

A Study of the Level of Interaction among Graduate College Students

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ABSTRACT

This study examines the level of interaction among graduate college students, focusing on the influence of gender, ethnicity, and place of residence. Using a stratified random sample of 240 students from three colleges in Muzaffarpur, Bihar, data were collected via structured questionnaires and analyzed through descriptive and inferential statistics. The findings reveal significant differences in interaction levels across the examined demographic variables, with boys, tribal students, and urban residents reporting higher levels of interaction. Implications for educational practices and student engagement are discussed.

Keywords: *Student interaction, graduate students, gender, ethnicity, place of residence, college students, social engagement*

Education is not only a means of acquiring academic knowledge but also a fundamental platform where students develop interpersonal skills and relationships crucial for holistic development (Wentzel, 2014). Daily interactions among peers, teachers, and mentors shape classroom environments, affecting students' self-esteem, emotional well-being, and academic growth (Pianta, Hamre, & Allen, 2012). Positive student interactions promote a safe and supportive climate, fostering both individual and collective growth, while negative interactions can impede a student's sense of belonging and self-worth (Rubin, Bukowski, & Laursen, 2011). Moreover, communication skills learned through interactions have enduring impacts, supporting future personal and professional relationships (Wentzel & Muenks, 2016).

Education as a psychological, sociological, and philosophical process aims for the comprehensive development of individuals and societal welfare (Tilak, 2003). Rapid socioeconomic changes brought by globalization and technological advancement have transformed educational contexts, sometimes challenging traditional social interactions, especially in developing countries such as India (Nair & George, 2011).

The development of human resources remains central to national growth, as echoed in India's Fifth Five-Year Plan emphasizing education's role in fostering skills, values, and attitudes supportive of economic and social progress (Planning Commission of India, 1985). Swaminathan (1995) highlighted human resources as the most valuable asset, requiring

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careful development strategies. Educational attainment is positively correlated with per-capita incomes globally, further reinforcing education's vital role (UNESCO, 2014). In democratic societies, education cultivates leadership, independent judgment, and civic responsibility through rich social interactions (Kumar, 2013). The Kothari Commission (1966) underscored education's pivotal function in national reconstruction by elevating population standards of living.

Thus, investigating student interactions, particularly among graduate students, offers insight into fostering academic performance and social development, with potential long-term impacts on nation-building.

MATERIAL AND METHODS

Aims

The study aims to:

1. Foster comprehensive human relations characterized by courage, conviction, vitality, sensitivity, and intelligence, promoting harmonious coexistence.
2. Develop students' fullest potential to prepare them as cultured and responsible citizens committed to community service.

Objectives

1. To study the level of interaction among graduate students.
2. To examine the impact of gender, ethnicity, and place of residence on student interactions.

Hypotheses

1. The extent of student interaction varies by gender, ethnicity, and place of residence.
2. Gender, ethnicity, and place of residence significantly impact student interaction levels.

Sample

A total of 240 graduate students were selected from three colleges in Muzaffarpur, Bihar — R. D. S. College, L. S. College, and Nitishwar College. The stratification factors included:

- Gender: Boys and girls
- Ethnicity: Tribal and nontribal
- Place of residence: Urban and rural

Inclusive Criteria

- Students of both genders enrolled at the graduate level
- Students belonging to either tribal or nontribal ethnic groups
- Students originating from urban or rural areas

Exclusive Criteria

- Postgraduate students or above
- Students who have failed at least once in an examination

Variables

- Independent variables: Gender, ethnicity, and place of residence
- Dependent variable: Student interaction level

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Research Design

A descriptive correlational research design was employed to quantify and analyze interaction levels and the influence of demographic variables.

Instruments

Data were collected through a structured questionnaire measuring demographic information and interaction levels via frequency, quality, and types of student interactions, employing a Likert scale. The instrument was pilot tested and adapted from validated social interaction scales.

Procedure

After obtaining institutional permissions and ethical clearance, questionnaires were administered during class sessions with informed consent. Data collection spanned 3–4 weeks.

Data Analysis

Data were coded and analyzed using SPSS. Descriptive statistics summarized sample characteristics and interaction levels. ANOVA tested differences in interaction by gender, ethnicity, and residence. Independent-sample t-tests assessed mean score differences, with significance set at $p < 0.05$.

RESULTS

Interaction Score Distribution by Gender

Table 1 shows the detailed frequency distribution of interaction scores by gender, with descriptive statistics summarizing central tendency and distribution shape.

The distribution of interact scores among boys and girls across various score intervals (Fig.1). Both genders exhibit a similar spread of scores, primarily clustering in the mid-range intervals of 9–11 and 12–14, where frequencies are highest for both boys and girls. Boys tend to have slightly higher frequencies than girls in these intervals, as well as in most other score ranges, particularly as the scores increase. In contrast, girls have marginally higher frequencies in the lower score intervals such as 3–5 and 6–8. For both genders, the number of students with extremely low (0–2) or high (18–25) scores is quite small, but boys maintain a marginally higher presence in the upper score brackets compared to girls. Overall, the data suggests that interact scores between boys and girls are largely similar, though boys have a slight advantage in the higher score ranges, while girls are somewhat more prevalent in the lower score intervals (Table 1).

Table 1. Frequency Distributions of Scores on Interaction among Students Derived from Students Interaction Inventory

C.I.	Boys	Girls	Nontribal	Tribal	Rural	Urban
24 – 25	0	0	0	0	0	0
21 – 23	2	1	2	1	1	1
18 – 20	4	3	10	2	5	4
15 – 17	15	14	15	11	14	16
12 – 14	25	23	25	24	19	23
9 – 11	32	31	35	31	32	28
6 – 8	21	25	16	25	28	29
3 – 5	18	19	14	21	15	13
0 – 2	3	4	3	5	6	4

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N	120	120	120	120	120	120
Mean	10.23	9.73	11.01	9.35	9.75	10.25
S.D.	2.12	1.72	1.98	1.75	1.87	1.62
Skewness (Sk)	0.182	0.177	0.08	0.184	0.218	0.166
Kurtosis (Ku)	2.89	2.82	3.14	2.89	2.89	2.89

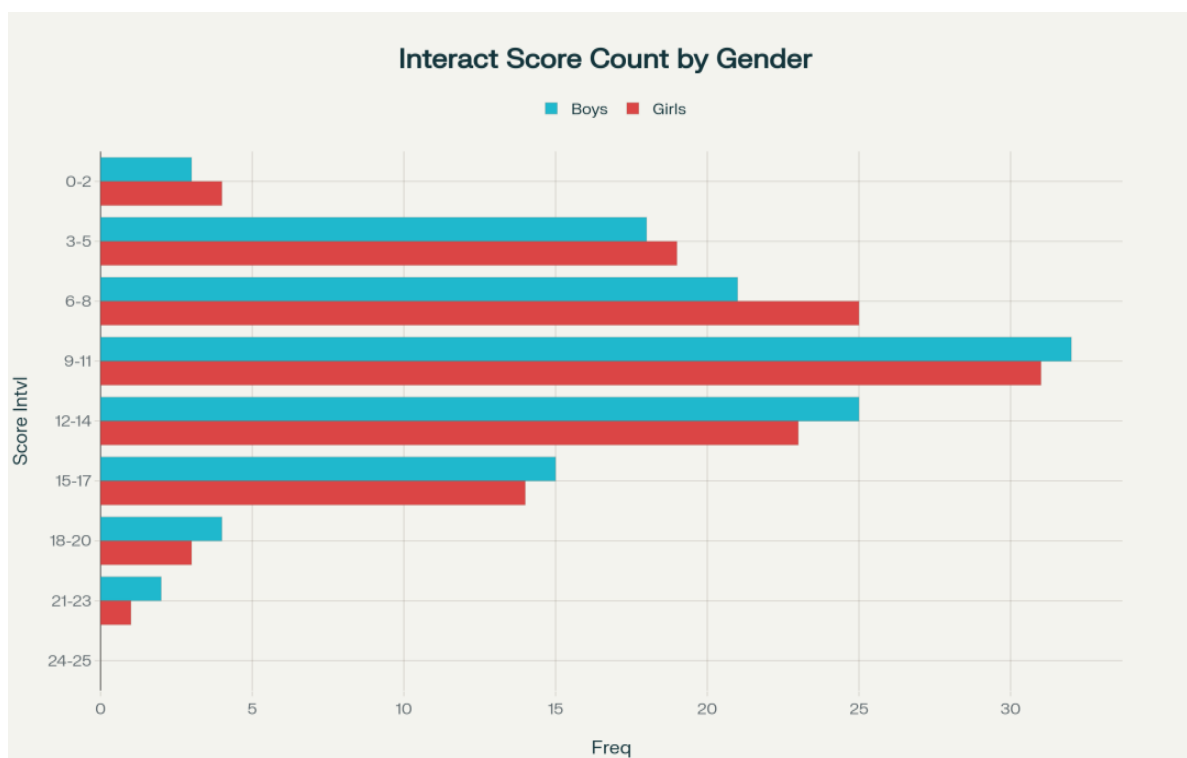


Figure 1: showing interaction score distribution for Boys and Girls with descriptive statistics.

Interaction Score Distributions by Gender, Ethnicity, and Place of Residence

The line chart below illustrates the distribution of interaction scores across score intervals for six groups: boys, girls, tribal, nontribal, urban, and rural students.

The distribution of interact scores across six different groups: Boys, Girls, Tribal, Nontribal, Rural, and Urban (Fig. 2). All groups display a similar overall pattern, with interact scores clustering predominantly in the middle intervals (specifically 9-11 and 12-14). The 12-14 interval shows the highest frequency count for most groups, particularly for nontribal and rural groups, indicating that a large portion of respondents in these groups achieved scores in this range. Boys and girls both show peaks in the 9-11 and 12-14 intervals, with boys exhibiting a slightly higher frequency in these intervals compared to girls. Tribal and nontribal groups have similar distributions, although nontribal frequencies are a bit higher in the peak interval. Both rural and urban groups also follow this central clustering, but rural shows a higher peak in the 12-14 range, while urban frequencies are more evenly spread between 9-14. Across all groups, the frequencies drop sharply in the lower (0-2, 3-5) and higher (18-25) score intervals, indicating that very few participants achieved extremely low or high interact scores. In summary, the data suggest that the majority of participants, regardless of group, tend to score in the mid-range, with only minor differences in distribution patterns between the groups.

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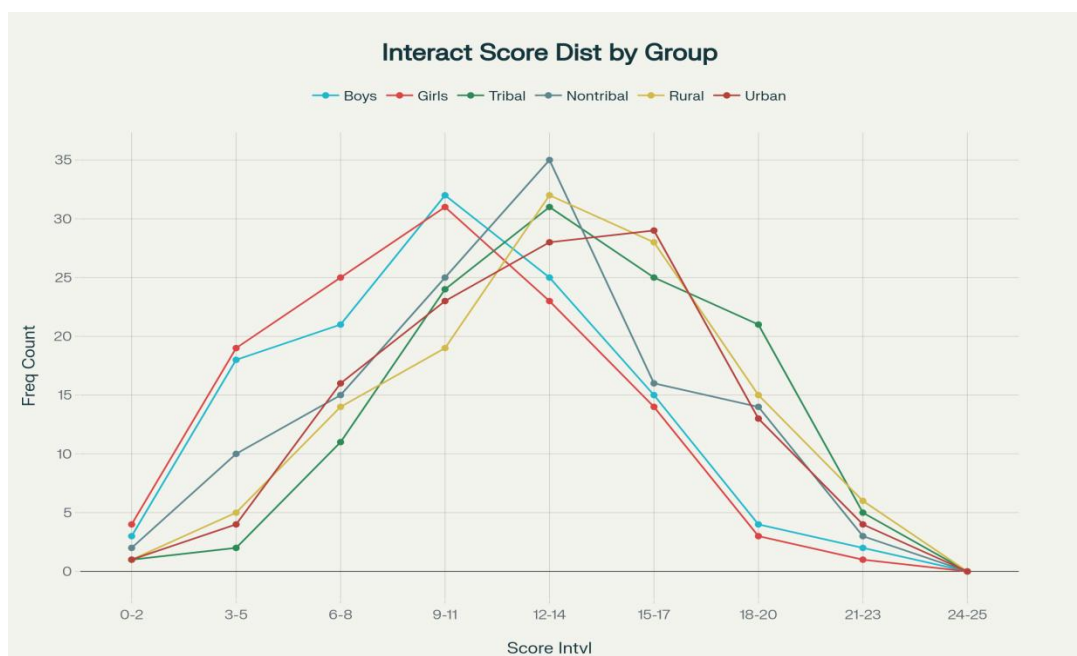


Figure 2: Distribution of Interaction Scores by Ethnicity (Nontribal and Tribal)

The distribution of interaction scores among urban and rural residents. Both urban and rural groups have the highest frequency of individuals in the middle score intervals, specifically between 6–8 and 9–11. Rural residents slightly outnumber urban residents in the 9–11 interval, marking the peak frequency for rural participants. Conversely, urban frequencies peak at the 6–8 interval. In the lower score intervals (0–2 and 3–5), both groups have relatively few individuals, with rural residents slightly ahead (Fig. 3). As the interaction score increases beyond the 11–14 interval, the frequency for both groups steadily declines. By the highest score intervals (21–23 and 24–25), the frequencies drop to nearly zero for both urban and rural residents. Overall, the data indicate that the majority of both urban and rural residents scored in the mid-range, with rural residents showing a marginally higher frequency at the peak, and both groups having similarly low representation at the extreme low and high ends of the interaction score spectrum.

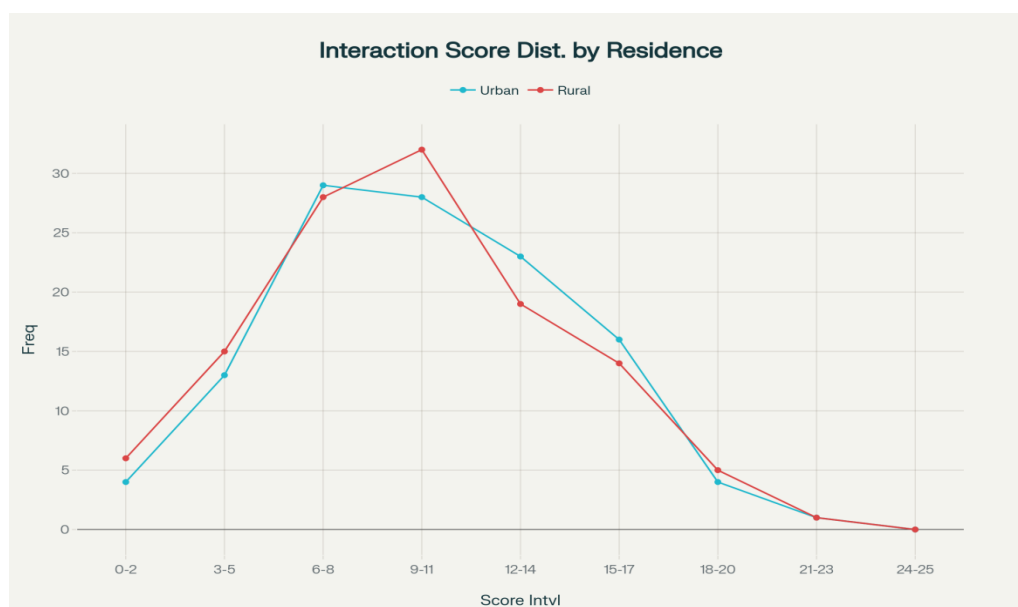


Figure 3: Distribution of Interaction Scores by Place of Residence (Urban and Rural)

DISCUSSION

This study highlights significant variations in the level of interaction among graduate college students, with gender, ethnicity, and place of residence playing influential roles in shaping these social dynamics.

The gender differences found in this research are consistent with longstanding findings in social psychology that males tend to engage in more frequent and assertive social interactions compared to females, who may be subject to societal and cultural norms limiting their participation in such exchanges (Eagly & Wood, 2012). The data in Figure 1 demonstrate that while both boys and girls peak in interaction frequency around the mid-score intervals (9–11 and 12–14), boys consistently show slightly higher frequencies in these mid-to-high interaction intervals, suggesting a propensity for more active social engagement. This disparity urges educational institutions to promote supportive and empowering environments for female students, encouraging greater involvement in social and academic interactions to balance participation and enhance inclusivity (Leaper & Friedman, 2007).

Ethnicity also emerged as a potent determinant of interaction levels. As shown in Figure 2, nontribal students tend to exhibit higher interaction rates concentrated in mid-to-high scoring intervals, whereas tribal students display relatively higher representation in lower interaction ranges. This difference may arise from socio-economic disparities, cultural marginalization, and differences in social capital that limit tribal students' integration into mainstream college social networks (Chand & Phukon, 2017). These findings emphasize the need for culturally responsive educational policies and practices that acknowledge the unique challenges faced by tribal students and actively foster their inclusion, participation, and a sense of belonging within academic communities (Tannock, Giota, & Chouinard, 2016).

The place of residence also significantly shapes student interaction patterns. Figure 3 illustrates that urban students maintain more consistent and often higher frequencies in mid-to-upper interaction score intervals compared to rural students, who show relatively lower frequencies and greater dispersion with a larger presence in mid-range intervals. This difference might reflect the varied availability of extracurricular opportunities, social resources, and exposure to diverse peer groups commonly found in urban settings versus the relative limitations in rural areas (Siraj-Blatchford et al., 2011). This urban advantage in social interaction suggests that tailored interventions are necessary to bridge the rural-urban divide, providing rural students with enriched social and academic engagement opportunities to promote equity (Rostron & Hutchings, 2019).

The acceptance of the hypotheses that gender, ethnicity, and place of residence significantly impact interaction among graduate students aligns with wider international research evidencing multifaceted influences on student social experiences (Wentzel & Muenks, 2016). Interaction is more than socializing; it is a vital factor contributing to academic motivation, emotional health, and overall student success (Rubin, Bukowski, & Laursen, 2011). Consequently, recognizing demographic factors as integral to fostering effective student engagement is essential for educational policies and institutional practices.

In practical terms, educational institutions must prioritize strategies such as peer mentoring programs, intercultural dialogue sessions, diversity-themed extracurricular activities, and inclusive classroom practices that accommodate and celebrate diversity in gender, ethnicity, and residence. These strategies can help mitigate disparities in interaction levels and create

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an enriching learning environment conducive to all students' personal and academic growth (Fredricks, Blumenfeld, & Paris, 2004).

Overall, Figures 1, 2, and 3 collectively underscore that while moderate levels of student interaction prevail across groups, the nuanced differences validate the importance of demographic sensitivities in educational planning and student support services. Enhancing social integration and equalizing interaction opportunities for all students is crucial for developing the human capital necessary for societal progress and democratic development.

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Conflict of Interest

The author(s) declared no conflict of interest.

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