

Understanding Gender Disparities in Academic Performance and Risk-Taking Behaviour among nursing students

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Abstract-

Background: Academic success is important because it leads us to the positive outcomes we value. As a society being the flag bearer of gender discrimination, understanding gender difference in academic performance and risk taking behaviour among male and female students is of significant importance. Despite the increasing number of male students entering the nursing profession, the dominance of female in this field and prevailing social stereotypes, along with a lack of male role models, could potentially have a detrimental effect on their motivation, academic performance and willingness to take risk.

Aim: This study aims to evaluate the gender difference in academic performance and risk taking behavior between the male and female nursing students.

Methods: A self structured socio demographic performa and structured questionnaires were used in this study. A total number of 280 participants were selected by using a non-probability purposive sample technique. It was a descriptive survey carried out at SUM Nursing College, AMRI Nursing College and Vivekananda Nursing College, Bhubaneswar from 11th July to 16th July 2022. In this study, population consists of both males and females from the age group 18-27 years.

Result: This study's findings show that there's not much gender difference in pass division and first division but the number of male students are in second division. The difference is 4.5% and more female nursing students are in the distinction division, The difference is 10.5% and also there's not much gender difference in high risk taking behaviour but, there are more female nursing students in medium the risk taking behaviour range and the difference is 6.5% and there are more number of male nursing students in low risk taking behaviour range and the difference is 7.9%.

Keywords: Gender difference, Academic performance, Risk Taking Behaviour, Nursing students.

INTRODUCTION

Education is an important aspect of every individual's life as it plays a vital role in enhancing a person's skills and potential for success in a particular society or culture. Development of the human, social, and economic spheres all depend critically on education and it is a crucial method for raising the economic and social standing of disadvantaged groups in society². The main driver of personal growth is now academic performance quality. It seems as though the academic achievements of pupils are the core focus of the entire educational system³. Education can be defined as a systematic process aimed at imparting knowledge, skills and attitudes essential for an individual to effectively navigate their environment. Its primary objectives are to foster and enhance each person's capacity to achieve their maximum potential .recognizing and embracing the nation that education serves as a crucial tool for societal and economic advancement is fundamental to attaining these objectives for the betterment of human well-being.¹

Varışoğlu & Çelikpazu (2019) conducted a mixed method study with 450 secondary school students to explore academic risk taking behaviors in the Turkish lessons and their correlation with students' achievement. The results revealed a statistically significant association between academic performance and risk taking behaviour ,indicating that as students' success increased, their willingness to take the risk also increased positively .however the study did not find any significant link between gender difference and risk taking behaviour among male and female students.⁴ On the other hand, **Hasan et al. (2019)** conducted a study with 800 students, divided into two groups of four hundred members, each comprising male and females respectively. The study investigated risk taking behaviour as taking the dependent variable found the significant link between gender difference and risk taking behavior. The results indicate that male students exhibited higher mean scores in risk-taking behaviour compared to female students.⁵ **Maireva Chrispen (2021)** study analyzing the impact of gender on academic performance in advance level business studies in Zimbabwe ,involving 105 participants in a quantitative research design, no significant link was found between gender

difference and academic performance .however the study introduced other factors ,challenging socio-economic conditions ,prevailing gender stereotypes in society ,and limited study time ,which were associated with poorer academic performance among female students compare to their male students.⁶ **Deveci and Aydins (2018)** study involving 680 fifth eighth grade students using a relational survey model and quantitative method ,revealed a potential link between students tendencies toward academic risk taking and their attitude towards academic risk taking and their attitude towards their science. Interestingly ,the results indicated that female students exhibited higher academic risk taking behaviour compared to their male counterparts.⁷ **Juma D.A, Aloka, P. J, & Nyaswa, P. (2018)** conducted a study in Kenyan secondary schools to access gender differences in academic performance .the study utilized Tinto's student integration theory and transformative learning theory gathering both qualitative and quantitative data for analysis the finding revealed that male students demonstrated improved academic performance compare to their female counterparts potentially influenced by various factors such as academic pressure and external challenges like stigmatization ,inadequate financial support ,over confidence ,low self esteem and social withdrawal.⁸

Nacaroglu & O. Kizkapan (2020) conducted a survey research on 187 gifted students, exploring academic risk-taking behaviours in laboratory and science learning activities. Following a quantitative research method, the study revealed a statistically significant link between students' risk-taking behaviour and their scientific learning skills. The finding supported the idea that higher levels of science learning orientation are associated with increased academic risk-taking tendencies.⁹ A study performed by **Mankumari Parajuli & Ajay Thapa (2017)** assessed the gender difference in academic performance of students. A number of 240 students participated in this study and this study is made by following quantitative research design. The study came to a conclusion that there is a statistically significant association between students' gender and academic performance. It is found that female students have scored better and mostly secured their position in first division and above, than their male peers¹⁰. A study conducted by **Amogne asfaw Eshetu (2015)** assessed association of student's academic performance with their parent's socioeconomic condition. The study is performed using 538 randomly selected samples. As a finding of this study, it was found that a student' academic performance has a extremely statistical significance with their parent's socioeconomic condition. It was assessed that students with educated and financially stable parents have better academic performance than their other peers who have parents with poor education and financially unstable parents. Students with single parents and parents who don't live together also have a huge impact on student's academic performance¹¹. **Dendup T, Wangmo S & Yangchen U (2021)** conducted a study examining the academic performance of undergraduate students from a gender perspective. The study included 265 students selected through purposive sampling technique. The result indicated no significant association between students gender and their choice of subjects. However, it was observed that female students performed better in science subjects than male peers, while no significant difference was found in arts subjects.¹² On the hand another study conducted in 2017 a study with 200 medical students and the result showed no statistically significant difference in academic performance between genders for both multiple choice or short essay problems ($p=0.811$ and $p=0.515$, respectively). It concluded the academic achievement of male and female students did not differ significantly¹³.

Objective:

The objective of this study is to assess gender differences in academic performance and risk-taking behaviour among nursing students in selected nursing institutes of Bhubaneswar and investigate their potential association.

Methodology:

Study Design and Setting: This study employed a non-experimental descriptive survey design. The research was conducted at SUM Nursing College, AMRI Nursing College, and Vivekananda Nursing College. These institutions were chosen due to their diverse student populations and geographical locations. The study aimed to explore gender differences in academic performance and risk-taking behavior among nursing students.

Sample: The study included a total of 280 participants within the age group of 18-27 years. The participants were drawn from both male and female nursing students enrolled in the specified nursing colleges. A structured socio-demographic proforma and structured questionnaires were utilized to collect data on academic performance and risk-taking behavior.

Procedure for Data Collection:

Ethical Approval:

Formal ethical approval was obtained from the ethical committee of research at Sum Nursing College. Subsequently, written permissions were obtained from the principals of AMRI Nursing College and Vivekananda Nursing College.

Informed Consent:

Prior to data collection, written informed consent was obtained from all participants. The consent form outlined the purpose of the study, assured anonymity and confidentiality, and communicated the voluntary nature of participation. Participants were informed of their right to withdraw from the study at any point.

Data Collection Period:

The data collection took place from 11th July to 16th July 2022. This timeframe was selected to minimize disruptions to the academic calendar and ensure maximum participation.

Tool Administration:

The structured socio-demographic proforma and questionnaires were administered by the researcher to the participants. The participants were given adequate time to complete the instruments, and any questions or concerns were addressed promptly.

Participant Rights:

Throughout the study, the anonymity and confidentiality of the participants were strictly maintained. Participants were assured that their responses would not be linked to their identities. Additionally, participants were given the freedom to withdraw from the study without any repercussions. The researcher remained open to addressing any questions or clarifications regarding the questionnaire.

Data Analysis:

Quantitative data obtained from the questionnaires was analyzed using appropriate statistical methods. Descriptive statistics such as means, standard deviations, and percentages were used to summarize demographic characteristics and key variables. According to socio demographic data (**Table no.1**) which shows that 94% subjects belong from the 18-22 years of age group and 6% subjects belong from the 23-27 years age group but none of the subjects were above 27 years. In the gender of the subjects 36.3% subjects were male and 63.8% subjects were female. In year of study 32.3% subjects were from 1st year, 34.8% were from 2nd year and 33% were from 3rd year. In religion 92.6% subjects were Hindu, 6.7% were Muslim and 0.7% were Christian. In marital status 4.6% subjects were married and 95.4% were unmarried. In family type 34.4% subjects were from joint family, 65.2% were from nuclear family and 0.4% were from extended family. In type of residence 17.7% subjects were living in home and 82.3% were living in hostel. In residence 57.8%b subjects were from urban area and 42.2% were from rural area. In monthly income of family 0.4% subjects were from Rs <5000, 46.8% from Rs 5000-10,000 and 52.8% from Rs>10,000. In average marks scored in last exam 2.1% subjects were from < 50%, 17.7% from 50%-60%. 56.7% from 60%-70% and 23.4% from >70%. In average attendance in college is 2.1% subjects were from <50%, 33.7% subjects were from 50%-70% and 64.2% were from >70%.

Table no. 1: Frequency and percentage distribution of the study sample based on socio-demographic profile (n=282)

| Variables | Frequency (f) | Percentage(%) |
|-----------------------|---------------|---------------|
| Age | | |
| 18-22 years | 265 | 94 |
| 23-27 years | 17 | 6 |
| Gender | | |
| Male | 102 | 36.2 |
| Female | 180 | 63.8 |
| Year of Study | | |
| 1 st Year | 91 | 32.3 |
| 2 nd Year | 98 | 34.8 |
| 3 rd Year | 93 | 33 |
| Religion | | |
| Hindu | 261 | 92.6 |
| Muslim | 19 | 6.7 |
| Christian | 2 | 0.7 |
| Marital Status | | |
| Married | 13 | 4.6 |
| Unmarried | 269 | 95.4 |
| Family Type | | |
| Joint Family | 97 | 34.4 |

| | | |
|--|-----|------|
| Nuclear Family | 184 | 65.2 |
| Extended Family | 1 | 0.4 |
| Type of Residence | | |
| Home | 50 | 17.7 |
| Hostel | 232 | 82.3 |
| Residence | | |
| Urban | 163 | 57.8 |
| Rural | 119 | 42.2 |
| Monthly Income of Family | | |
| Rs <5000 | 1 | 0.4 |
| Rs 5000-10,000 | 132 | 46.8 |
| Rs > 10,000 | 149 | 52.8 |
| Average Marks Scored in Last Exam | | |
| < 50% | 6 | 2.1 |
| 50% - 60% | 50 | 17.7 |
| 60%-70% | 160 | 56.7 |
| > 70% | 66 | 23.4 |
| Average attendance in college: | | |
| < 50% | 6 | 2.1 |
| 50% - 70% | 95 | 33.7 |
| >70% | 181 | 64.2 |

According to academic performance (Table no. 2) of male nursing students only 3.9% subjects belonged from the pass division (<50%), 20.6% belonged from second division (50%-60%), more than half of subjects belonged from first division (60%-70%) and 16.7% of belonged from distinction division (>70%).

Table no. 2 shows the frequency and percentage distribution of the study sample according to the academic performance of the male nursing students. (n=102)

| Academic performance male students | Frequency (f) | Percentage(%) of |
|------------------------------------|---------------|------------------|
| Pass Division (<50%) | 4 | 3.9 |
| Second Division (50%-60%) | 21 | 20.6 |
| First Division (60%-70%) | 60 | 58.8 |
| Distinction (>70%) | 17 | 16.7 |

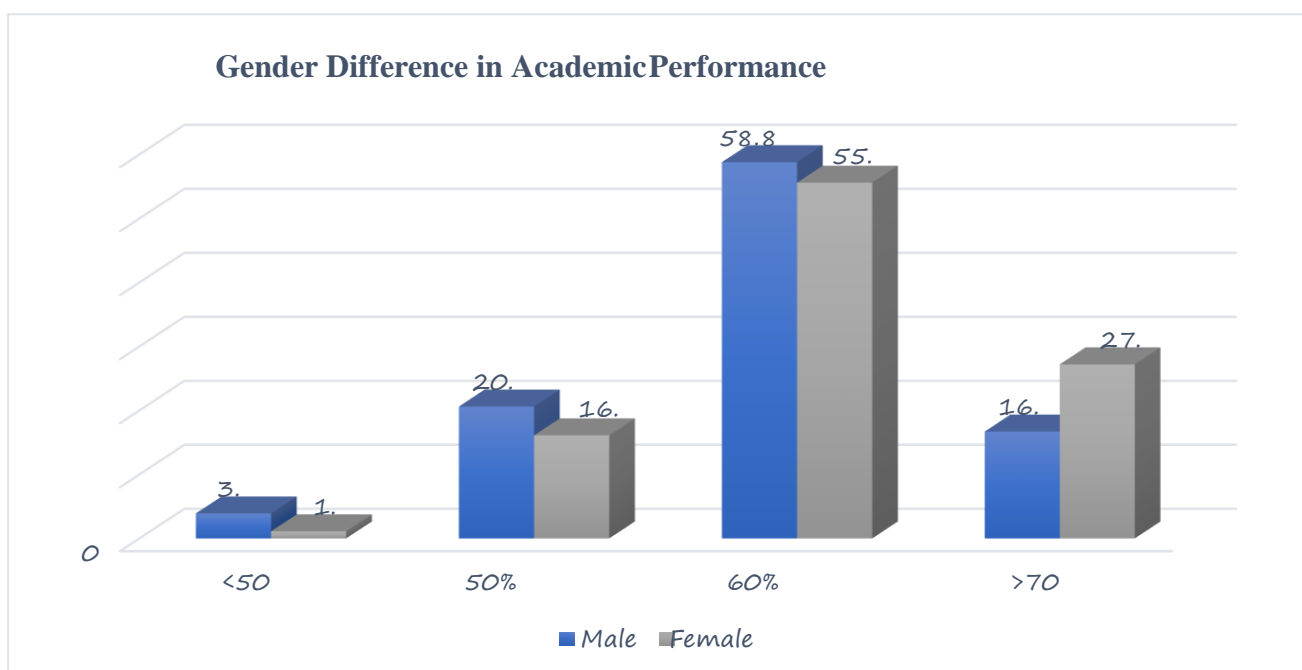
According to academic performance of female (Table no. 3) nursing students only 1.1% of subjects belonged from the pass division (<50%), 16.1% belonged from the second division (50%- 60%), more than half 55.6% of subjects belonged from the first division and 27.2% belonged from the distinction division (>70%).

Table no. 3 shows the frequency and percentage distribution of the study sample according to the academic performance of the female nursing students. (n=180)

| Academic performance of female students | Frequency (f) | Percentage(%) |
|---|---------------|---------------|
| Pass Division (<50%) | 2 | 1.1 |
| Second Division (50%-60%) | 29 | 16.1 |
| First Division (60%-70%) | 100 | 55.6 |
| Distinction (>70%) | 49 | 27.2 |

According to gender differences in academic performance of male and female nursing students(Figure no. 1) is not much gender difference in pass division and first division, but the number of male students are in the second division, The difference is 4.5% and more female nursing students are in the distinction division, The difference is 10.5%.

Figure no. 1 Bar diagram showing the gender difference in academic performance among nursing students. (n=282)



According to risk taking behaviour (Table no. 4) of male nursing students 23.5% of subjects having low risk taking behaviour, 36.3% have medium risk taking behaviour and 40.2% of subjects having high risk taking behaviour.

Table no. 4 shows the frequency and percentage distribution of the study sample according to risk taking behavior of the male nursing students. (n=102)

| Risk Taking Behaviour of male students | Frequency (f) | Percentage(%) |
|--|---------------|---------------|
|--|---------------|---------------|

| | | |
|------------------------------|----|-------|
| Low Risk Taking Behaviour | 24 | 23.5% |
| Medium Risk Taking Behaviour | 37 | 36.3% |
| High Risk Taking Behaviour | 42 | 40.2% |

According to risk taking behaviour of female nursing students (Table no. 5) only 15.6% of subjects having low risk taking behaviour, 42.8% were having medium risk taking behaviour and 41.7% of subjects having high risk taking behaviour.

Table no. 5 shows the frequency and percentage distribution of the study sample according to the academic performance of the female nursing students. (n=180)

| Risk Taking Behaviour of female students | Frequency (f) | Percentage(%) |
|--|---------------|---------------|
| Low Risk Taking Behaviour | 28 | 15.6% |
| Medium Risk Taking Behaviour | 77 | 42.8% |
| High Risk Taking Behaviour | 75 | 41.7% |

According to gender differences in risk taking behaviour, there is not much gender difference (Figure no. 2) in high risk taking behaviour but there are more female nursing students in the medium risk taking behaviour range and the difference is 6.5% and there are more number of male nursing students in low risk taking behaviour range and the difference is 7.9%.

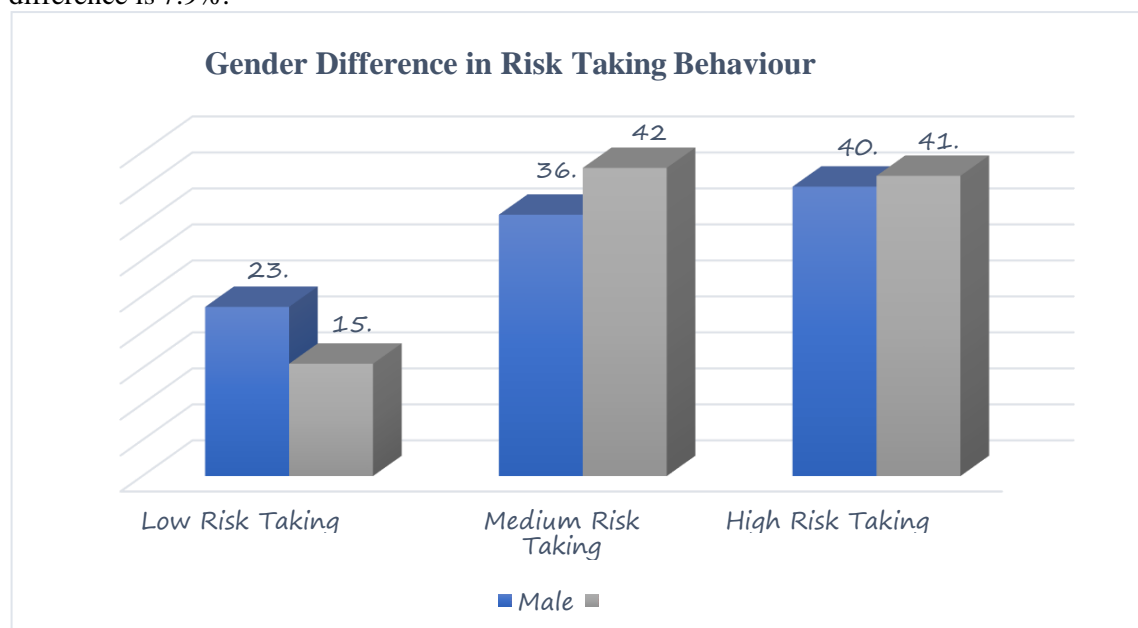


Figure no. 2 Bar diagram showing the gender difference in risk taking behaviour among the nursing student. (n=282)

Discussion

The objective of the current study was to evaluate the gender difference in academic performance and risk taking behaviour of the nursing students of the selected nursing institutes of Bhubaneswar. In the present study, the results revealed that 63.8% of participants were female students, indicating that more than half of the sample population were female. This finding is consistent with the study conducted in 2019 which assessed differences in professional values between nurses and nursing students from a gender perspective, where the majority was 97.4% of nursing students were also female, with the remaining being male.¹⁴ In the current study males are having poor academic performance in comparison with female nursing students. 4.5% more male students are in second division and 10.5% more female students are found in the distinction division. The result is supported by the study of Mankumari Parajuli & Ajay Thapa (2017) where it is assessed that 14.17% more male students are in first division and 15% more students are in distinction division¹⁰. In another study performed by Khaleel M (2017) it is assessed that who tend to get higher grades male students or female students. The finding of the study suggests that the female students tend to perform better, as when the participants were questioned about how their academic performance compared to that of their peers, the males kept them in an average position, whereas the females kept them in above average position¹⁵. An alternative study by Abed Maryam, Ghafari Abdul Rahim, Azim Sheba & Oria Mohammad (2022) also assessed that females have better academic performance than male students, as according to their study it's revealed that in all grades, the percentage of female pupils was higher than the number of male students. Additionally, more female students than male students in each grade appear in the top ten, and more female students in the first, second, third, and fourth classes have received scores of more than 80% whereas the male students have scores of 70% on average. Thus, we can draw the conclusion that, in comparison to male students, female students perform better in medical courses and are more devoted to their studies. But on the other hand, a study conducted in 2015 by Goni. et al. Among 188 male students, had a mean value of 25.30 with SD of 4.165, while among 134 female students had a mean of 26.94 with an SD of 4.634. However, the observed t value of 3.32 and p-value of 0.668 indicated no statistically significant variations between gender and academic achievements, suggesting that there is no significant association between a student's gender and academic performance.¹⁷ In this current study, more female nursing students in medium risk taking behaviour range and the difference is 6.5% and there are more number of male nursing students in low risk taking behaviour range and the difference is 7.9%. Nimbalkar C (2017) study contradicts the previous finding, showing that males tend to take more risks than females. Additionally, both male and female students had no significant difference in mentoring risk-taking, with girls excelling in ethical risk taking, while boys performed better in physical risk-taking.¹⁸ Here in this study we have found a statistically significant association between a student's academic performance and risk taking behaviour with chi square value 252.912 and 'p' value of 0.05 level of significance. The results are supported by a study performed by Özbay et al (2016) where the researcher identified a statistically significant relationship between academic performance and risk taking behaviour, revealing that students who have a positive approach towards risk taking tend to achieve better academic score.¹⁹ In another study by Çakır & Yaman (2015) the researchers have also found a significant positive relationship between risk taking tendency and academic performance²⁰ along with a study performed by Akdağ E, M Köksal, M. S & Ertekin P (2017) researchers concluded that there is both a positive and negative relationship between students' risk-taking behavior and academic performance, It means that the relationship is complex and not consistently in one direction. Some instances of risk-taking behavior may have a positive impact on academic performance, while in other cases, it might have a negative effect.^{21,22}

Limitations:

The study is limited to the specific nursing colleges included in the research, and generalization to a broader population may be restricted. The reliance on self-reported data may introduce response biases. The cross-sectional nature of the study limits the ability to establish causation or observe changes over time.

Significance of the Study:

Addressing Gender Disparities in Nursing Education: The study addresses a significant gap in the current understanding of gender disparities within the context of nursing education. Exploring academic performance and risk-taking behavior specifically in nursing students contributes to a more comprehensive understanding of gender dynamics within this field.

Implications for Nursing Practice: The findings may have direct implications for nursing education programs, enabling them to tailor their strategies to better support both male and female students. This could lead to more effective teaching methods, mentoring, and support systems that acknowledge and address gender-specific challenges.

Enhancing Gender Equality in Healthcare: Understanding gender disparities in nursing education is crucial for fostering gender equality in the healthcare profession. By identifying and addressing factors contributing to differences in academic performance and risk-taking behavior, the study may contribute to a more equitable distribution of opportunities and responsibilities in the nursing workforce.

Conclusion:

The study's findings led to the following conclusion. The study attempted to evaluate the gender difference among the nursing students in terms of their academic performance and risk taking behavior. The risk taking behavior was significantly associated with demographic factors academic performance. Studying gender differences in academic performance and risk-taking behavior is vital for promoting educational equity, tailoring teaching strategies, and preparing students for a diverse and inclusive future. It enables educators and policymakers to create an environment that empowers all students to reach their full potential, regardless of their gender.

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Conflict of interest: There are no conflicts of interest

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