

## **Social Butterflies and Academic Achievement**

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### **Abstract**

The main aim of this research is to explore the influence of the pro-social behaviour of senior secondary class students on their academic achievement, considering factors like gender and subject stream. Students' academic achievement depends upon variables such as home and school environment, friend circle, mentors, social approval, and appreciation, and so forth. The pro-social behaviour of the students towards their classmates, teachers, parents, and other social personnel is one such crucial factor. The result revealed that the sample displayed an "average" level of pro-social behaviour. The study found no significant difference in the mean scores of female and male senior secondary students. Compared to females, the number of male senior secondary students was more in the "High" pro-social behaviour level. Moreover, it was also observed that non-science senior secondary students were the only students who fell under the "High" pro-social behaviour level. This study further substantiates that there exists a significant positive correlation between pro-social behaviour and academic achievement. The implications for educators, policymakers, and parents in fostering positive pro-social behaviour in their children and fostering social support among senior secondary school students were also outlined.

*Keywords:* academic achievement, adolescents, pro-social behaviour, senior secondary student, socialization

The process of socialisation involves adjusting to and internalising the norms, values, practices, and behaviours of a particular social group. The extent to which children learn social skills and acceptance has a significant impact on how they develop and live in the future. Children's pro-social behaviour can significantly impact their academic and social success in school, and educational settings can deliver essential support for the development of these positive social behaviours. Recent research shows that pro-social behaviour helps young children prepare for school and develop their cognitive abilities. Perspective-taking, understanding, and self-regulation skills also aid in the development of pro-social conduct, and socialisation with parents, teachers, and peers encourages and sustains good behaviour at school. Pro-social behaviour can improve students' academic and social achievement in school, and educational environments can be vital for the growth of these positive social behaviours (Wentzel, 2015).

The past research studies explored different criteria, such as home and school environment, friend circle, mentors, social approval, and appreciation, and so on, in relation to pro-social behaviour and its effects on the academic achievement of students in different genders of variable age groups, area of study and socio-economic status. Previous research has shown that girls tend to be more pro-social than boys (Carlo & Randall, 2002). According to them, girls have a higher innate disposition to act pro-socially. However, one study showed that men align their behaviour with the average of the group, whereas women were found to be insensitive to the information about group behaviour (Meier, 2007). Few studies have clearly stated that teenage boys show public pro-social behaviour that helps with instrumental behaviour like helping in sharing and presenting physical help (Carlo & Randall, 2002; Rose & Rudolph, 2006). Sonja and colleagues (2009) further supported that male students' correlation between academic achievement and social behaviour was higher.

Studies (Candido et al., 2009; DeVries, 2018) argue that social behaviour supports the social means of learning within the social-emotional learning structure. Caprara and colleagues (2000) presented a longitudinal study which demonstrated that pro-socialness had a strong positive effect on later academic success and social preference. Nonetheless, some inconsistent results remain. Abera (2020) found that pro-social behaviour negatively and significantly indicates students' academic accomplishment. Similarly, Nadeem and colleagues (2020), expressed in their study that high achievers exhibited fewer positive relationships with their peers. Shirin (2020) also found a weak negative relationship between pro-social behaviour and academic achievement. Most studies have proved a positive link between pro-social behaviour and academic performance. Regardless of age and gender, pro-social children are observed to be more likely to achieve desired academic outcomes.

The research work done in the present study shows the correlation between the “*social butterfly*” adolescents (i.e., pro-social behaviour and academic achievement of the students in home, school, and neighbourhood environments). The pro-social behaviour in male and female students was evaluated with predefined statements with varying degrees of responses. The effect of study subjects such as Arts, Humanities and Science on pro-social behaviour and academic achievement was also observed. The following objectives guided the purpose of the study:

1. To study the level of pro-social behaviour in the total sample and its sub-sample.
2. To study the significant mean difference in the scores of pro-social behaviour between male and female senior secondary students.
3. To study the significant mean difference in the scores of pro-social behaviour between science and non-science senior secondary students.
4. To study the significant relationship between pro-social behaviour and academic achievement in the total sample and its sub-sample based on gender and subject stream.

### **Research Methodology**

Due to the nature of this research's objectives, a descriptive research technique was selected and used to achieve the results. The sample consisted of 120 randomly selected students from two senior secondary schools of Aligarh Muslim University, Aligarh. To include gender variables one school of boys and other schools of girls was selected. Out of the total sample population of one hundred twenty students, 60 were boys, and 60 were girls. Further, 30 students from the Science and Non-Science streams were selected from each school (Table 1).

**Table 1**

*Description of the Sample Taken from AMU Schools*

<b>Name of School</b>	<b>Gender</b>	<b>Sample</b>	<b>Stream</b>	<b>Sample</b>
AMU Girls Senior Secondary School	Female	60	Science	30
Saiyyid Hamid Senior Secondary School			Non-Science	30
	Male	60	Science	30
			Non-Science	30

To make the study systematic, an appropriate tool is selected for the collection of data. There are various tools which are suitable for a particular study. The details of the individual student such as were collected using a demographic questionnaire. For the present study, the Pro-social Behaviour scale developed by Sameer and Neethu (2022) was used to collect data. The developed tool has two sections; Part A was a demographic questionnaire in which students' details such as name, age, gender, subject, school, and percentage scored in high school were mentioned. While Part B of the tool consists of the Pro-social Behaviour Scale (PSB), a five-point Likert scale consisting of 23 statements.

The validity of the scale was ensured by giving the same to 10 experts from the field. Based on their deliberations, a few statements were deleted, and some have been modified. Thus, face and content validity had been ensured. To verify the internal consistency of the PSB scale, Cronbach Alpha Test was employed. It was found that Cronbach's Alpha is 0.724, which shows a high level of internal consistency for the PSB scale. This indicates that the scale is reliable.

## Analysis and Interpretation

To study the level of pro-social behaviour in the total sample and its sub-sample, percentage analysis was done. After analysing the pro-social behaviour scores, it was observed that 40.0% of the total population scored at “*Low*” pro-social behaviour level, 57.5% of the total population had “*Average*” pro-social behaviour level, and only 2.5% of the total population showed “*High*” pro-social behaviour level.

**Table 2**  
*Descriptive Statistics of Pro-Social Behaviour*

Criterion Variable	Groups	PSB Score Demographics (Total Sample: 120)					
		Low		Average		High	
		N	%	N	%	N	%
	Total	48	40.00	69	57.50	3	2.50
Gender	Male	30	25.00	28	23.33	2	1.67
	Female	18	15.00	41	34.17	1	0.83
Subject	Science	24	20.00	36	30.00	0	0.00
	Non-Science	24	20.00	33	27.50	3	2.50

According to different demographic variables, the majority of male students scored “*Low*” pro-social behaviour level (25.0%), while the female majority was displayed at an “*Average*” pro-social behaviour level (34.17%). However, 1.67% of male students scored “*High*” level of pro-social behaviour as compared to 0.83% in female students. Streamwise, it was observed that the majority of the students of both science and non-science streams showed “*Average*” pro-social behaviour levels (30.0% and 27.5%, respectively), while non-science students were the only students who scored “*High*” pro-social behaviour levels (2.5%). The results have clearly revealed that the sample manifested an “*Average*” pro-social behaviour level, with more females and science students than their counterparts.

To study the significant mean difference in the scores of pro-social behaviour between male and female senior secondary students, an independent sample t-test was conducted to determine whether the mean pro-social behaviour score in males differs from that in the female population. The group statistics and Independent Sample Test values have been presented in Tables 3 and Table 4.

**Table 3***Group Statistics for Gender Variable Using t-Test*

	<b>Gender</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
<b>Total_PSB</b>	Female	60	95.2500	7.53888	.97327
	Male	60	92.8333	8.27323	1.06807

**Table 4***Group Statistics for Gender Variable Using Independent Samples Test*

		<b>Levene's Test for Equality of Variances</b>		<b>t-test for Equality of Means</b>						
		<b>F</b>	<b>Sig.</b>	<b>t</b>	<b>df</b>	<b>Sig. (2-tailed)</b>	<b>Mean Difference</b>	<b>Std. Error Difference</b>	<b>95% Confidence Interval of the Difference</b>	
									<b>Lower</b>	<b>Upper</b>
<b>Total_PSB</b>	Equal variances assumed	.295	.588	1.672	118	.097	2.41667	1.44500	-.44482	5.27816
	Equal variances not assumed			1.672	116.995	.097	2.41667	1.44500	-.44508	5.27841

From Table 4, analysis results show that there is no significant difference in mean scores of pro-social behaviour of female and male students 2.42, ( $t=1.672$ ;  $p=0.097$ ). The mean score of pro-social behaviour of female students ( $M=95.25$ ,  $SD=7.53$ ) was found to be close to male students ( $M=92.83$ ,  $SD=8.27$ ).

To study the significant mean difference in the scores of pro-social behaviour between science and non-science senior secondary students, an independent sample t-test was conducted to determine whether the mean pro-social behaviour score in students in the science stream differs from students in the non-science stream. The group statistics and analysis results have been presented in Tables 6 and 7.

**Table 5***Group Statistics for Subject Stream Variable Using t-Test*

	<b>Stream</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
<b>Total_PSB</b>	Non-Science	60	93.7167	7.89570	1.01933
	Science	60	94.3667	8.10517	1.04637

**Table 6***Group Statistics for Subject Stream Variable Using Independent Samples Test*

	Levene's Test for Equality of Variances	t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
<b>Total_PSB</b>	Equal variances assumed	.338	.562	-.445	118	.657	-.65000	1.46080	-3.54278	2.24278
	Equal variances not assumed			-.445	117.919	.657	-.65000	1.46080	-3.54280	2.24280

The results extrapolated that there is minimal difference in mean scores of pro-social behaviour of science and non-science stream students with a mean difference value of 0.65, ( $t=-0.445$ ;  $p=0.657$ ). The mean score of pro-social behaviour of non-science stream students ( $M=93.72$ ,  $SD=7.89$ ) was found to be very close to science stream students ( $M=94.37$ ,  $SD=8.11$ ).

To study the significant relationship between pro-social behaviour and academic achievement in the total sample and its sub-sample based on gender and subject stream. To understand the correlation between academic achievement and pro-social behaviour in the total student sample and its sub-sample based on gender and subject stream, the Pearson's Product Moment correlation coefficient was evaluated and compared within the different criterion variables.

**Table 7***Comparison of Pearson Correlation Values Obtained Between PSB Score and Academic Achievement in All Groups*

Predictive Variable	Criterion Variable Pro-social Behaviour			
	Groups	N	r	Correlation
Academic Achievement	Total	120	0.772**	A significant positive correlation was found in all the groups
	Male	60	0.855**	
	Female	60	0.509**	
	Science	60	0.729**	
	Non-Science	60	0.810**	

*Correlation is significant at 0.01 level (2-tailed)*

The results reveal that there is a significant positive correlation between academic achievement and pro-social behaviour score in the total sample of senior secondary students, as the Pearson correlation value was found to be  $r(118)=0.772$  ( $p=0.01$ ). It means that students who possess more social prospects tend to help each other in school and other personnel outside school.

They are also more likely to achieve better academic scores than students who are less active socially.

Further, the Pearson correlation between pro-social behaviour score and academic performance showed a significant positive correlation for both male as well as female senior secondary students. The male students displayed a high correlation strength,  $r(59)=0.855$ ;  $p=0.01$  than female students,  $r(59)=0.509$ ;  $p=0.01$ . Thus, male students are more likely to help, display high pro-social behaviour and achieve high academic grades than female students. As discussed earlier in objective 1, more male students had “High” pro-social levels than female students.

After conducting Pearson correlation analysis between pro-social behaviour score and academic performance, there was a significant positive correlation for students enrolled in both science as well as non-science streams. The students taking non-science subjects displayed higher correlation strength,  $r(59)=0.810$ ;  $p=0.01$  than science stream students,  $r(59)=0.729$ ;  $p=0.01$ . Thus, students with non-science streams are more likely to help, display high pro-social behaviour and achieve high academic grades than students enrolled in science streams. Further, it was observed that the majority of students enrolled in non-science, as well as science stream, showed “Average” level of pro-social behaviour (Table 2). However, the “High” pro-social level was displayed by students of the non-science stream only.

The correlation displayed the linear relationship between pro-social behaviour score with the academic achievement in the total sample, that is to say, with an increase in pro-social behaviour score, academic achievement in the students will also increase and vice-versa. It can be concluded that a significant positive correlation was found in all the criterion variables

## Discussion

The present sample displayed an “average” level of pro-social behaviour. Social skills enable people to form relationships with others, and social behaviours are the result of those relationships. The senior secondary school may still have to work hard on their social skill in order to improve their social behaviour. Cooperation, assertion, responsibility, empathy, and self-control are the five fundamental social skills that schools, and classrooms should be focusing on developing, according to Elliott and Busse (1991). In students learning, social interaction plays a significant role. For this, we have to shift our classroom from a teacher-centred to a student-centred classroom.

The study found no substantial difference in the mean scores of female and male senior secondary students. Compared to females, the number of male senior secondary students was more in the “High” pro-social behaviour level. Moreover, the correlation strength between academic achievement and pro-social behaviour in male senior secondary students was more potent than the female student. Previous research has shown that girls tend to be more pro-social than boys (Carlo & Randall, 2002). According to the study, girls have a higher innate disposition to act pro-socially. From an early age, they manifest empathy, compassion, caring attitude (Zahn-Waxler et al., 2008). However, one study does align with this finding that



women appear to be indifferent to knowledge regarding group behaviour, but men tend to align their behaviour with the average of the group (Meier, 2007).

It can be said that the gender difference felt in pro-social behaviour may be because of the social expectation, individual disposition, hormonal process, and type of pro-social behaviour. There are few studies which have clearly stated that teenage boys show public pro-social behaviour, i.e., helping in sports, sharing, and presenting physical help (Carlo & Randall, 2002; Rose & Rudolph, 2006). In line with this, Eagly (2009) postulated that women are more likely to participate in pro-social actions on an agentic dimension. Sonja and colleagues (2009) further support that correlations between students' social behaviour and academic achievement were found higher in male students.

Streamwise analysis showed that non-science students had a stronger correlation strength between pro-social behaviour and academic performance than science students. Moreover, it was also observed that non-science senior secondary students were the only students who fell under the “*High*” pro-social behaviour level. This finding is similar to Castilla & Plante's (2017) study, which clearly argued that social science students tend to help others. The learning atmosphere may also have an impact on students' pro-social approaches. Among science students, the learning environment may be very competitive, for them socializing is time-consuming, as a result, they may manifest behaviour like “*I for myself*,” which indicates that they may be reluctant to share their notes, work together in groups, volunteer in activities, etc. When students are performance-oriented, they tend to value only those relationships that are academically successful.

There are studies (Candido et al., 2009; DeVries, 2018; Gerbino et al., 2018; Lewis et al., 2017) which argue that within the socio-emotional learning structure, social behaviour supports the social medium of learning (Baroody et al., 2016; Keung, 2003; Slavin, 1995; Vygotsky, 1978). Caprara and colleagues (2000) presented a longitudinal study which demonstrated that pro-socialness positively impacted academic performance and social preference. A growing body of research attests to the multiple beneficial outcomes of pro-socialness on students' academic achievement (Askill-William & Lawson, 2015; Farrington et al., 2012; Malecki & Elliot, 2002; Wentzel & Calwell, 1997). The probable reason for pro-social behaviour to have a relationship with academic performance is that when the students are engaged in sharing, helping, cooperating and others, they will develop self-satisfaction, which will provide them peace of mind and heart. Their social skills will earn them friendships and help to adapt to academic life. They will concentrate more on their studies, and feel confident in their academic preparation, which will help to increase their academic achievement. It is natural that when you feel isolated, and you have no one to share your academic concerns and challenges. The mind gets preoccupied with negative thoughts, anger, frustration, anti-social thoughts related to cheating and others. This will no doubt affect the academic achievement of the student.

Academic achievement is a quality that could promote connections among peers. Friendships among students are frequently founded on shared characteristics since these individuals are more likely to understand one another and be trustworthy (Brouwer et al., 2021; Lazarsfeld &

McPherson et al., 2001; Merton, 1954; Veenstra et al., 2013). Cialdini and colleagues (1976) have written on “*basking in reflected glory*”, where the affinity of individuals to associate themselves with the successful, famous, or celebrated. They talked about “*basking in reflected glory*,” in other words, “*BIRGing*” in sports. The same can be said to apply in academia. Academically successful students become popular and famous. And other students want to befriend them as it will enhance people’s public image, self-esteem, and self-confidence. They love to be associated with them. This can only be possible if successful students have social skills and pro-social conduct; otherwise, success can also make them condescending, arrogant, and pompous, and their personalities will start to repel other students.

Nonetheless, some inconsistent results remain. Abera (2020) found that pro-social behaviour negatively predicts students’ academic attainment. Similarly, Nadeem and colleagues (2020) expressed in their study that high achievers exhibited relatively fewer positive relationships with their peers. Shirin (2020) also found a weak negative relationship between pro-social behaviour and academic achievement. Most studies have proved a positive link between pro-social behaviour and academic performance. Regardless of age and gender, pro-social children are more likely to achieve desirable academic outcomes (Flook et al., 2015; Malecki & Elliot, 2022; Normandeau & Guay, 1998).

### **Educational Implications of the Study**

The educational implications of the present study for different stakeholders have described in the following sub-sections.

***Implications for Teachers and Students:*** Instructors should encourage moral principles in their pupils and forbid them from engaging in antisocial behaviour. Individual diversity should be valued, and pupils’ willingness to spot any issues other students may have should also be encouraged. Suppose teachers have a clear understanding of various aspects of pro-social behaviour among students of both male and female gender. In that case, they can also encourage the development of those aspects among the students. The teacher can help pupils by discouraging their employment of certain dishonest and antisocial tactics by being aware of these tactics. Assigning project work to the pupils helps to build social values, peer harmony and healthy competitiveness among the students. Helping behaviour should be encouraged. Students should make efforts to help their peers with this kind of behaviour, as it may result in both social and material benefits for them. Students’ pro-sociality must include behaviour such as donating, cooperating, sharing, volunteering, etc. These values are positively valued and liked and popular, which builds trusting friendship bonds. The teacher-student relationship should be cultivated and nurtured. This will not only help to enhance pro-social behaviour, but the warm, congenial environment will also prove beneficial for them to connect with other peers, engage in activities in the classroom and commit to academic affairs. Teacher-student relationship quality may also minimize the chances of students becoming victims of bullying and harassment. Students who do not go to school because of being silently excluded have poor attendance and drop out of school. Therefore, inculcating pro-social behaviour will help to minimize dropouts by creating a peer acceptance atmosphere, students sharing notes and

reading material, working on group activities, etc. The cooperation skill will aid the students to engage in cooperative learning rather than individualistic learning.

***Implications for Policymakers:*** The requirement of moral science, social science, and ethics to instill moral and ethical principles in students. Schools and universities should have a clear correlation between the rules, regulations, and penalties for breaking those rules. Periodically, group counselling sessions should be held to allow students the opportunity to address their issues and find solutions freely. For people with issues that call for individualised attention and assistance concerning job growth and academic improvement, individual counselling sessions should also be scheduled. Teachers can attend workshops to learn how to encourage pupils to conduct themselves in a pro-social manner and to avoid engaging in dishonest behaviour. To encourage social values among the pupils, projects and group work should be prioritised in the curriculum.

***Implications for Parents:*** To prevent their children from becoming prone to unethical behaviour and help them establish social values, parents should instil moral ideals in them from an early age. Since social rearing begins at home, creating a supportive environment is crucial for encouraging pro-social behaviour. Children should not be afraid or hesitant to talk to them about their difficulties. Spending quality time with children bridges gaps and helps to nurture pro-social values among children. Parents should not compare their children's academic achievements; rather, they should encourage them to develop their interests in different subject streams. This will help them build confidence and create a positive self-image.

## Conclusion

The present study was conducted on senior secondary school students to determine the relationship between pro-social behaviour and academic attainment. This study further substantiates that there exists a significant positive correlation between pro-social behaviour and academic achievement. A linear relationship between pro-social behaviour scores and academic achievement in the total sample was observed, that is, with an increase in pro-social behaviour scores, academic achievement in the students will also increase and vice-versa. There also exists a significant positive correlation between demographic factors like gender and subject stream and pro-social behaviour, which directly relates to the students' academic performance. Implications for the teachers, policymakers, and parents to promote the desirable pro-social behaviour amongst their children and boost social support among the students at the senior secondary school level were also laid down. Pro-social behaviour is a positive social phenomenon. Thus, promoting pro-social culture in schools will make the students have a smooth transition from school to university. And if this pro-social culture is sustained at higher education institutes, it will help the youth to adapt progressively to society and in all spheres of social interactions.

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