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DETERMINANTS OF CAREER DECISION-MAKING AMONG GOVERNMENT SECONDARY SCHOOL STUDENTS IN AN ASPIRATIONAL DISTRICT OF INDIA

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Abstract:
Background: Career decision-making represents a critical developmental milestone during adolescence, yet limited empirical evidence exists regarding its determinants in tribal-dominated and economically disadvantaged regions of India. Koraput district in Odisha, designated as an Aspirational District, is characterised by a predominantly Scheduled Tribe population, significant educational deprivation, and limited access to structured career guidance, necessitating focused investigation. **Objectives:** This study examined the bivariate and multivariate relationships among self-perception, parenting style, and family education expenditure as determinants of career decision-making among Grade 10 students in government secondary schools. It also tested the mediating role of self-perception in the relationship between parenting style and career decision-making, and compared outcomes across gender, locality, caste, and family education expenditure, including the gender-locality interaction effect. **Methods:** A quantitative cross-sectional survey was conducted with 320 Grade 10 students selected through multistage random sampling from government secondary schools in two blocks of Koraput district. Standardised instruments assessed self-perception, parenting style, career decision-making, and family education expenditure. Data were analysed using hierarchical multiple regression, Sobel mediation analysis, factorial ANOVA, and chi-

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square tests. **Results:** Self-perception emerged as the strongest predictor of career decision-making. Psychological variables explained significant additional variance, whereas demographic and economic variables contributed minimally. Parenting style influenced career decisions primarily through self-perception, with most effects operating indirectly. A significant gender-locality interaction and marked gender differences in aspirations were observed. **Conclusion:** Self-perception is the principal psychological mechanism shaping career decisions among tribal and marginalised adolescents. Interventions should prioritise self-efficacy development, targeted scholarships, and gender-sensitive career guidance in aspirational districts.

Keywords: career decision-making, self-perception, parenting style, family education expenditure, tribal students, secondary education

1. Introduction

Career decision-making represents one of the most consequential developmental tasks confronting adolescents, particularly those navigating the transition from secondary schooling to higher education and the world of work (Super, 1980; Lent *et al.*, 1994). The quality of career decisions made during secondary school profoundly shapes educational trajectories, occupational attainment, and long-term socio-economic well-being (Holland, 1997; Patton & McMahon, 2014). The concept of career decision-making, as employed in this study, encompasses the cognitive and behavioural processes through which adolescents evaluate their competencies and environmental opportunities, explore vocational possibilities, and formulate occupational goals (Gati, 1986; Taylor & Betz, 1983). While career development has attracted substantial scholarly attention in Western and urban contexts, the processes through which adolescents in economically disadvantaged, tribal-dominated regions of developing countries arrive at career decisions remain comparatively understudied (Arulmani, 2014). This gap is especially pronounced in the Indian context, where the intersection of poverty, cultural specificities, caste-based stratification, and institutional deficits creates a distinctive ecology of career decision-making that demands rigorous empirical investigation.

India is characterized by the world's largest adolescent population, with over 253 million individuals aged 10–19 years (United Nations Population Fund [UNFPA], 2014). Among these, adolescents from Scheduled Tribe communities represent one of the most educationally marginalised groups, facing compounded disadvantages of geographic isolation, economic deprivation, cultural dislocation, and institutional neglect (Das *et al.*, 2025; Nayak & Kumar, 2022). In Odisha, secondary school dropout rates among Scheduled Tribes stand at 31.5% the highest nationally (Department of School Education & Literacy, Ministry of Education, Govt. of India, 2022) and fewer than 24% of tribal adolescents report high career aspirations (Debbarma & Narzary, 2020). Government secondary schools in tribal-dominated districts operate within severe resource constraints: limited career counselling infrastructure, shortage of trained teachers, and

inadequate laboratory and library facilities (Brahmanandam & Bosu Babu, 2016; ASER Centre, 2022). Within this environment, what distinguish adolescents who develop decisive career orientations from those who remain undecided become both a scholarly imperative and a practical necessity.

The present study area Koraput has a predominantly Scheduled Tribe population exceeding 50%, with a literacy rate of merely 49.21% well below the national average of 74.04% and severe gender disparities in literacy (male 60.32% versus female 38.55%; Census of India, 2011). In 2018, NITI Aayog identified Koraput among 112 Aspirational Districts regions characterised by multi-dimensional deprivation across health, education, agriculture, and financial inclusion indicators (NITI Aayog, 2018; Kapoor & Green, 2023). Despite receiving targeted policy attention under the Aspirational Districts Programme, Koraput's educational outcomes continue to lag behind national benchmarks (Bindhani, 2021; Sahoo, Rout, & Biswal, 2025). Notably, the programme's educational interventions have focused primarily on enrolment, attendance, and learning outcomes, with minimal attention to career development processes for the productive utilisation of educational investments. This policy lacuna makes Koraput an especially instructive site for the present investigation.

The study was motivated by observations made by the first author while working with government school systems in Koraput. Despite uniformly severe structural constraints, a subset of students displayed remarkable clarity in their career goals, while many peers appeared uncertain or resigned to circumstantial occupational trajectories. This heterogeneity suggested that psychological factors particularly how students perceive their own competencies and the quality of parental support they experience may play a critical role beyond what economic conditions alone can explain. Additionally, whether family financial investment in education translates into enhanced career decisiveness, or whether this relationship is mediated by psychological processes, has not been empirically examined in tribal contexts. A further concern was the intersection of gender and geography: qualitative evidence suggests that career development of girls in rural tribal communities follows a markedly different trajectory from that of boys, shaped by gendered expectations, differential access to mobility and information, and culturally embedded assumptions about appropriate occupational roles (Beaman *et al.*, 2012; Ertl *et al.*, 2017; Kwatra & Gautam, 2024). Whether locality interacts with gender to produce differential career decision outcomes constitutes an empirically testable proposition with clear implications for targeted interventions.

2. Review of Literature

2.1 Theoretical Framework

The study of career decision-making has evolved through several foundational traditions. Parsons (1909) established the trait-factor approach, arguing that rational matching of individual attributes to occupational requirements produces optimal career choices. Super (1980) introduced the life-span, life-space developmental theory,

emphasising career development as a continuous process of self-concept implementation through vocational roles. Holland's (1997) RIASEC model posited that congruence between personality type and work environment predicts career satisfaction and stability, while Gottfredson (1981) illuminated how career aspirations are progressively circumscribed by gender-type and social prestige assessment processes, especially pronounced among students from marginalised communities. Gati (1986) and Gati, Krausz, and Osipow (1996) shifted focus to the decision process itself, identifying taxonomies of career indecision and proposing sequential elimination approaches.

The primary theoretical scaffolding for the present investigation draws on Social Cognitive Career Theory (SCCT; Lent *et al.*, 1994, 2000), which posits that career-related choices are shaped by the interplay among self-efficacy beliefs, outcome expectations, and personal goals within a broader ecology of contextual supports and barriers. Lent and Brown (2019) and Brown and Lent (2019) reviewed 25 years of SCCT research, confirming that self-efficacy and outcome expectations remain the most consistent predictors of career interests, choices, and performance across diverse populations. Within this framework, three key constructs anchor the present study.

First, self-perception, understood as the individual's subjective evaluation of their cognitive, social, emotional, and physical competencies (Harter, 1988; Bem, 1972), constitutes a central cognitive-person variable that directly influences career exploration and decision-making. Bandura's (1986, 1997) social cognitive theory posits that self-efficacy beliefs function as the most proximal determinant of human agency, mediating the effects of distal environmental variables on behaviour. Bandura *et al.* (2001) demonstrated that children's perceived self-efficacy shapes career aspirations beyond the direct influence of socio-economic status.

Second, parenting style, building upon Baumrind's (1966, 1991) foundational typology and its refinement into a two-dimensional framework of demandingness and responsiveness by Maccoby and Martin (1983), represents a critical contextual variable. Darling and Steinberg's (1993) integrative model conceptualised parenting style as a contextual variable that moderates the relationship between specific parenting practices and developmental outcomes. Whiston and Keller's (2004) comprehensive review established that family-of-origin variables predict career development across exploration, decision-making, and implementation phases, with the quality of the parent-child relationship emerging as a particularly strong predictor.

Third, family education expenditure reflects the economic dimension within SCCT's contextual supports framework. In Koraput, household investment in children's education determines access to supplementary resources, including textbooks, coaching, and school-related materials (Tilak, 2002a; Srivastava & Noronha, 2016). The National Statistical Office (2020) documented that household expenditure on secondary education in Odisha was substantially below the national average, with tribal households spending the least.

The integration of these three constructs within an SCCT framework enables a simultaneous examination of cognitive-person, contextual, and economic determinants

of career decision-making, an analytical approach that has not been previously applied in tribal or aspirational district contexts.

2.2 Self-Perception and Career Development

Self-perception occupies a central position in career development theory. Betz and Hackett (1981) demonstrated that career-related self-efficacy expectations significantly predicted the range of career options considered by college students, with women reporting lower self-efficacy for traditionally male-dominated occupations. Harter (1988) developed the Self-Perception Profile for Adolescents, establishing that domain-specific self-evaluations include interrelated dimensions like cognitive, social, physical, and emotional competence. Wichstrom (1995) provided cross-cultural validation evidence for this multidimensional structure. Marsh (1990) demonstrated through the Self-Description Questionnaire programme that academic self-concept has both direct and indirect effects on educational and vocational outcomes.

In the Indian context, Dhillon and Kaur (2005) reported significant positive correlations between self-concept and career maturity among school students, while Hasan (2006) found that career maturity varied as a function of self-concept, vocational aspiration, and gender. Jacob and Ravindranadan (2018) established that self-esteem and academic aspirations are significantly associated with socio-economic status among Indian adolescents, suggesting that self-perception operates within a broader socio-economic ecology. Arulmani (2014) proposed the Cultural Preparation Process model, arguing that cultural beliefs and social learning experiences shape career beliefs and self-efficacy in distinctive ways in collectivist societies such as India.

2.3 Parenting Style and Career Decision-Making

The relationship between parenting style and career development has been examined across diverse cultural contexts. Keller and Whiston (2008) established that perceived parental support and involvement were significant predictors of career decision self-efficacy among young adolescents. Luebbe *et al.* (2018) demonstrated that overinvolved parenting was associated with poorer decision-making functioning in emerging adults.

In collectivist cultural settings, the parenting-career linkage takes on distinctive features. Sawitri*et al.* (2014) found that among Indonesian adolescents, perceived congruence with parental career expectations was more consequential than parenting style per se, while Sawitri and Creed (2017) documented that collectivism moderated the parent–career aspiration relationship. Akosah-Twumasi *et al.* (2018) conducted a systematic review confirming culture as a significant factor in youth career choices, with parental and family influence especially strong in collectivist societies. In the Indian context, Arulmani *et al.* (2003) reported that career beliefs and decision-making among high school students were significantly influenced by socio-economic status and culturally shaped career beliefs, while Saleem, Hanan, Saleem, and Shamshad (2014) found that parenting style significantly predicted career maturity.

2.4 Family Education Expenditure and Career Outcomes

The economic dimension of career development has received considerable attention in the Indian policy context. Tilak (2002a, 2002b) conducted seminal analyses of household expenditure on education in rural India, documenting that even nominally "free" government education entails substantial hidden costs. Srivastava and Noronha (2016) examined the myth of barrier-free access under India's Right to Education Act, finding that hidden expenses in government schools create persistent financial barriers. Duraisamy and Duraisamy (2016) documented privatisation trends in Indian higher education and their implications for household expenditure. Singh *et al.* (2023) examined household expenditure on secondary education in Haryana and identified family income, parental education, and locality as key determinants. Motkuri and Revathi (2023) analysed national-level private expenditure patterns, documenting widening public-private expenditure gaps. Devi *et al.* (2025) found that scholarships significantly improved school attendance in India, suggesting that institutionalised financial support may be more consequential than variations in private household spending.

2.5 Gender, Locality, and Career Decision-Making

Gender and locality interact in complex ways to shape career development. Luzzo (1995) documented gender differences in career maturity and perceived barriers, while Rojewski *et al.* (1995) found that academic risk behaviour mediated rural–urban differences in career maturity. Patton and Creed (2001) established that career maturity develops differentially across gender and age. Patton *et al.* (2004) reported gender differences in optimism, self-esteem, and career planning among Australian adolescents. In the Indian context, Sirohi (2013) found significant gender differences in career maturity among secondary school students. Alam (2013) reported similar gender and locality effects. Andleeb and Ansari (2016) confirmed gender differences in occupational aspiration and career maturity among senior secondary students. Al-Bahrani *et al.* (2020) documented that career aspirations were shaped by contextual variables including gender, parental education, and socio-economic status.

2.6 Research Gap and Conceptual Framework

Despite the growing body of literature on career decision-making, several gaps remain. At first, most studies have focused on urban, middle-class populations in Western or developed Asian contexts, with limited attention to tribal and economically marginalised adolescents in India (Das *et al.*, 2019). Second, few studies have simultaneously examined self-perception, parenting style, and family education expenditure as joint determinants within a single analytical framework, particularly using hierarchical approaches that test incremental contributions. Third, the mediating role of self-perception in the parenting style-career decision pathway has not been tested in tribal populations. Fourth, the interaction between gender and locality as opposed to their independent main effects has received inadequate empirical attention, despite theoretical reasons to expect differential effects. Das *et al.* (2025) and Nayak and Kumar (2022) have documented the educational

challenges facing tribal students in Odisha, but have not examined career decision-making processes. Kumar *et al.* (2023) identified determinants of school dropout but did not examine career decision-making among those who persist. The present study addresses these gaps by examining the joint, incremental, and interactive contributions of psychological, familial, and economic determinants of career decision-making among Grade 10 students in an Aspirational District of India.

3. Methodology of the Study

3.1 Objectives of the Study

The specific objectives of this study were: (a) to examine the bivariate and multivariate relationships among self-perception, parenting style, and family education expenditure, and to assess their relative and incremental predictive contributions to career decision-making through hierarchical regression analysis; (b) to test the mediating role of self-perception in the parenting style-career decision pathway; and (c) to compare career decision-making across gender, locality, caste, and family education expenditure categories, and to examine the gender-locality interaction effect on career decision-making.

3.2 Research Design

A quantitative cross-sectional design with a correlational-predictive approach was adopted (Creswell & Creswell, 2018). The study employed a survey methodology to collect self-report data on career decision-making, self-perception, parenting style, and Family education expenditure from Grade 10 students. The cross-sectional design was deemed appropriate given the study's primary aim of examining concurrent relationships among variables and the practical constraints of accessing school populations in a geographically dispersed tribal district.

3.3 Study Area and Population

The Koraput district, a predominantly tribal and backward district of Odisha, India, constitutes the area of study. The population comprises male and female students studying in Grade 10 (Class X) of government secondary schools affiliated with the Board of Secondary Education (BSE), Odisha, within the Koraput district.

3.4 Sampling Technique and Sample Size

A multistage random sampling technique was employed. In the first stage, out of the fourteen blocks of the Koraput district, two blocks, namely, Koraput and Jeypore, possessing both rural and urban localities were selected randomly. In the second stage, government secondary schools were randomly selected from each block, ensuring representation of both rural and urban settings. In the third stage, Grade 10 students were randomly drawn from the selected schools. The total sample comprised 320 students (178 males and 142 females; 158 rural and 162 urban).

3.5 Instruments and Primary Data

Primary data were collected through a structured schedule administered to the sample of 320 students during the academic session 2023–2024. The questionnaire comprised sections measuring four latent constructs: (a) Self-Perception (confidence, academic self-concept), (b) Parenting Style (parental involvement, encouragement, and guidance), (c) Career Decision-Making (career choice, decision confidence, and planning), and (d) Career Counselling (infrastructure, content relevance, delivery quality, student readiness, and post-counselling follow-up). The Self-Perception and Parenting Style scales used a five-point Likert format (1 = Strongly Disagree to 5 = Strongly Agree), consistent with measurement approaches used in comparable studies (Le *et al.*, 2025). The Career Decision scale used a three-point response format (1 = Disagree, 2 = Undecided, 3 = Agree), reflecting the decisional clarity framework adopted from Gati (1986) and Taylor and Betz (1983). Negatively worded items were included across scales to control for response bias. Demographic information (gender, location, caste category) was also collected. The researcher was present during all data collection sessions to address queries and ensure standardised administration.

3.6 Statistical and Econometric Methods

Data were analysed using SPSS version 26.0 at the .05 significance level (two-tailed). Descriptive statistics (means, standard deviations, frequencies, and percentages) characterised the sample. Pearson product-moment correlations assessed bivariate relationships. A three-step hierarchical multiple regression was conducted: Step 1 entered demographic variables (gender, locality, religion, caste, family type, family size, parental education, and parental occupation); Step 2 added self-perception and parenting style factor scores; Step 3 added family education expenditure. A parallel regression using raw scale totals was conducted for comparison. Mediation was tested using the Sobel test (Baron & Kenny, 1986), with the indirect effect assessed through the product of coefficients approach. Independent-samples *t*-tests with Cohen's *d* and one-way ANOVA with η^2 (eta-squared) examined group differences. Two-way factorial ANOVA examined the gender × locality interaction. Chi-square tests of independence assessed categorical associations. Multicollinearity was assessed through Variance Inflation Factors (VIF; all values < 4.0) and tolerance statistics (all > 0.26; Tabachnick & Fidell, 2019). Common method bias was evaluated using Harman's single-factor test: an unrotated principal component analysis of all 91 scale items (SP, PS, and CD) yielded a first factor accounting for 15.56% of total variance, well below the 50% threshold that would indicate substantial common method variance (Podsakoff *et al.*, 2003). Post-hoc comparisons used a Bonferroni adjustment for multiple testing.

4. Results

4.1 Demographic Profile

Table 1 presents the demographic composition of the sample.

Table 1: Demographic Profile of the Sample

Variable	Category	*n*	%
Gender	Male	178	55.6
	Female	142	44.4
Locality	Rural	158	49.4
	Urban	162	50.6
Social Category	SC	85	26.6
	ST	111	34.7
	OBC	44	13.8
	General	80	25.0
Family Type	Nuclear	157	49.1
	Joint	163	50.9
Religion	Hindu	275	85.9
	Christian	44	13.8
	Other	1	0.3
Scholarship Status	Availing	88	27.5
Parental Career Influence	Yes	201	62.8

Note: Mean age = 14.76 years (*SD* = 0.65). Mean monthly family income = ₹22,477. Mean annual family education expenditure = ₹4,671.

The sample was moderately male-dominated (55.6%) with a nearly equal rural–urban distribution (49.4% rural, 50.6% urban). Over one-third of respondents (34.7%) belonged to Scheduled Tribes, consistent with the district's demographic profile. Only 27.5% of students reported receiving scholarship support. A majority (62.8%) reported parental influence on their career choices.

4.2 Bivariate Correlations

Table 2 presents the Pearson correlation matrix for the study variables.

Table 2: Pearson Correlation Matrix of Study Variables

Variable	CD	SP	PS	FEE	FI	FS
1. Career Decision	—					
2. Self-Perception	.408***	—				
3. Parenting Style	.293***	.545***	—			
4. Fam. Edu. Expenditure	.053	−.004	.064	—		
5. Family Income	−.022	−.049	−.015	.347***	—	
6. Family Size	.026	−.015	−.146**	−.019	.068	—

Note: *p < .05, **p < .01, ***p < .001. *N* = 320. Variables 1–3 are factor-score composites.

Self-perception demonstrated a moderate positive correlation with career decision (r = .408, p< .001), representing the strongest bivariate predictor. Parenting style showed a

weaker but significant positive correlation (r = .293, p< .001). Family education expenditure (r = .053, p = .342) and family income (r = −.022, p = .691) exhibited negligible, non-significant associations. The substantial correlation between self-perception and parenting style (r = .545, p< .001) indicated shared variance and suggested a potential mediational pathway.

4.3 Hierarchical Multiple Regression Analysis

To assess the incremental predictive contribution of each category of determinants, a three-step hierarchical regression was conducted with career decision (CD) as the dependent variable. Multicollinearity diagnostics confirmed all VIF values below 4.0 and tolerance values exceeding 0.26. Results are presented in Table 3.

Table 3: Hierarchical Multiple Regression Predicting Career Decision-Making

Predictor	***B***	***SE***	**β**	***t***	***p***	**VIF**
Step 1: Demographics						
Gender	0.118	0.110	.058	1.07	.286	1.15
Caste	0.028	0.051	.031	0.54	.589	1.26
Family Type	0.006	0.122	.003	0.05	.958	1.40
Father Education	−0.017	0.038	−.031	−0.44	.660	1.84
Mother Education	−0.037	0.037	−.067	−1.00	.318	1.68
R^2 = .022, F(10, 309) = 0.68, p = .741						
Step 2: + Psychological Variables						
Self-Perception	0.147	0.026	.361	5.72	< .001***	1.53
Parenting Style	0.038	0.026	.093	1.45	.149	1.63
ΔR^2 = .166, F-change(2, 307) = 31.29, p< .001***						
Step 3: + Family Edu. Expenditure						
Fam. Edu. Expenditure	0.000	0.000	.039	0.74	.460	1.05
ΔR^2 = .001, F-change(1, 306) = 0.55, p = .460						
Final: R^2 = .189, Adj. R^2 = .154, F(13, 306) = 5.47, p< .001* **						

Note: ***p < .001. β = standardised coefficient. Only selected predictors shown; full model included 13 predictors.

The hierarchical analysis revealed a clear pattern. At Step 1, demographic variables collectively explained only 2.2% of the variance in career decision, a non-significant contribution (F(10, 309) = 0.68, p = .741). At Step 2, the addition of self-perception and parenting style produced a highly significant increment of 16.6% (ΔR^2 = .166, F-change(2, 307) = 31.29, p< .001), with self-perception as the sole significant predictor (β = .361, t = 5.72, p< .001) while parenting style fell below significance (β = .093, t = 1.45, p = .149). At Step 3, Family education expenditure added a negligible 0.1% (ΔR^2 = .001, p = .460). The full 13-predictor model explained 18.9% of variance (Adj. R^2 = .154, F(13, 306) = 5.47, p< .001). These results confirm that psychological variables, particularly self-perception, constitute the primary determinants of career decision-making in this population, contributing a significant variance increment far exceeding that of demographic or economic variables.

4.4 Regression with Raw Scale Scores

A parallel regression using raw summed scale scores yielded a substantially higher R^2 (Table 4), reflecting compositional differences between factor-score and raw-score approaches.

Table 4: Multiple Linear Regression with Raw Scale Scores

Predictor	*B*	*SE*	*t*	*p*	95% CI
Parenting Style	0.147	0.012	12.14	< .001***	[0.123, 0.171]
Family Type	−1.242	0.562	−2.21	.028*	[−2.349, −0.136]
Gender	−0.999	0.514	−1.94	.053†	[−2.010, 0.013]
Locality	0.841	0.581	1.45	.148	[−0.301, 1.984]
Fam. Edu. Expenditure	−0.000	0.000	−0.28	.783	—

Note: R^2 = .495, Adj. R^2 = .474, $F(13, 306) = 23.11$, $p < .001$. ***p < .001, *p < .05, †p < .10. Only selected predictors shown.

The raw-score model accounted for 49.5% of variance (Adj. R^2 = .474, $F(13, 306) = 23.11$, $p < .001$). Parenting style was the dominant predictor (B = 0.147, t = 12.14, $p < .001$). Family type exerted a significant negative effect (B = −1.242, t = −2.21, p = .028), indicating that nuclear family membership was associated with stronger career decisions. A marginal gender effect emerged (B = −0.999, t = −1.94, p = .053), suggesting a trend towards higher career decision scores among female students. Family education expenditure was not significant (p = .783).

The divergent results between the factor-score model (R^2 = .189) and raw-score model (R^2 = .495) warrant explanation. In the factor-score model, each variable is represented by its unique factor-analytic composite, which removes shared measurement error and isolates latent construct variance; this provides a conservative but theoretically cleaner estimate. In the raw-score model, total scores retain all item-level varianceincluding shared error variance across scalesinflating the proportion of explained variance. The substantial correlation between SP and PS raw totals (r = .545) means that when PS Raw enters the raw model, it absorbs variance that overlaps with SP, thereby appearing as the dominant predictor while SP Raw loses significance. In the factor-score model, where this overlapping variance has been partitioned, SP emerges as the uniquely dominant predictor. The factor-score hierarchical model (Table 3) is treated as the primary analytical specification because it provides a more accurate estimate of unique predictive contributions and is less susceptible to multicollinearity-induced instability. The raw-score model (Table 4) is presented as a supplementary analysis for comparability with studies that use summed scale totals.

4.5 Mediation Analysis: Self-Perception as Mediator

Given the substantial attenuation of the parenting style coefficient from the bivariate (r = .293) to the multivariate level (β = .093) and the strong correlation between parenting style and self-perception (r = .545), a formal mediation analysis was conducted using the Sobel test (Baron & Kenny, 1986; Preacher & Hayes, 2008). The results are presented in Table 5.

Table 5: Self-Perception Mediating Parenting Style-Career Decision

Path / Effect	Coefficient	*SE*	Test Statistic
Path a: PS → SP	0.545	0.047	$t = 11.60$***
Path b: SP → CD (controlling PS)	0.144	0.025	$t = 5.81$***
Total effect c: PS → CD	0.120	—	$r = .293$***
Direct effect c′: PS → CD (controlling SP)	0.041	0.025	$t = 1.64$, $p = .101$
Indirect effect (a × b)	0.079	—	Sobel $Z = 5.19$***
Proportion mediated	65.8%	—	—

Note:***p < .001. PS = Parenting Style; SP = Self-Perception; CD = Career Decision.

The Sobel test confirmed a highly significant indirect effect ($Z = 5.19$, $p < .001$). Path a (PS → SP) was strong and significant ($B = 0.545$, $t = 11.60$, $p < .001$), and path b (SP → CD, controlling for PS) was also significant ($B = 0.144$, $t = 5.81$, $p < .001$). The total effect ($c = 0.120$) was substantially reduced to a non-significant direct effect ($c' = 0.041$, $t = 1.64$, $p = .101$) after controlling for self-perception, with 65.8% of the total effect transmitted through the mediating pathway. This provides evidence that parenting style influences career decision primarily through its effect on students' self-perception, confirming the hypothesised mediational mechanism. It should be noted that the Sobel test assumes a normal sampling distribution for the indirect effect, an assumption that may be violated in practice; bootstrapped confidence intervals (Hayes, 2013) would provide a more robust test and are recommended for confirmatory studies.

4.6 Gender and Locality Differences

Table 6: Independent Samples t-Tests by Gender and Locality

Variable	Male *M*(*SD*)	Female *M*(*SD*)	*t*	*p*	*d*
Career Decision	−0.024 (0.95)	0.030 (1.06)	−0.48	.635	−0.05
Self-Perception	0.142 (2.18)	−0.178 (2.75)	1.16	.246	0.13
Parenting Style	0.196 (2.27)	−0.245 (2.65)	1.60	.110	0.18
Fam. Edu. Expen. (₹)	4,201 (3,833)	5,260 (5,217)	−2.09	.037*	−0.23
Variable	**Rural *M*(*SD*)**	**Urban *M*(*SD*)**	***t***	***p***	***d***
Career Decision	0.008 (1.02)	−0.008 (0.98)	0.14	.885	0.02
Self-Perception	0.045 (2.60)	−0.044 (2.30)	0.33	.744	0.04
Fam. Edu. Expen. (₹)	5,088 (5,299)	4,265 (3,580)	1.63	.104	0.18

Note:. *p < .05. *d* = Cohen's *d*. *df* = 318 for all tests.

No significant gender or locality main effects were found for career decision, self-perception, or parenting style. The sole significant difference was in family education expenditure, where families spent significantly more on female students (M = ₹5,260) than males (M = ₹4,201; $t = -2.09$, $p = .037$, $d = -0.23$), possibly reflecting targeted scholarships or higher non-fee costs for girls.

4.7 Gender × Locality Interaction

A two-way factorial ANOVA examined the interaction between gender and locality on career decision (Table 7).

Table 7: Two-Way ANOVA: Gender × Locality on Career Decision

Source	SS	*df*	*F*	*p*
Gender	0.227	1	0.232	.630
Locality	0.021	1	0.021	.884
Gender × Locality	10.607	1	10.877	.001**
Error	308.146	316	—	—

Note:**p < .01. Cell means: Male-Rural = 0.177 (*n* = 72), Male-Urban = −0.160 (*n* = 106),

Female-Rural = −0.133 (*n* = 86), Female-Urban = 0.280 (*n* = 56). The interaction was statistically significant ($F(1, 316) = 10.88$, $p = .001$), while neither gender ($F = 0.23$, $p = .630$) nor locality ($F = 0.02$, $p = .884$) produced significant main effects. Among males, rural students showed higher career decision scores ($M = 0.177$) than urban males ($M = −0.160$), whereas among females, the pattern reversed: urban females recorded the highest cell mean ($M = 0.280$) and rural females showed lower scores ($M = −0.133$). This crossover interaction indicates that the influence of locality on career decision-making is gender-contingent, and the effect is notably strong ($p = .001$).

4.8 Career Decision across Caste and Family Education Expenditure Categories

Table 8: One-Way ANOVA Results for Career Decision across Categorical Variables

Variable	*df*	*F*	*p*	η^2	Highest
Fam. Edu. Expen. Quartile	3, 316	3.645	.013*	.033	Mid-High
Caste	3, 316	1.663	.175	.016	—
Income Quartile	3, 316	0.766	.514	.007	—
Future Aspiration	4, 315	2.459	.045*	.030	Others

Note: *p < .05. η^2 = eta-squared effect size. Post-hoc comparisons used a Bonferroni adjustment.

Across family education expenditure quartiles, the mid-high group recorded the highest career decision scores ($M = 0.285$), significantly exceeding the low ($M = −0.133$) and mid-low ($M = −0.205$) groups ($\eta^2 = .033$). This non-linear pattern suggests a threshold rather than a linear effect. Neither caste nor family income produced significant differences. Future aspiration categories showed significant variation ($F = 2.46$, $p = .045$), with students aspiring to diversified careers ("Others") demonstrating the highest career decision scores ($M = 0.202$).

4.9 Scholarship Status and Parental Career Influence

Table 9: Career Decision by Scholarship Status and Parental Influence

Variable	Yes *M*(*SD*) [*n*]	No *M*(*SD*) [*n*]	*t*	*p*	*d*
Scholarship	0.184 (1.07) [88]	−0.070 (0.97) [232]	2.04	.043*	0.25
Parental Influence	0.072 (1.05) [201]	−0.122 (0.90) [119]	1.68	.093	0.20

Note: *p < .05. *d* = Cohen's *d*.

Scholarship recipients scored significantly higher on career decision ($M = 0.184$) compared to non-recipients ($M = −0.070$; $t = 2.04$, $p = .043$, $d = 0.25$). While the effect size is

small, it suggests that institutionalised financial support is positively associated with career decision clarity. Parental career influence showed a marginal positive association ($t = 1.68$, $p = .093$, $d = 0.20$), with 62.8% of students reporting such influence.

4.10 Chi-Square Analysis: Gender and Career Aspirations

Table 10: Cross-Tabulation: Gender × Future Career Aspiration

Gender	Cricketer	Others	Doctor	Police	IAS	Total
Male	17 (9.6%)	60 (33.7%)	6 (3.4%)	88 (49.4%)	7 (3.9%)	178
Female	4 (2.8%)	72 (50.7%)	36 (25.4%)	25 (17.6%)	5 (3.5%)	142
Total	21 (6.6%)	132 (41.3%)	42 (13.1%)	113 (35.3%)	12 (3.8%)	320

Note: $\chi^2(4) = 62.77$, $p < .001$.

All expected cell counts exceeded 5. Aspiration category labels are derived from the original questionnaire coding scheme as provided by the researcher.

Chi-square analysis revealed a highly significant association between gender and career aspirations ($\chi^2(4) = 62.77$, $p < .001$). Male students overwhelmingly aspired to Police services (49.4%), followed by diversified careers (33.7%), with minimal interest in medical careers (3.4%). Female students showed a markedly different profile: diversified careers (50.7%), Doctor (25.4%), and substantially lower preference for Police (17.6%). Cricket aspiration was almost exclusively male (9.6% vs. 2.8%). These sharply gendered patterns, despite the absence of significant gender differences in career decision scores, suggest that boys and girls arrive at career decisions with comparable clarity but through fundamentally different occupational orientations consistent with Gottfredson's (1981) theory of circumscription.

5. Discussion

The discussion is organised around the study's major findings and their alignment with the theoretical framework and prior research.

5.1 The Primacy of Self-Perception

Across all analytical approaches, self-perception emerged as the most robust and consistent predictor of career decision-making. In the hierarchical regression, self-perception accounted for the dominant share of the 16.6% variance increment contributed by psychological variables ($\beta = .361$, $p < .001$), while parenting style fell below significance when entered simultaneously. This finding aligns with SCCT's central proposition that cognitive-person variables constitute the most proximal determinants of career-related actions (Lent *et al.*, 1994; Lent & Brown, 2019). It also resonates with Bandura *et al.*'s (2001) finding that self-efficacy beliefs shape career aspirations beyond the direct influence of socio-economic status. In the Koraput context, where career guidance infrastructure is severely limited (Debbarma & Narzary, 2020), self-perception appears to function as the primary psychological mechanism through which career decisions are constructed

despite environmental adversity. These findings extend those of Dhillon and Kaur (2005) and Hasan (2006) by demonstrating self-perception's predictive power in a tribal, resource-constrained context.

5.2 Parenting Style: Indirect Influence through Self-Perception

The mediation analysis provided the most nuanced insight into the parenting–career linkage. The Sobel test established that 65.8% of parenting style's influence on career decision operates through self-perception ($Z = 5.19$, $p < .001$), substantially reducing the direct effect to non-significance ($c' = 0.041$, $p = .101$). This is theoretically consistent with Darling and Steinberg's (1993) conceptualisation of parenting style as a contextual variable that shapes developmental outcomes through proximal mechanisms. These findings extend Whiston and Keller's (2004) conclusions by demonstrating that in tribal contexts, the parenting–career linkage operates primarily through the internalisation of parental support into self-evaluative schemas, consistent with Sawitri*et al.*'s (2014) findings in a collectivist Indonesian setting.

5.3 The Complex Role of Family Education Expenditure

Family education expenditure presented the most complex analytical picture. The linear correlation with career decision was negligible ($r = .053$, $p = .342$), and its incremental regression contribution was near-zero ($\Delta R^2 = .001$, $p = .460$). However, the ANOVA across expenditure quartiles detected significant between-group differences ($F = 3.65$, $p = .013$, $\eta^2 = .033$), with the mid-high quartile ($M = 0.285$) substantially outperforming the low and mid-low groups. This pattern suggests a threshold effect: once a certain level of family investment in children's education is reached, students may access supplementary resources conducive to career planning, but the highest expenditure category does not yield proportionally better outcomes. This is consistent with SCCT's proposition that contextual supports operate through complex, potentially non-linear pathways (Lent *et al.*, 2000). The significant association between scholarship receipt and higher career decision scores ($t = 2.04$, $p = .043$) further supports the conclusion that institutionalised financial support may be more consequential than private household expenditure, aligning with Devi *et al.*'s (2025) finding that scholarships significantly improve educational attendance in India. These findings contribute to the literature by demonstrating the non-linear nature of the expenditure career decision relationship, which may help explain why studies examining linear associations have yielded inconsistent results.

5.4 Gender, Locality, and Their Interaction

The absence of significant gender and locality main effects, combined with the highly significant crossover interaction ($F = 10.88$, $p = .001$), constitutes an important finding. The pattern wherein rural males outperformed urban males while urban females outperformed rural females suggests that the operation of locality on career development is conditioned by gender-specific ecological factors. Rural environments may provide

male students with clearer occupational pathways through visible local employment structures, while urban environments may disproportionately benefit female students by providing greater exposure to diverse career options and gender-progressive role models (Beaman *et al.*, 2012). The highly significant gender–aspiration association ($\chi^2 = 62.77$, $p < .001$)with nearly half of males aspiring to Police services while a quarter of females aspired to become Doctors reflects sharply gendered occupational orientations that persist despite nominal equality in decision-making scores. These findings align with Ertl *et al.*'s (2017) documentation of how gender stereotypes impact self-concept in specific career domains and extend the Indian literature (Sirohi, 2013; Andleeb & Ansari, 2016) by revealing a crossover interaction pattern not previously documented in tribal populations.

5.5 Alternative Explanations and Unmeasured Confounds

Several alternative explanations and unmeasured confounds warrant consideration. Peer influence, teacher guidance, school-level career counselling quality, access to digital information, and labour market proximity, none of which were measured, may independently contribute to career decision-making and could moderate the relationships documented here. The 81.1% of unexplained variance in the factor-score model suggests substantial additional determinants beyond the variables examined. It is also possible that career decisiveness enhances self-perception rather than vice versa, or that both are driven by an unmeasured third variable such as general cognitive ability or personality traits.

6. Conclusion and Suggestions

This study provides comprehensive quantitative evidence regarding the determinants of career decision-making among government secondary schools of the Koraput district. The multi-method analytical approach integrating hierarchical regression, mediation analysis, two-way ANOVA, and chi-square tests yields the following key conclusions. First, self-perception is the dominant predictor of career decision-making, consistently significant across all analytical specifications. Second, parenting style influences career decision primarily through self-perception (65.8% mediated). Third, Family education expenditure shows a threshold effect rather than a linear relationship, with institutional scholarship support showing a more significant positive association than private household spending. Fourth, a significant gender × locality interaction and sharply gendered aspiration profiles reveal that beneath the surface of apparent equality, distinct ecological dynamics operate for boys and girls in rural versus urban settings.

These findings carry the following suggestions for policy and practice. First, career guidance interventions in tribal-dominated government schools should prioritise psychological empowerment, building self-perception, self-efficacy, and career exploration confidence through school-based workshops employing role-modelling and mastery experiences (Bandura, 1997). Second, parent engagement programmes should

target specific dimensions of parenting quality, particularly emotional responsiveness and autonomy support, which transmit positive self-evaluations to adolescents. Third, scholarship and financial support mechanisms should be strengthened and expanded, given that institutionalised interventions appear more consequential for career decisiveness than variations in private spending. Fourth, gender-sensitive career guidance programming is needed not because girls lack decisional clarity, but because of gendered aspiration channelling operates through deeply embedded socio-cultural processes that merit targeted intervention. Fifth, locality-differentiated approaches are warranted: rural programmes for girls should create the exposure and mentorship opportunities that the urban setting provides naturally.

7. Limitations and Future Research

The study has the following limitations. First, the cross-sectional design precludes causal inferences about the directionality of relationships; longitudinal designs tracking career decisions from secondary school through higher education and employment would strengthen causal claims. Second, the sample was drawn from two blocks of a single district, and replication across multiple Aspirational Districts would enhance external validity. Third, although Harman's single-factor test indicated that common method variance was not a dominant concern (first factor = 15.56% of variance), all psychological variables were measured through self-report instruments at a single time point, and shared method variance cannot be entirely ruled out. Fourth, the Sobel mediation test does not provide bootstrapped confidence intervals; future studies should employ the structural equation modelling for more robust mediation testing. Fifth, the factor-score and raw-score regression models yielded different conclusions regarding the dominant predictor (self-perception vs. parenting style), reflecting the methodological sensitivity of results to scale-construction decisions; confirmatory factor analysis or structural equation modelling could provide a more definitive resolution.

Future research should employ longitudinal and mixed-methods designs, including in-depth interviews with students, parents, and teachers, to enrich understanding of the processes underlying the quantitative patterns documented here. Intervention studies testing the efficacy of self-efficacy enhancement programmes in tribal school settings would provide actionable evidence. Including teacher influence, peer networks, digital information access, and labour market variables would expand the explanatory framework.

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Authors' Contributions

Ms. S. Das and Dr. P. K. Behera were responsible for study design, data collection, data analysis, critical revision and drafting the manuscript. Prof. M. K. Pradhan supervised the research and reviewed the final manuscript. All authors read and approved the final manuscript.

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The authors declare that they have no conflicts of interest to report regarding the present study.

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