courses. 72.32% of female students and 67.09% of male students highly assessed the quality of specialty disciplines teaching. The quality of young lecturers' work was equally appreciated by both male students and female students (27.43%).

Opportunities for gaining experience in conducting research or implementing creative projects are rated higher by female students (29.93%) than male students (24.05%). Female students also rate higher than male students the fact that they have special programs that allow them to study or internship abroad, the presence of special programs that let them know about the possibilities of involvement in volunteer programs (44.51% against 37.13%, 28.43% against 16, 46% respectively). Female students have higher than male students evaluation of conditions for creative implementation, sports and the university support to realize student initiatives.

Male students are more satisfied with the conditions for classroom instruction, information support of training, organization of cultural leisure at the university than female students.

## 7. Conclusion

Summing up the results obtained for each component of student engagement, it can be stated that individual student engagement is higher in female students. The significance of differences is confirmed



by such indicators as: participation in discussions at seminars, frequency of report presentations in the classroom, attendance of training courses at which the lecturer recognized and remembered the student's name, admitting assignments after the deadline, unpreparedness for classes and skipping classes for no good reason. This suggests that female students are more diligent, active in the classroom, and prepare more seriously for lessons. In addition, female students are more than male students interested in studying the views of other people; due to this they can often rethink their point of view for a particular situation.

As for the second component, we can observe a similar situation. The institutional conditions for involved learning are also higher in female students. Female students are more often than male students engaged in highly intellectual work. They are distinguished by the breadth of cognitive interests, curiosity, initiative; they are good at all subjects. Male students are characterized by a purposeful, selective acquisition of such knowledge and skills that are necessary (in their opinion) for future professional activity. They study better those disciplines that are related to their specialization. Unlike female students, who focus on mastering the curriculum through its "widening", male students solve this problem through its "deepening".

With a small degree of probability, it can be declared that social student engagement is also higher in female students. Besides, female students better adapt to new conditions, quickly develop a strategy for their behavior, and easily join the team. Female students more often than male students communicate with lecturers and ask them for help while implementing educational and extracurricular activities.

Thus, the results obtained provide the idea that male students are more inclined to demonstrate a passive type of engagement in the educational process than their female counterparts. It is more typical for male students to delay work, skip lectures and not to concentrate on the material taught.

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## References

- Ananyev, B. G. (1974). *To the psychophysiology of student age. Modern psychological and pedagogical problems of higher education*. Leningrad: Publishing House Leningrad University.
- Astin, A. (1984). Student engagement: a developmental theory for higher education. *Journal of College Student Development*, 25, 297-308.
- Ben-Eliyahu, A., Moore, D., Dorph, R., & Schunn, C. D. (2018). Investigating the multidimensionality of engagement: Affective, behavioral, and cognitive engagement across science activities and contexts. *Contemporary Educational Psychology*, 53, 87–105.
- Chickering, A. W., Gamson, Z. F. (1987). Seven Principles for Good Practice in Undergraduate Education. *AAHE Bulletin*, 39(7), 3-7.
- Coates, H. (2005). The Value of Student Engagement for Higher Education Quality Assurance. *Quality in Higher Education*, 11(1), 25-36.
- Guthrie, J. T., & Klauda, S. L. (2016). Engagement and motivation processes in reading. In P. Afflerbach (Ed.), *Handbook of individual differences in reading: Reader, text, and context* (pp. 41–53). New York: Routledge.

- Guthrie, J. T., Wigfield, A., & You, W. (2012). Instructional contexts for engagement and achievement in reading. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.). *Handbook of research on student engagement* (pp. 601–634). New York: Springer.
- Kuh, G. (2007). What Student Engagement Data Tell Us about College Readiness. *Peer Review*, 9(1), 4-8.
- Latinia, N., Bratena, I., Anmarkruda, Q., & Salmeronb, L. (2019). Investigating effects of reading medium and reading purpose on behavioral engagement and textual integration in a multiple text context. *Contemporary Educational Psychology*, 59(10), 1-16.
- Pascarella, E. (1985). Students Affective Development within the College Environment. *The Journal of Higher Education*, 56(6), 640-663.
- Sinatra, G. M., Heddy, B. C., & Lombardi, D. (2015). The challenges of defining and measuring student engagement in science. *Educational Psychologist*, 50, 1-13.
- Skinner, E., Pitzer, J., & Brule, H. (2014). The role of emotion in engagement, coping, and the development of motivational resilience. In R. Pekrun, & L. Linnenbrink-Garcia (Eds.). *International Handbook of Emotions in Education* (pp. 331–347). New York: Routledge.
- Tinto, V. (2003). Promoting student retention through classroom practice. In *Conference on Enhancing Student Retention: Using International Policy and Practice*. Amsterdam.
- Zhukova, T. V. (2014). The key approaches to the analysis of the psychological structure of university students' educational activities. *Yaroslavl Pedagogical Bulletin*, 3, 240-247.
- Zimnyaya, I. A. (2002). *Educational Psychology: a textbook for universities*. Moscow: Logos.