

Discriminatory Experiences and Social Cognition: A Mixed-Methods Study of Secondary School Students in Uttar Pradesh

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Abstract

This study investigates the interplay between discriminatory experiences and social cognition among secondary school students in Lucknow, Uttar Pradesh, India. Amidst a socio-cultural landscape characterized by rigid caste hierarchies, religious diversity, and patriarchal norms, this research aims to understand how discrimination based on gender, minority status, and caste influences the cognitive development of adolescents. Employing a convergent parallel mixed-methods design, quantitative data were collected from 517 students using the Perceived Discriminatory Experiences Scale (PDE-S) and the Social Cognition Questionnaire (SC-Q), while qualitative insights were gathered through 55 semi-structured interviews and 10 expert opinionnaires.

The findings reveal statistically significant disparities in discriminatory experiences: female students reported higher discrimination in academic contexts, particularly regarding STEM subjects; religious minorities expressed profound alienation and exclusion from school activities; and students from Scheduled Castes (SC) and Scheduled Tribes (ST) reported severe social exclusion and teacher bias. Crucially, the study identifies a positive correlation ($r = 0.28, p < 0.01$) between discriminatory experiences and social awareness, suggesting that marginalized students develop heightened social vigilance as a coping mechanism. However, this comes at a cost to self-perception and confidence. The paper concludes with actionable recommendations for policy enforcement, inclusive curricula, and teacher sensitization to foster equitable educational environments.

Keywords: *Secondary Education, Social Cognition, Discriminatory Experiences, Uttar Pradesh, Mixed-Methods Research, Gender Bias, Caste Discrimination, Religious Minorities, Adolescent Psychology, Inclusive Education*

1. Introduction

1.1 Background of the Study

Human societies are ideally founded on the biological unity of *Homo sapiens*, yet social structures often fracture this equality through discrimination—a deprivation of opportunities and dignity based on arbitrary markers such as race, religion, or gender (Bhugra, 2016). In the context of education, schools are not merely centers of academic learning but potent social arenas where these

societal fractures are mirrored and often amplified. For adolescents aged 13 to 18, a period marked by rapid psychological development and identity formation, the experience of discrimination can be particularly corrosive.

Uttar Pradesh, India's most populous state, presents a unique backdrop for this inquiry. The state's educational landscape is deeply influenced by historical caste dynamics, religious stratification, and traditional gender

roles. While the Indian Constitution mandates equality, the lived reality in classrooms often tells a different story. "Why does society discriminate when nature does not?" This fundamental dissonance forms the core of the present inquiry, which seeks to explore how external acts of prejudice shape the internal landscape of the young mind—specifically, their social cognition.

1.2 Statement of the Problem

Despite extensive literature linking discrimination to mental health outcomes (Assari et al., 2017; Pascoe & Richman, 2009), there remains a critical gap in understanding the direct relationship between discriminatory experiences and *social cognition*—the mental processes involved in perceiving, interpreting, and reacting to social stimuli. Does the experience of being ostracized for one's caste alter a student's ability to recognize emotions? Does gender bias reshape how a girl perceives her own potential? This study addresses these questions by examining the discriminatory experiences of secondary school students in Lucknow and their correlation with social cognitive processes.

1.3 Objectives

The study is guided by six primary objectives:

1. To identify discriminatory experiences faced by students based on **gender**.
2. To identify discriminatory experiences faced by students based on **religious minority status**.
3. To identify discriminatory experiences faced by students based on **caste and category**.
4. To assess the **social cognition** of students in the context of discrimination.
5. To determine the **correlation** between discriminatory experiences and social cognition.
6. To propose actionable steps for building a **healthy social environment** in schools.

2. Theoretical Framework and Literature Review

2.1 Theoretical Underpinnings

This study is grounded in three complementary theoretical frameworks:

- **Social Identity Theory (SIT):** Proposed by Tajfel and Turner (1979), SIT explains how individuals derive self-esteem from group membership. In schools, "in-group" favoritism (e.g., toward upper castes or boys) often leads to the marginalization of "out-groups," fostering discrimination.
- **Intersectionality Theory:** Crenshaw's (1989) framework is vital for understanding students with compounded identities, such as a Muslim girl from a Backward Class, who may face unique, overlapping forms of discrimination that cannot be understood by examining gender or religion in isolation.
- **Social Cognitive Theory (SCT):** Bandura (1986) posits that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behavior. This theory helps explain how discriminatory environments (external) shape students' cognitive processing and self-efficacy (internal).

2.2 The Context of Uttar Pradesh

Literature indicates that schools in Uttar Pradesh often reflect broader societal stratifications. Kingdon (2007) highlighted the systemic exclusion of girls from science streams, while the Sachar Committee (2006) documented the educational marginalization of Muslims. Similarly, Thorat and Neuman (2012) noted that despite reservation policies, caste-based discrimination persists in subtle forms like peer teasing and teacher bias. This study builds on this literature by introducing the variable of social cognition, offering a psychological dimension to sociological problems.

3. Methodology

3.1 Research Design

The study employs a **Convergent Parallel Mixed-Methods Design**. This approach

involves the simultaneous collection of quantitative and qualitative data, which are analyzed separately and then integrated to provide a comprehensive understanding of the research problem. This design aligns with a **pragmatic paradigm**, acknowledging that multiple realities exist and that combining objective measures with lived experiences provides the most robust answers.

3.2 Population and Sampling

The study was conducted in Lucknow City, Uttar Pradesh.

- **Quantitative Sample:** A multistage stratified random sampling technique was used to select **517 students** from 30 schools across eight localities (Alambagh, Aliganj, Aminabad, etc.). The sample was stratified by gender, caste (General, OBC, SC, ST), and religion (Hindu, Muslim, Other).
- **Qualitative Sample:** A purposive subset of **55 students** was selected for semi-structured interviews to ensure diverse representation of lived experiences.
- **Expert Sample:** 10 educational experts (principals, psychologists) provided policy recommendations via opinionnaires.

Table 1: Demographic Distribution of the Sample (N=517)

Category	Sub-Category	Frequency (n)	Percentage (%)
Gender	Male (Boys)	239	46.2%
	Female (Girls)	278	53.8%
Caste	General	145	28.0%
	OBC (Other Backward Class)	186	36.0%
	SC (Scheduled Caste)	134	26.0%
	ST (Scheduled Tribe)	52	10.0%

Religion	Hindu	352	68.0%
	Muslim	114	22.0%
	Other (Sikh, Christian, etc.)	51	10.0%

3.3 Instruments

1. **Perceived Discriminatory Experiences Scale (PDE-S):** A 31-item scale developed for this study (Cronbach's $\alpha = 0.88$), measuring discrimination across three subscales: Gender, Religion, and Caste.
2. **Social Cognition Questionnaire (SC-Q):** A 32-item scale (Cronbach's $\alpha = 0.89$) assessing four dimensions: Emotion Recognition, Self-Perception, Social Awareness, and Goal Orientation.
3. **Semi-Structured Interview Protocol:** 12 open-ended questions designed to elicit narratives of discrimination.

4. Results and Analysis

4.1 Discriminatory Experiences by Gender

The quantitative analysis reveals significant disparities in how boys and girls perceive discrimination. The overall mean score for the Gender Subscale was significantly higher for girls, indicating they perceive more gender-based bias.

Table 2: Comparison of PDE-S Gender Subscale Scores

Item / Subscale	Boys (n=239) Mean (SD)	Girls (n=278) Mean (SD)	t-value	p-value	Significance
Overall Gender Subscale	2.81 (0.61)	2.97 (0.65)	-3.12	0.002	Sig.
Item 2: Boys encouraged more in class	3.10 (0.75)	3.35 (0.78)	-3.80	<0.01	Sig.
Item 4: Advised to learn household chores	2.50 (0.62)	3.20 (0.77)	-5.12	<0.01	Sig.

Item 5: Discouraged from STEM subjects	2.68 (0.72)	3.10 (0.78)	-4.32	<0.01	Sig.
Item 3: Asked not to cry (Emotional suppression)	3.05 (0.80)	2.60 (0.65)	3.65	<0.01	Sig.

Qualitative Integration:

The statistical data is corroborated by interview narratives.

- Theme 1: Academic Stereotyping:** Girls frequently reported being steered away from STEM (Science, Technology, Engineering, Mathematics). "My teacher told me, 'Maths is for boys, you should focus on Hindi or Art.' It made me feel like I wasn't smart enough." — (S002, Female, 14)
- Theme 2: Domestic Role Enforcement:** Girls reported pressure to prioritize domestic skills (Item 4), while boys reported pressure to suppress emotions (Item 3), highlighting a "double-edged sword" of gender norms. "If I get low marks, my parents say I'll have to learn cooking anyway. But my brother gets tuition." — (S021, Female, 15)

4.2 Discriminatory Experiences by Religion

Religious discrimination was assessed by comparing Minority students (Muslim, Christian, Sikh, etc.) against the Majority (Hindu) group.

Table 3: Comparison of PDE-S Religion Subscale Scores

Note: Item 25 ("My religious practices are not promoted") showed the largest gap (Mean diff = 0.85).

Qualitative Integration:

- Theme 1: Exclusion and Alienation:** Minority students expressed a profound sense of not belonging. "During the annual function, they always choose Hindu students for the main roles in plays. I wanted to participate, but I feel

they don't trust us." — (S007, Muslim Female, 15)

- Theme 2: Teacher Bias:** Students reported subtle and overt biases from educators. "My teacher ignores my questions in class, but she answers [Majority] students quickly." — (S032, Muslim Male, 14)

4.3 Discriminatory Experiences by Caste

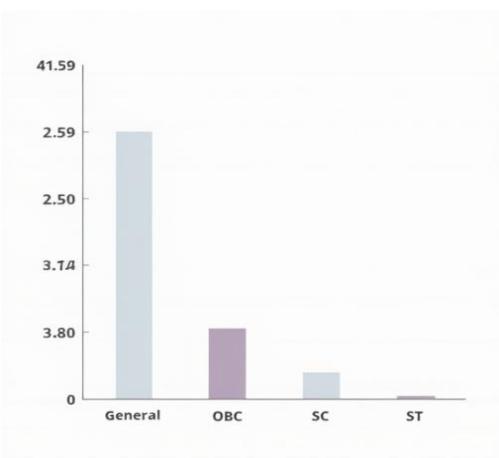
Caste-based discrimination remains a potent force. An ANOVA test revealed significant differences across caste categories, with Scheduled Tribe (ST) and Scheduled Caste (SC) students reporting the highest levels of discrimination.

Table 4: ANOVA Results for PDE-S Caste Subscale

Caste Group	N	Mean Score (SD)	F-value	p-value	Post-Hoc Finding
General	145	2.29 (0.48)			Lowest Perception
OBC	186	2.59 (0.57)	17.10	<0.001	Moderate Perception
SC	134	2.92 (0.64)			High Perception
ST	52	3.02 (0.67)			Highest Perception

Visual Representation of Caste Discrimination Levels

Group	N	Mean Score	SD	t-value	p-value
Non-Minority (Hindu)	352	2.55	0.59	-	-
Minority (Muslim/Other)	165	3.14	0.67	6.10	<0.001



Qualitative Integration:

- Theme 1: Social Exclusion:** SC/ST students reported isolation during recess and social events. *"I'm not allowed to sit with other girls during lunch; they move away when I come."* — (S042, ST Female, 16)
- Theme 2: Intellectual Underestimation:** Teachers often held lower expectations for SC/ST students (Item 20). *"I feel my teacher marks my papers harshly because of my caste. I scored low even when my answers were correct."* — (S033, SC Female, 15)

4.4 Social Cognition Analysis

The SC-Q assessed how students process social information. Interestingly, results indicated that students facing higher discrimination often scored *higher* on Social Awareness, suggesting a hyper-vigilance to social cues.

Table 5: Social Cognition Questionnaire (SC-Q) Subscale Scores

Subscale	Description	Overall Mean (SD)	Demographic Insight
Social Awareness	Understanding viewpoints/social cues	3.35 (0.60)	Higher in Minority/SC/ST students
Emotion Recognition	Identifying emotions in others	3.28 (0.58)	No significant demographic diff.
Self-Perception	Confidence in own abilities	3.10 (0.65)	Lower in Girls and ST students

Goal Orientation	Motivation to achieve goals	3.40 (0.62)	Lower in SC/ST students
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4.5 Correlation Between Discrimination and Social Cognition

A Pearson correlation analysis was conducted to test the relationship between the two main constructs.

Table 6: Correlation Matrix (PDE-S and SC-Q)

Variables	PDE-S Total	Gender Sub.	Religion Sub.	Caste Sub.
SC-Q Total Score	0.28*	0.25*	0.31*	0.29*
Social Awareness	0.32*	0.36*	0.35*	0.38*
Self-Perception	0.15	0.12	0.14	0.11

Note: * $p < 0.01$. Strongest correlations are between Discrimination Subscales and Social Awareness.

Analysis of Correlation:

The data rejects the null hypothesis. There is a positive, significant correlation ($r = 0.28$) between discriminatory experiences and overall social cognition. Specifically, the strong correlation with Social Awareness ($r = 0.32$ to 0.38) indicates that students who experience discrimination become more attuned to their social environment.

- Qualitative Support:** *"Because I'm teased for my caste, I notice how others are treated. I can tell when someone is being unfair."* — (S019, SC Male, 16).

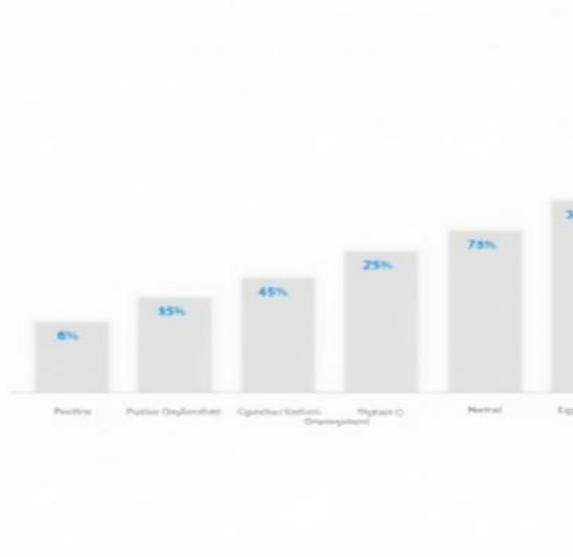
Conversely, the weak correlation with Self-Perception ($r = 0.15$) suggests that while discrimination heightens awareness of others, it does not necessarily build confidence in oneself; in fact, the demographic breakdown shows it often erodes it.

4.6 Suggestions for a Healthy Social Environment

Data from 10 expert opinionnaires and student interviews were analyzed to propose solutions.

A sentiment analysis of expert responses revealed a mix of concern and optimism.

Figure 2: Sentiment Analysis of Expert Opinions (Text Representation)



Experts largely believed that while systemic issues persist (Negative), tangible pathways for improvement exist (Positive).

Key Recommendations Table:

Recommendation	Target Area	Implementation Strategy
Teacher Sensitization	Bias Reduction	Mandatory annual workshops on unconscious bias regarding gender, caste, and religion.
Curriculum Reform	Inclusivity	Inclusion of diverse role models (Dalit, Minority, Female) in textbooks to normalize diversity.
Peer Support Programs	Social Cohesion	Extracurricular clubs (sports/drama) mandated to have mixed-group participation to foster empathy.
Grievance Redressal	Policy Enforcement	Anonymous reporting cells for discrimination with student representation.

5. Discussion

The findings of this study paint a complex picture of the secondary school environment in Uttar Pradesh. The quantitative data confirms that discrimination is not an isolated occurrence but a structural reality.

- Gender:** The significant gender gap in PDE-S scores, particularly regarding STEM discouragement, aligns with global findings on the "leaky pipeline" for women in science. However, the unique cultural context of UP adds the layer of "domestic role enforcement" as a specific discriminatory stressor for girls.
- Caste & Religion:** The stark gradients in caste discrimination scores (General < OBC < SC < ST) validate the persistence of caste hierarchies even in modern educational settings. For religious minorities, the sense of alienation is profound, often stemming from institutional practices (e.g., majority-centric prayers or festivals) rather than just peer bullying.
- The Cognitive Cost:** Perhaps the most novel finding is the "Cognitive Cost of Discrimination." The positive correlation between discrimination and social awareness supports the "**Vigilance Hypothesis**"—that marginalized individuals must constantly monitor their environment for threats, leading to heightened social cognition. While this is an adaptive survival strategy, it likely consumes cognitive resources that could otherwise be directed toward academic engagement or creative pursuits. The lower self-perception scores among ST and female students further suggest that this vigilance comes at the price of self-confidence.

6. Conclusion

This study provides empirical evidence that secondary schools in Uttar Pradesh are sites of significant social stratification. Discrimination based on gender, caste, and

religion is prevalent and has measurable impacts on the social cognition of adolescents. While these experiences appear to heighten social awareness—a form of resilience—they simultaneously undermine self-perception and belonging.

The disconnect between nature's impartiality and society's prejudices remains a challenge, but not an insurmountable one. The resilience shown by students, who navigate these hostile environments with heightened awareness, is a testament to their potential. However, reliance on individual resilience is insufficient. Systemic changes, driven by the recommendations of teacher training, policy enforcement, and inclusive curricula, are essential. By transforming schools from arenas of exclusion into sanctuaries of equity, we safeguard not only the mental health of our youth but the democratic fabric of future society.

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