

A Comparative Examination of Psychosocial Skill Constructs among Adolescents and Their Variations across Demographic Groups

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ABSTRACT: The present study offers a comparative examination of psychosocial skill constructs among adolescents and analyzes their variations across selected demographic groups. Psychosocial skills, encompassing intrapersonal competencies (such as self-awareness, emotional regulation, persistence and stress management) and interpersonal capacities (including empathy, communication and relationship skills), are critical determinants of adolescents' academic engagement, mental health and social adjustment. Drawing on contemporary socio-emotional learning and developmental frameworks, the study systematically investigates differences in psychosocial skills across gender, academic stream and residential background. Using standardized measures and appropriate statistical techniques, the findings reveal that while gender and place of residence significantly influence several dimensions of psychosocial skills, academic stream shows no meaningful differentiation. The results highlight the non-uniform and context-sensitive nature of psychosocial development during adolescence. The study underscores the importance of adopting inclusive and equity-oriented educational strategies that address contextual disparities, particularly those related to residential environment, to foster balanced psychosocial growth and overall adolescent well-being.

KEYWORDS: Psychosocial skills, Adolescents, Demographic variations.

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INTRODUCTION

Adolescence is a formative period in which cognitive, emotional and social capacities consolidate and begin to shape long-term trajectories of health, education and civic participation. The construct “psychosocial skills”—often operationalized to include socio-emotional competencies (self-regulation, persistence, curiosity), interpersonal capacities (empathy, perspective-taking, prosociality), resilience and coping strategies and broader psychosocial functioning—has emerged as central to understanding adolescent adjustment and achievement (Durlak et al., 2011; Salmela-Aro & Upadaya, 2021). Robust evidence from meta-analytic and longitudinal studies indicates that higher psychosocial competence predicts better mental health, higher school engagement, lower burnout and improved academic outcomes (Durlak

et al., 2011; Huttunen et al., 2024). At the same time, psychosocial skills are not monolithic: domain-specific profiles (intrapersonal vs. interpersonal skills) matter for different outcomes and the measurement literature shows substantial heterogeneity in instruments and subscales used across contexts, complicating direct comparisons (Bradford & Rickwood, 2012; Vossen et al., 2015).

Empathy and emotion-decoding capacity are core interpersonal elements of psychosocial skill sets and have been shown to develop substantially across adolescence, with important gendered patterns and target-specific variation (Gaspar & Esteves, 2022; Vossen, Piotrowski, & Valkenburg, 2015). Gaspar and Esteves (2022) demonstrated that affective and cognitive facets of empathy increase toward adulthood but follow complex age- and gender-contingent trajectories;

girls often begin adolescence at higher baseline empathy levels and show different developmental slopes than boys. Complementing these findings, psychometric research such as the Adolescent Measure of Empathy and Sympathy (AMES) has clarified how affective empathy, cognitive perspective taking and sympathy can be measured separately, enabling finer-grained comparisons across demographic groups (Vossen et al., 2015). These measurement advances make comparative examinations feasible but also expose gaps: many commonly used tools were developed in high-income contexts and their cross-cultural equivalence and sensitivity to socioeconomic or urban–rural differences require further validation (Bradford & Rickwood, 2012).

Intrapersonal capacities—persistence, academic buoyancy, curiosity and emotion regulation—serve as protective resources that buffer adolescents against stressors and reduce the risk of school burnout (Salmela-Aro et al., 2021; Huttunen et al., 2024). Longitudinal evidence highlights that socio-emotional skills predict trajectories of engagement and burnout over time and that these relations are moderated by socioeconomic status and loneliness (Huttunen et al., 2024; Salmela-Aro & Upadyaya, 2021). The OECD socio-emotional framework and extensive meta-analytic research on school-based social-emotional learning (SEL) interventions show that intentional skill development can yield meaningful gains in both psychosocial functioning and academic performance (Durlak et al., 2011). Yet, despite these advances, studies frequently report variability in effect sizes across subgroups: lower-SES students may derive distinct benefits from particular socio-emotional components (e.g., persistence), while gender differences often appear in both baseline levels and in responsiveness to programs (Durlak et al., 2011; Huttunen et al., 2024).

The COVID-19 pandemic acted as a large natural experiment that illuminated both the protective role and the vulnerability of psychosocial skills. Multi-country longitudinal analyses indicate declines in some social-emotional competencies and concomitant increases in behavioral difficulties for certain age and gender groups, but the effects were heterogeneous: adolescents who gained social-emotional skills tended to show parallel increases in resilience and prosocial behavior (Martinsone et al., 2022). Cross-sectional large-sample surveys in Asia-Pacific contexts similarly documented gendered disparities in psychosocial status during the crisis, with female adolescents more likely to report deteriorations in psychosocial well-being (World Vision analyses summarized in gender-difference studies; see Bradford & Rickwood, 2012 for methodological cautions). The pandemic literature thus underscores

two methodological imperatives for comparative research: (1) incorporate longitudinal or repeated-measures designs to capture developmental change and (2) attend to multi-informant perspectives (self, parent, teacher) because perceptions often diverge and contain unique predictive information (Martinsone et al., 2022; Salmela-Aro et al., 2021).

Measurement remains a recurring methodological challenge. Systematic reviews of psychosocial assessment tools highlight the tradeoffs between acceptability, comprehensiveness and predictive utility; self-administered instruments are more acceptable to adolescents but many tools lack longitudinal evidence for predictive validity across diverse cultural contexts (Bradford & Rickwood, 2012). Recent scale developments (e.g., AMES for empathy; APFI for LMIC contexts) have advanced culturally sensitive measurement, yet many widely-cited instruments still originate from Western high-income samples and may miss context-specific expressions of coping, family roles and community resources that shape psychosocial skill development. This measurement heterogeneity complicates meta-analytic aggregation and comparative inference unless cross-validation and measurement invariance testing are systematically incorporated (Vossen et al., 2015; Bradford & Rickwood, 2012).

Cumulatively, the literature shows convergent evidence that psychosocial skills are central determinants of adolescents' mental health and academic trajectories, that these skills vary by age, gender and socioeconomic context and that they can be strengthened through structured SEL programs with demonstrable educational returns (Durlak et al., 2011; Salmela-Aro et al., 2021; Huttunen et al., 2024). Nevertheless, major gaps persist: comparative syntheses rarely integrate multiple psychosocial domains (intrapersonal, interpersonal, resilience) into a single analytic framework; cross-national evidence on demographic moderators (e.g., caste, ethnicity, rurality) is sparse; and measurement equivalence across cultural and socioeconomic strata is often untested. There is therefore a pressing need for rigorous comparative examinations that combine validated, culturally sensitive instruments, multi-informant longitudinal designs and stratified analyses by gender, SES and urban/rural residence.

Against this backdrop, a focused comparative examination of psychosocial skill constructs among adolescents—and their systematic variations across demographic groups—addresses both conceptual and applied priorities. Conceptually, such work can clarify whether domain-specific skills (e.g., empathy versus persistence) share common developmental drivers or instead reflect distinct nurture–nature interactions across demographic strata. Practically, identifying which psychosocial dimensions are

most deficient or most protective in particular subgroups directly informs targeted interventions and education policies: SEL curricula, counseling services and community programs can be tailored to amplify resilience where it is weakest and to close gendered or socioeconomic gaps in socio-emotional capital. By integrating recent longitudinal findings, advanced psychometric tools and explicit attention to demographic moderators, the present study aims to produce robust, policy-relevant evidence suitable for publication in high-impact outlets and for translation into school- and community-level practice.

OBJECTIVE

1. To examine gender-based differences (male and female) in psychosocial skills among adolescents.
2. To examine stream-wise differences (science and arts) in psychosocial skills among adolescents.
3. To examine locality-based differences (rural and urban) in psychosocial skills among adolescents.

HYPOTHESES

1. There is no Significant difference in the Psychosocial Skill among male and female Adolescents.
2. There is no Significant difference in the Psychosocial Skill among Science and Arts Adolescents.
3. There is no Significant difference in the Psychosocial Skill among Rural and Urban Adolescents.

RESEARCH METHODOLOGY

In the present study, the field survey method of descriptive research was employed to conduct a comparative examination of psychosocial skill constructs among adolescents and to analyze their variations across selected demographic groups. The population of the study comprised adolescents studying at the secondary level (Class XI) in schools located in the Prayagraj District. A simple random sampling technique was adopted to ensure adequate representation of different subgroups within the population. From the defined population, a total sample of 400 adolescents was selected on the basis of gender, academic stream and locality from different secondary schools of the Prayagraj District. The sample was stratified to include male and female students, students enrolled in science and arts streams and students belonging to rural and urban localities, thereby enabling meaningful comparative analysis across demographic variables. For the collection of data, standardized tools developed and validated by the researcher were used. Psychosocial skills were assessed using the Psychosocial Skills Scale constructed by the researcher, which measures major dimensions such as self-awareness, empathy, interpersonal relations, emotional regulation,

coping with stress, problem-solving and decision-making. The collected data were systematically scored and tabulated. To analyze differences in psychosocial skills across gender, academic stream (science and arts) and locality (rural and urban), appropriate statistical techniques such as the t-test were employed. The level of significance was set at 0.05 to ensure statistical rigor. The results thus obtained were interpreted in the light of existing theoretical frameworks and empirical findings related to adolescent psychosocial development.

ANALYSIS OF DATA

Null Hypothesis 1: There is no Significant difference in the Psychosocial Skill among male and female Adolescents.

Table 1: Mean, SD and t value of Psychosocial Skill among male and female Adolescents

S. N.	Psycho social Skill	Male Adolescents (N=200)		Female Adolescents (N=200)		t-value	Significance
		Mean	SD	Mean	SD		
1.	Self-Awareness	27.70	5.46	32.59	4.99	11.26	Significant
2.	Empathy & Relationships	27.56	5.39	31.97	3.98	11.37	Significant
3.	Communication	27.39	5.92	32.11	4.34	11.89	Significant
4.	Thinking Skills	27.82	5.82	31.92	4.18	9.89	Significant
5.	Cognitive Flexibility	27.66	5.66	31.82	4.26	10.36	Significant
6.	Stress Management	26.95	5.12	32.38	4.33	14.01	Significant
7.	Psycho	1	2	1	1	15	Signi

	social Skill	6	8	9	3	.19	ificant
		5.	.	2.	.		
		0	3	5	5		
		3	3	7	4		

An examination of Table 1 clearly indicates that there are statistically significant differences between male and female adolescents across all measured dimensions of psychosocial skills. At $df = 598$ and the 0.05 level of significance, the calculated t-values for each dimension are greater than the corresponding table values, confirming the presence of meaningful group differences. Specifically, female adolescents demonstrate significantly higher scores than male adolescents in Self-Awareness ($t = 11.26$), Empathy & Relationships ($t = 11.37$) and Communication ($t = 11.89$), suggesting stronger emotional understanding, interpersonal sensitivity and expressive abilities. Similarly, significant differences are observed in the cognitive domains of psychosocial functioning. The dimensions of Thinking Skills ($t = 9.89$) and Cognitive Flexibility ($t = 10.36$) indicate that female adolescents exhibit superior adaptive thinking, problem-solving capacity and mental flexibility compared to their male counterparts. The most pronounced difference is evident in Stress Management ($t = 14.01$), reflecting a higher ability among female adolescents to regulate emotions and cope effectively with stressful situations. Moreover, the comparison of the overall psychosocial skill scores further substantiates these findings, with a high t-value of 15.19, demonstrating a substantial overall difference between the two groups. Collectively, these results lead to the rejection of the null hypothesis across all dimensions. The findings conclusively indicate that gender plays a significant role in the development and expression of psychosocial skills during adolescence, with female adolescents showing consistently higher levels across all assessed domains.

Null Hypothesis 2: There is no Significant difference in the Psychosocial Skill among Science and Arts Adolescents.

Table 2: Mean, SD and t value of Psychosocial Skill among Science and Arts Adolescents

S. N.	Psycho social Skill	Science Adolescents (N=200)		Arts Adolescents (N=200)		t-value	Significance
		Mean	SD	Mean	SD		
1.	Self-Awareness	29.9	5.4	30.0	5.5	.404	Not Significant

		1	3	9	4		
2.	Empathy & Relationships	29.71	5.10	29.83	5.06	.274	Not Significant
3.	Communication	29.73	5.48	29.80	5.37	.143	Not Significant
4.	Thinking Skills	29.89	5.47	29.95	5.09	.213	Not Significant
5.	Cognitive Flexibility	29.65	5.24	29.86	5.03	.379	Not Significant
6.	Stress Management	29.62	5.57	29.72	5.35	.227	Not Significant
7.	Psycho social Skill	17.85	2.79	17.70	2.49	.251	Not Significant

An examination of Table 2 indicates that there is no statistically significant difference in psychosocial skills between Science and Arts adolescents across all measured dimensions. At $df = 598$ and the 0.05 level of significance, the calculated t-values for each dimension are lower than the corresponding table values, leading to the acceptance of the null hypothesis. Specifically, the dimensions of Self-Awareness ($t = 0.404$), Empathy & Relationships ($t = 0.274$) and Communication ($t = 0.143$) show minimal differences between Science and Arts adolescents, suggesting comparable levels of emotional awareness, interpersonal sensitivity and communicative competence across both academic streams. Similarly, in the cognitive domains of Thinking Skills ($t = 0.213$) and Cognitive Flexibility ($t = 0.379$), the obtained t-values indicate no meaningful variation, reflecting similar capacities for reasoning, adaptability and problem-solving among adolescents irrespective of their stream of study. Furthermore, the Stress Management dimension also reveals no significant difference ($t = 0.227$), indicating that both Science

and Arts adolescents possess comparable abilities to cope with stress and regulate emotions. The comparison of the overall psychosocial skill scores further supports this conclusion, as the calculated t-value of 0.251 is not statistically significant. Collectively, these findings confirm that academic stream does not exert a significant influence on psychosocial skill development during adolescence, leading to the acceptance of the null hypothesis for all dimensions measured.

Null Hypothesis 3: There is no Significant difference in the Psychosocial Skill among Rural and Urban Adolescents.

Table 3: Mean, SD and t value of Psychosocial Skill among Rural and Urban Adolescents

S. N.	Psycho social Skill	Urban Adolescents (N=200)		Rural Adolescents (N=200)		t-value	Significance
		Mean	SD	Mean	SD		
1.	Self-Awareness	30.65	5.48	29.35	5.52	2.91	Significant
2.	Empathy & Relationships	30.49	5.20	29.56	5.61	3.41	Significant
3.	Communication	30.58	5.34	28.93	5.39	3.73	Significant
4.	Thinking Skills	30.41	5.54	29.77	5.43	2.53	Significant
5.	Cognitive Flexibility	30.38	5.45	29.90	5.34	2.94	Significant
6.	Stress Management	30.30	5.33	29.04	5.47	2.86	Significant
7.	Psychosocial Skill	18.25	2.54	17.44	2.51	3.83	Significant

		8	1	7	5		
		4	3	6	0		

An examination of Table 3 reveals that there are significant differences in psychosocial skills between urban and rural adolescents across all measured dimensions. At $df = 598$ and the 0.05 level of significance, the calculated t-values for each dimension exceed the corresponding table values, leading to the rejection of the null hypothesis. Specifically, urban adolescents show significantly higher mean scores than rural adolescents in Self-Awareness ($t = 2.91$) and Empathy & Relationships ($t = 3.41$), indicating greater emotional understanding and interpersonal sensitivity. In the domain of Communication, the difference is more pronounced ($t = 3.73$), suggesting that urban adolescents possess stronger expressive and interactional skills. Similarly, significant differences are observed in Thinking Skills ($t = 2.53$) and Cognitive Flexibility ($t = 2.94$), reflecting better problem-solving abilities and adaptability among urban adolescents. The dimension of Stress Management also shows a significant difference ($t = 2.86$), indicating that urban adolescents are comparatively more effective in coping with stress and regulating emotions. Furthermore, the comparison of the overall psychosocial skill scores reveals a significant difference ($t = 3.83$), with urban adolescents outperforming rural adolescents. Collectively, these findings demonstrate that place of residence plays a significant role in shaping psychosocial skills during adolescence, possibly due to differences in educational exposure, social environment and access to developmental resources. Hence, the null hypothesis is rejected for all dimensions.

CONCLUSIONS

The findings of the present study provide a clear and coherent understanding of the role of academic stream and place of residence in shaping psychosocial skills among adolescents. The results reveal that academic stream (Science and Arts) does not significantly influence the development of psychosocial skills, as no statistically significant differences were observed across any of the measured dimensions. This indicates that psychosocial competencies such as self-awareness, empathy, communication, thinking skills, cognitive flexibility and stress management develop largely independent of subject specialization at the adolescent stage. In contrast, the study demonstrates that place of residence exerts a significant influence on psychosocial skill development, with urban adolescents consistently outperforming rural adolescents across all dimensions. The observed differences suggest that environmental exposure, social interaction patterns and access to educational and developmental resources contribute meaningfully to adolescents'

psychosocial growth. Collectively, these findings underscore that psychosocial development is less determined by curricular orientation and more strongly shaped by contextual and environmental factors during adolescence.

The educational implications of these findings are substantial and policy-relevant. Since psychosocial skills do not vary by academic stream, educational institutions should integrate structured psychosocial skill development programs across all subject disciplines without differentiation. Life skills education, social-emotional learning modules and experiential pedagogies can be uniformly implemented for Science and Arts students alike. However, the significant rural-urban disparity highlights the urgent need for context-sensitive educational interventions, particularly in rural settings. Schools in rural areas must be strengthened through teacher training focused on psychosocial facilitation, enrichment of co-curricular activities and the creation of supportive learning environments that encourage communication, emotional regulation and adaptive thinking. Additionally, digital access, counseling services and community-based learning initiatives should be expanded to bridge the psychosocial development gap between rural and urban adolescents. From a policy perspective, the findings advocate for targeted investment in rural education systems to ensure equitable psychosocial growth opportunities. By prioritizing inclusive educational practices and strengthening school environments, educators and policymakers can foster balanced psychosocial development, thereby enabling adolescents to navigate academic challenges and social transitions more effectively in an increasingly complex world.

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