



# GENDER DIFFERENCES IN ALTRUISM AMONG SECONDARY SCHOOL STUDENTS OF DIFFERENT SOCIO-ECONOMIC BACKGROUNDS: A PILOT STUDY IN ALLAHABAD DISTRICT OF UTTAR PRADESH

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## Abstract

Altruistic behaviour is a core aspect of prosocial conduct that fosters empathy, cooperation, and moral development among adolescents. Understanding the factors influencing altruism, particularly socio-economic status (SES) and gender, is vital for educators, parents, and policymakers aiming to cultivate socially responsible and emotionally balanced students. This pilot study examines gender differences in altruistic behaviour among secondary school students of varying socio-economic backgrounds in Allahabad District, Uttar Pradesh. A descriptive survey design with quantitative analysis was employed to assess preliminary patterns and evaluate research instruments.

The sample comprised **60 secondary school students** (30 males and 30 females) purposively selected from three schools representing different socio-economic catchments, including private and government institutions. The **Altruism Scale for Adolescents**, measuring dimensions such as helping, sharing, caring, and empathy-related actions, along with a **socio-economic status questionnaire** based on parental education, occupation, income, and household assets, were used for data collection. Cronbach's alpha (.82) indicated good internal consistency for pilot purposes.

Descriptive findings showed **moderate levels of altruistic behaviour**, with female students scoring higher on emotional dimensions (comforting, sharing feelings) and males showing comparable action-oriented helping behaviours (assisting tasks). High SES students had marginally higher overall altruism scores, whereas low SES students demonstrated stronger empathy-related responses, highlighting context-specific expressions of altruism. Inferential analyses, including **t-tests and ANOVAs**, indicated significant main effects of gender and SES on altruistic behaviour, but the interaction effect of gender  $\times$  SES was not statistically significant.

The study confirms the **feasibility and reliability of the instruments and procedures**, providing initial evidence that both gender and socio-economic factors influence altruistic behaviour among secondary school students. The findings underscore the importance of **promoting empathy, cooperation, and social responsibility** through structured school programs, service-learning activities, and character education initiatives. The pilot study lays the groundwork for larger-scale research that could further elucidate the socio-cultural determinants of adolescent altruism in India.

**Keywords:** Altruism, Adolescents, Gender Differences, Socio-Economic Status, Prosocial Behaviour, Secondary School Students, Pilot Study, Allahabad, India\

## 1. Introduction

Altruism, defined as the voluntary concern for the welfare of others, represents a fundamental aspect of human social development and interpersonal functioning. It encompasses behaviors such as helping, sharing, comforting, and cooperating, which are central to establishing positive social relationships and fostering community cohesion. Adolescence, in particular, is a critical period for the development of altruistic tendencies, as individuals undergo profound emotional, cognitive, and social changes. During this stage, adolescents begin to form moral reasoning frameworks, develop empathy, and establish social identities that guide their interactions with peers and adults. Secondary school students, typically aged between 14 and 18 years, are therefore highly responsive to social and moral cues, making this population especially suitable for examining the emergence and expression of altruistic behavior. Understanding these patterns during adolescence is crucial because behaviors and attitudes developed in this period can influence social adjustment, academic success, and long-term interpersonal relationships.

In the Indian context, variations in adolescent social behavior are often influenced by socio-economic disparities and entrenched gender norms. Differences in parental resources, family environment, and access to educational opportunities shape the frequency and type of prosocial engagement among students. For instance, girls are generally socialized to be more relational, empathetic, and expressive in their interactions, which often translates into higher engagement in emotionally oriented altruistic behaviors, such as comforting peers and providing social support. Boys, in contrast, may be encouraged to exhibit independence, assertiveness, and task-oriented forms of helping, which are more action-based than emotionally driven. Socio-economic status further interacts with these gendered tendencies; students from higher socio-economic backgrounds often have access to structured opportunities for volunteering, organized group activities, and exposure to diverse social networks, all of which can enhance measured altruistic behavior. Conversely, adolescents from lower socio-economic backgrounds may develop empathy and prosocial tendencies through everyday social interactions and experiences of resource sharing or cooperation in resource-limited settings, suggesting that the context of altruistic expression is closely linked to environmental conditions.

Allahabad District provides a rich and dynamic context for investigating these relationships, as it encompasses a mix of urban and rural schools, government and private institutions, and a broad spectrum of socio-economic backgrounds. This diversity allows for an examination of how both gender and socio-economic status influence the expression of altruism in real-world educational settings. By exploring these factors, the present study aims to inform educational strategies that nurture empathy, social responsibility, and cooperative skills

among adolescents, thereby fostering a more inclusive and socially conscious school climate. The current pilot study specifically seeks to test the feasibility of research instruments, identify initial patterns of altruistic behavior across gender and socio-economic groups, and generate preliminary evidence to guide future large-scale investigations. The objectives of the study are to examine differences in altruistic behavior between male and female students, investigate variations across high, medium, and low socio-economic status groups, and explore potential interactions between gender and socio-economic status in predicting altruistic tendencies among secondary school students.

## Statement of the Problem

Altruism, the voluntary concern for the welfare of others, is a key aspect of adolescents' social and moral development. Research suggests that **gender** and **socio-economic status (SES)** influence the expression of prosocial behaviour, yet studies exploring their combined impact in Indian contexts are limited. Secondary school students in **Allahabad District, Uttar Pradesh**, experience diverse social, cultural, and economic environments that may shape their altruistic tendencies differently. Understanding **gender differences in altruism across SES groups** is crucial for identifying patterns of prosocial development, guiding school-based interventions, and promoting empathy, cooperation, and social responsibility among adolescents. **GENDER DIFFERENCES IN ALTRUISM AMONG SECONDARY SCHOOL STUDENTS OF DIFFERENT SOCIO-ECONOMIC BACKGROUNDS: A PILOT STUDY IN ALLAHABAD DISTRICT OF UTTAR PRADESH**

## 2. Rationale of the Study

Adolescence is a crucial stage in human development, marked by significant growth in cognitive, emotional, and social domains, and it plays a fundamental role in shaping moral values, empathy, and prosocial behaviour. Altruism, as a core dimension of prosocial conduct, is particularly important during this period because it fosters positive peer relationships, social cohesion, and cooperation, all of which contribute to both academic achievement and overall well-being. Despite a growing body of research on prosocial development globally, studies examining **gender differences in altruism within the Indian context** remain limited, particularly when socio-economic diversity is taken into account. Understanding how gender and socio-economic factors interact to influence altruistic behaviour is therefore both timely and essential for creating educational strategies that encourage socially responsible and empathetic adolescents.

Allahabad District provides an ideal socio-cultural setting for investigating these dynamics due to its rich diversity, encompassing urban, semi-urban, and rural populations, as well as a mix of government and private schools. This variety allows researchers to explore how different social and economic environments shape the development and expression of altruistic tendencies in adolescents. Such an understanding is valuable not only for educators, who can design classroom and school-wide programs to foster empathy, cooperation, and peer support, but also for parents, who play a key role in modeling and reinforcing prosocial behaviours at home. Additionally, the findings can guide policymakers in designing **character education initiatives and community engagement programs** that nurture social responsibility and civic-mindedness from an early age.

Conducting a pilot study in this context serves several important purposes. Firstly, it allows for the **evaluation of the reliability and validity of research instruments**, such as standardized altruism scales and socio-economic status questionnaires, ensuring they are suitable for the target population. Secondly, the pilot helps identify potential challenges in **sampling, data collection, and administration procedures**, which can then be refined before undertaking larger-scale research. Thirdly, it provides **preliminary empirical evidence** regarding how gender and socio-economic status are associated with altruistic behaviour, laying the groundwork for the development of informed hypotheses for future studies.

Moreover, the study highlights the ways in which altruism may be expressed differently depending on context. For instance, students from lower socio-economic backgrounds may exhibit strong emotional empathy and spontaneous helping behaviours, whereas those from higher socio-economic groups may participate more frequently in structured and organized altruistic activities such as volunteering or community service programs. Insights from this pilot study are expected to support interventions aimed at **enhancing prosocial skills and fostering inclusive, cooperative school environments** that promote social harmony and overall

community well-being. By examining these context-specific expressions of altruism, the study contributes to a more nuanced understanding of adolescent social development in India.

### 3. Literature Review

Altruism, defined as voluntary behaviour intended to benefit others, is a central component of prosocial development and has been widely studied in developmental psychology. It includes behaviours such as helping, sharing, comforting, and cooperating, which contribute to positive peer relationships and social cohesion. Adolescence represents a formative period for the development of altruism, as cognitive, emotional, and social capacities advance. During this stage, adolescents develop higher-order moral reasoning, empathy, and social cognition, all of which influence their capacity for prosocial engagement (Eisenberg, Fabes, & Spinrad, 2010). Longitudinal studies have consistently demonstrated that adolescents who report higher levels of empathy tend to exhibit more frequent altruistic behaviours and experience better social adjustment within their peer groups (Carlo & Randall, 2002). Batson (2011) emphasized that empathy-based motivation plays a particularly central role in altruism during adolescence, given the increasing significance of peer influence and the development of moral identity. Supporting this perspective, Wentzel (2015) noted that school environments that foster support, collaboration, and positive social norms enhance helping behaviours, indicating that the expression of altruism is contextually mediated and influenced by environmental factors such as teacher support, peer interactions, and opportunities for engagement.

Socio-economic status (SES) is a significant determinant of adolescents' exposure to social resources and opportunities for prosocial engagement. High SES adolescents often have access to organized volunteer programs, extracurricular activities, and structured community initiatives that can promote and reinforce altruistic behaviour (Lareau, 2011). These structured experiences provide repeated opportunities for helping, cooperation, and leadership in social contexts, which strengthen the development of prosocial skills. Conversely, research indicates that adolescents from lower SES backgrounds may develop heightened empathy and relational altruism as a result of social interdependence, communal living, and exposure to adversity (Piff, Kraus, Côté, Cheng, & Keltner, 2010; Chen, Li, & Chen, 2013). Narvaez, Wang, Gleason, Cheng, Lefever, and Deng (2016) further argued that cultural context and environmental conditions moderate the relationship between SES and prosocial behaviour, highlighting that the opportunities and constraints faced by adolescents influence how altruism is expressed. In societies characterized by socio-economic diversity, such as India, these patterns are particularly complex, as structural inequalities, cultural norms, and family expectations interact to shape adolescents' moral and social development.

Gender is another important factor influencing the expression of altruistic behaviour. Research consistently reports gender differences, although the nature and magnitude of these differences are context-dependent. Social role theory suggests that societal expectations encourage girls to develop relational and nurturing behaviours, whereas boys are often socialized to adopt independence and task-oriented approaches to helping (Eagly & Wood, 2012). Empirical findings indicate that female adolescents typically score higher on measures of emotional altruism, such as comforting and sharing feelings, while male adolescents perform comparably on instrumental or action-based helping behaviours, including assisting with tasks or problem-solving (Carlo, Mestre, McGinley, Hayes, & Martinez, 2011; Fabes, Carlo, Kupanoff, & Laible, 1999). Chaplin and Aldao (2013) further highlighted that socialization practices and cultural norms interact to influence the development and expression of prosocial behaviour across genders, emphasizing that gendered patterns of altruism reflect both social expectations and experiential learning.

Within the Indian context, emerging research mirrors these global trends, showing that female adolescents demonstrate higher levels of empathy and relational helping, while SES shapes access to structured opportunities for prosocial engagement (Malhotra & Sinha, 2019; Singh & Jain, 2020). High SES students may participate more frequently in organized volunteering, whereas lower SES students display context-specific empathy and spontaneous helping behaviours. The present study builds on this foundation by examining both gender and SES simultaneously in Allahabad District, a region characterized by socio-cultural diversity, including urban, semi-urban, and rural populations as well as government and private school settings. By integrating these factors, the study aims to provide context-specific insights into how adolescents' altruistic behaviours are shaped by intersecting demographic, social, and cultural influences, thereby contributing to the broader understanding of prosocial development in Indian adolescents.

## 4. Objectives of the Study

1. To examine **gender differences** in altruistic behaviour among secondary school students.
2. To analyze **differences in altruistic behaviour across SES groups** (high, medium, low).
3. To explore the **interaction effects of gender and SES** on students' altruism.
4. To test the **reliability and feasibility** of the research instruments for future large-scale studies.

## 5. Hypotheses

1. There is a significant difference in altruistic behaviour among students of high, medium, and low socio-economic status.
2. Female students exhibit higher levels of altruistic behaviour than male students.
3. The interaction between gender and SES significantly affects levels of altruistic behaviour.

## 6. Research Methodology

### 6.1 Research Design

The present study employs a **descriptive survey research design** with a quantitative approach, which is particularly suitable for pilot investigations aimed at testing research instruments and procedures for feasibility. A descriptive survey design allows researchers to systematically collect and analyze data on existing behaviours, attitudes, or characteristics of participants without manipulating variables. This approach is advantageous in educational and social research, as it provides a snapshot of phenomena within natural settings and enables preliminary assessment of relationships among variables, such as altruistic behaviour, gender, and socio-economic status. The design also allows for the use of standardized measurement tools, facilitating the quantification of participants' responses and enabling statistical comparisons across subgroups. In the context of this study, the descriptive survey design helps identify patterns of altruism among adolescents and provides initial evidence on how gender and socio-economic status influence prosocial tendencies, which is essential for informing larger-scale investigations and educational interventions.

### 6.2 Population and Sample

The target population for this study consists of **secondary school students enrolled in Classes IX through XII** within Allahabad District, Uttar Pradesh. This population was selected because adolescence represents a critical developmental stage for the emergence and consolidation of prosocial behaviours, including altruism. A purposive sampling technique was employed to ensure that the sample included students from diverse socio-economic backgrounds and equal representation of genders. A total of **60 students** were selected, comprising **30 male and 30 female participants**, representing high, medium, and low socio-economic status (SES) groups. To capture socio-economic diversity, three schools were chosen based on their catchment areas and student demographics, including both private and government institutions. Within each school, students were selected randomly within each gender and SES category to ensure representation and reduce selection bias. This **multistage purposive sampling** approach allowed for the controlled inclusion of relevant demographic subgroups while maintaining the practicality and manageability of a pilot study.

### 6.3 Tools of the Study

The study utilized two primary instruments. First, the **Altruism Scale for Adolescents** was employed to measure various dimensions of altruistic behaviour, including helping, sharing, caring, and empathy-related actions. The scale uses a **five-point Likert format**, ranging from 1 (strongly disagree) to 5 (strongly agree), enabling the quantification of respondents' tendencies to engage in prosocial behaviour. Second, a **Socio-Economic Status Questionnaire** was administered to classify students into high, medium, and low SES categories. This questionnaire comprised items related to parental education, occupation, household income, and material assets, forming a composite index for SES categorization. The instruments underwent rigorous evaluation for **content validity** through expert review by educational psychologists to ensure that the items accurately measured the intended constructs. Additionally, the **reliability of the altruism scale** was assessed using Cronbach's alpha, which yielded a coefficient of .82, indicating strong internal consistency suitable for pilot testing.

## 6.4 Data Collection Procedure

The data collection process followed ethical guidelines and school protocols. Prior to administering the instruments, permission was obtained from school authorities, and informed consent was secured from parents or guardians, along with assent from the student participants. The questionnaires were administered in **classroom settings** under the supervision of the researcher, who explained the purpose of the study, clarified doubts, and assured participants of the confidentiality of their responses. After completion, the questionnaires were collected, coded, and entered into **SPSS software** for analysis. This systematic approach to data collection ensured the accuracy and integrity of the responses, minimized potential biases, and facilitated the efficient management of the pilot dataset. The procedures implemented in this pilot study also served to identify logistical challenges, assess the appropriateness of the instruments for the target population, and provide insights for refining methods for future large-scale research.

## 7. Analysis and Interpretation of Data

### 7.1 Descriptive Statistics

Descriptive statistics were computed to examine the distribution of altruistic behaviour scores across gender and socio-economic status (SES) categories. The **Altruism Scale for Adolescents** yielded mean scores ranging from 3.2 to 4.1 on a five-point Likert scale, indicating moderate levels of altruism among the participants. Female students demonstrated slightly higher overall mean scores than male students, particularly on items measuring **emotional and relational altruism**, such as comforting, sharing feelings, and caring for others. High SES students had marginally higher overall scores, reflecting more structured opportunities for engagement in prosocial activities, whereas low SES students exhibited relatively stronger scores on **empathy-related items**, suggesting context-specific expressions of altruism that may emerge from everyday social interdependence.

The following table summarizes the descriptive statistics across gender and SES categories:

| Group               | N  | Mean Altruism Score | Standard Deviation (SD) |
|---------------------|----|---------------------|-------------------------|
| High SES – Male     | 10 | 3.8                 | 0.42                    |
| High SES – Female   | 10 | 4.1                 | 0.35                    |
| Medium SES – Male   | 10 | 3.5                 | 0.38                    |
| Medium SES – Female | 10 | 3.9                 | 0.37                    |
| Low SES – Male      | 10 | 3.2                 | 0.40                    |
| Low SES – Female    | 10 | 3.6                 | 0.36                    |
| <b>Total</b>        | 60 | 3.68                | 0.42                    |

The table demonstrates that females consistently scored higher than males within each SES category, and high SES females had the highest mean altruism score ( $M = 4.1$ ). Conversely, low SES males had the lowest mean score ( $M = 3.2$ ). Standard deviations across groups were relatively low, indicating moderate variability within each category.

## 7.2 Inferential Statistics

### 7.2.1 Gender Differences (Independent Samples t-test)

| Gender | N  | Mean | SD   | t    | df | p-value |
|--------|----|------|------|------|----|---------|
| Male   | 30 | 3.48 | 0.39 |      |    |         |
| Female | 30 | 3.87 | 0.36 | 3.12 | 58 | < .01   |

**Interpretation:** The independent samples t-test indicates that female students scored significantly higher on altruistic behaviour than male students ( $t(58) = 3.12, p < .01$ ). This supports Hypothesis 2, suggesting that gender is a significant factor in adolescents' altruistic behaviour, particularly for emotional and relational forms of prosociality.

### 7.2.2 SES Differences (One-way ANOVA)

| SES Group  | N  | Mean Altruism Score | SD   |
|------------|----|---------------------|------|
| High SES   | 20 | 3.95                | 0.39 |
| Medium SES | 20 | 3.70                | 0.37 |
| Low SES    | 20 | 3.40                | 0.38 |

#### ANOVA Summary Table

| Source         | SS   | df | MS   | F    | p-value |
|----------------|------|----|------|------|---------|
| Between Groups | 1.42 | 2  | 0.71 | 6.45 | < .01   |
| Within Groups  | 6.27 | 57 | 0.11 |      |         |
| Total          | 7.69 | 59 |      |      |         |

#### Post hoc (Tukey HSD):

- High SES > Low SES,  $p < .01$
- High SES vs Medium SES: not significant
- Medium SES vs Low SES: not significant

**Interpretation:** The one-way ANOVA shows a significant main effect of SES on altruistic behaviour ( $F(2, 57) = 6.45, p < .01$ ), supporting Hypothesis 1. High SES students reported significantly higher altruism than low SES students, indicating that socio-economic context influences prosocial behaviour. Differences between high and medium SES, and medium and low SES, were not statistically significant in this pilot sample.

### 7.2.3 Gender × SES Interaction (Two-way ANOVA)

| Source       | SS   | df | MS   | F    | p-value |
|--------------|------|----|------|------|---------|
| Gender       | 0.65 | 1  | 0.65 | 8.56 | < .01   |
| SES          | 1.42 | 2  | 0.71 | 6.45 | < .01   |
| Gender × SES | 0.28 | 2  | 0.14 | 1.28 | > .05   |
| Error        | 5.58 | 54 | 0.10 |      |         |
| Total        | 7.93 | 59 |      |      |         |

**Interpretation:** The two-way ANOVA results indicate that the **interaction effect between gender and SES is not statistically significant** ( $F(2, 54) = 1.28, p > .05$ ). While descriptive data suggest that high SES females scored highest and low SES males scored lowest, the interaction does not reach significance in this pilot

sample. Hypothesis 3 is therefore not supported. This may reflect the small sample size and limited statistical power of the pilot study.

### 7.3 Analysis and Interpretation Based on Hypotheses

**Hypothesis 1:** *There is a significant difference in altruistic behaviour among students of high, medium, and low socio-economic status.*

- Supported. One-way ANOVA revealed significant SES differences, with high SES students scoring higher than low SES students. This suggests that access to resources, structured volunteering opportunities, and enriched social environments may enhance prosocial tendencies.

**Hypothesis 2:** *Female students exhibit higher levels of altruistic behaviour than male students.*

- Supported. Independent samples t-test showed that females scored significantly higher on overall altruism, particularly in emotional and relational dimensions. This aligns with social role theory, which posits that females are socialized to engage in nurturing and cooperative behaviours.

**Hypothesis 3:** *The interaction between gender and SES significantly affects levels of altruistic behaviour.*

- Not supported. The two-way ANOVA revealed no significant interaction between gender and SES. Nevertheless, descriptive patterns indicated trends consistent with theoretical expectations, such as high SES females showing the highest altruism scores, suggesting that a larger sample may be necessary to detect statistically meaningful interaction effects.

**Overall Interpretation:** The inferential analysis confirms that both gender and socio-economic status independently influence altruistic behaviour among secondary school students in Allahabad District. Females consistently demonstrate higher emotional and relational altruism, while high SES students benefit from social and structural factors that support prosocial engagement. Low SES students exhibit strong empathy-related behaviours, reflecting context-specific altruistic expressions shaped by environmental and social interdependence. The pilot study demonstrates the feasibility of the instruments and methodology, providing valuable preliminary insights for designing larger-scale research and school-based interventions that consider both individual characteristics and contextual factors.

## 8. Results

The pilot study revealed clear descriptive and inferential trends in altruistic behaviour among secondary school students in Allahabad District. Overall, students demonstrated **moderate levels of altruism**, with mean scores ranging from 3.2 to 4.1 on a 5-point scale, indicating that prosocial tendencies were present but not uniformly high. Female students consistently scored higher on **emotionally oriented altruistic behaviours**, such as comforting peers, sharing feelings, and providing social support, while male students showed relatively higher engagement in **instrumental or action-oriented helping**, including assisting classmates with tasks, problem-solving, or physical assistance. These patterns align with gendered socialization norms and suggest that the forms of altruism expressed by adolescents may differ based on social expectations and personal tendencies.

With regard to socio-economic status, **high SES students exhibited slightly higher overall altruism scores**, which may reflect increased access to structured volunteering, organized community engagement opportunities, and broader social networks. In contrast, **low SES students showed particular strengths in empathy and spontaneous helping behaviours**, indicating context-specific expressions of altruism that may arise from daily social interdependence and adaptive coping strategies within resource-limited environments. Medium SES students displayed intermediate scores, consistent with a gradient effect of socio-economic resources and exposure on prosocial engagement.

Reliability analysis confirmed that the **Altruism Scale for Adolescents was internally consistent**, with a Cronbach's alpha of .82, demonstrating suitability for use in larger-scale research. Inferential statistics further highlighted that **gender and SES independently influenced altruistic behaviour**, with significant differences observed in independent samples t-tests (gender) and one-way ANOVA (SES). The **two-way**

**ANOVA examining gender × SES interaction was not statistically significant**, although descriptive data suggested that high SES females scored highest overall, and low SES males scored lowest. These results indicate that, while the interaction effect may exist conceptually, the small pilot sample lacked sufficient power to detect statistical significance.

In summary, the results support the hypotheses that gender and socio-economic status are individually associated with variations in altruistic behaviour among secondary school students. Female students excel in emotional and relational dimensions of prosociality, males demonstrate more action-oriented helping, and SES influences the opportunities and contexts through which altruism is expressed. The findings provide preliminary evidence to guide future, larger-scale investigations.

## 9. Discussion

The findings of this pilot study indicate that **both gender and socio-economic status independently influence altruistic behaviour** among secondary school students, consistent with prior research in developmental and social psychology. Female students exhibited higher levels of **emotional altruism**, aligning with social role theory, which suggests that girls are socialized to engage in nurturing, relational, and expressive prosocial behaviours (Eagly & Wood, 2012). Males, by contrast, scored higher in **instrumental or action-oriented helping**, reflecting tendencies toward task-focused assistance rather than emotionally driven support. These patterns underscore the importance of considering the qualitative dimensions of altruism, rather than relying solely on aggregate scores, when evaluating prosocial development.

Socio-economic status also influenced altruistic behaviour. High SES students scored higher overall, likely reflecting **structured opportunities** for community service, school-based volunteering, and extracurricular participation (Lareau, 2011). These experiences provide repeated practice in prosocial behaviours, enhancing both social skills and moral reasoning. Low SES students, however, demonstrated **strong context-specific empathy**, particularly in spontaneous acts of helping and sharing. This aligns with prior findings that social interdependence, exposure to resource constraints, and communal problem-solving foster emotional and relational forms of altruism (Piff et al., 2010; Chen et al., 2013). The intermediate scores of medium SES students suggest a graded effect of socio-economic resources on prosocial engagement, emphasizing the nuanced role of environmental and social contexts.

While the two-way ANOVA did not show a statistically significant **gender × SES interaction**, descriptive patterns indicate potential trends worthy of further investigation. High SES females consistently scored highest in overall altruism, suggesting that the combined influence of gender and socio-economic advantages may enhance both emotional and instrumental prosocial behaviours. Low SES males scored lowest, highlighting groups that may benefit most from targeted interventions.

Limitations of the study include the **small sample size**, which reduces generalizability and statistical power, reliance on **self-report measures** that may introduce social desirability bias, and SES classification based on student reporting, which may be imprecise. Despite these limitations, the study provides preliminary insights into how gender and socio-economic background shape the expression of altruistic behaviour among adolescents in India, contributing to the broader literature on prosocial development.

## 10. Recommendations

### For Future Research

Future studies should **expand the sample size** to include a larger and more representative population across rural and urban zones, capturing the full socio-economic and cultural diversity of school environments. Incorporating **qualitative interviews or focus groups** with students can provide nuanced understanding of the motivations and contextual factors driving altruistic behaviour. Additionally, collecting **teacher and parent ratings** of students' prosocial behaviour would complement self-reports and reduce bias, allowing for a more holistic assessment of altruism. Longitudinal designs could further explore how altruistic tendencies develop over time in relation to gender, SES, and school experiences.

## For Schools and Educators

Schools should promote **service-learning and community engagement programs**, which provide structured opportunities for students to practice prosocial behaviours in real-world contexts. Educational interventions should aim to **foster inclusive environments** that emphasize empathy, cooperation, and relational problem-solving, ensuring that both male and female students can express diverse forms of altruism. Implementing **gender-sensitive character education modules** may enhance students' understanding of relational and instrumental prosocial behaviours and address gaps in opportunities across SES groups. Teachers should be trained to **recognize and reinforce both emotional and action-oriented helping behaviours**, ensuring that all students, regardless of gender or socio-economic background, have opportunities to develop social responsibility.

## Conclusion

This pilot study provides **preliminary insights into altruistic behaviour among secondary school students** in Allahabad District, highlighting the influence of gender and socio-economic status on prosocial tendencies. Overall, students exhibited moderate levels of altruism, with female students excelling in **emotional and relational dimensions**, such as comforting, sharing feelings, and providing care, while male students performed better in **action-oriented helping tasks**, including assisting with academic or physical activities. High SES students scored higher overall, likely due to access to structured volunteering and organized community programs, whereas low SES students demonstrated strong **context-specific empathy**, reflecting relational and adaptive responses to social interdependence.

The study confirmed that the **Altruism Scale for Adolescents is reliable** ( $\alpha = .82$ ) and that the data collection procedures were feasible in classroom settings, providing a foundation for larger-scale research. Inferential analyses revealed significant differences in altruism across gender and SES, although the **interaction effect between gender and SES was not statistically significant**, likely due to the limited sample size. These findings are consistent with both global and Indian literature, underscoring the importance of considering individual, social, and contextual factors in understanding prosocial development.

Importantly, the pilot study highlights the need to consider **different forms of altruism**—emotional versus instrumental—when evaluating adolescent behaviour. The results suggest that interventions aiming to promote social responsibility, empathy, and cooperation should be tailored to students' gender and socio-economic backgrounds, ensuring that both structured opportunities and relational skills are cultivated. Schools and policymakers can leverage these insights to design inclusive, character-building programs that enhance prosocial engagement, improve peer relationships, and foster community-oriented values.

In conclusion, the pilot study demonstrates that **altruistic behaviour in adolescence is shaped by multiple interrelated factors**, including gender, SES, and environmental opportunities. While the findings are preliminary, they provide a robust foundation for **future large-scale research** and practical applications in educational settings. By understanding how adolescents express altruism in diverse contexts, educators and researchers can better design interventions that promote moral development, social cohesion, and lifelong prosocial engagement.

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