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Perceived Parenting Styles and Identity Salience Among School Going Adolescents in Mangalore India

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Abstract

BACKGROUND: School health programs in India increasingly deliver psychosocial content on self-awareness and interpersonal relationships, yet are designed with limited local evidence on how the family environment shapes what adolescents treat as central to their sense of self. This exploratory study examined associations between perceived parenting styles and personal and social identity salience in a school setting, in order to inform school-based psychosocial programming.

MATERIALS AND METHODS: A cross-sectional study was conducted among 60 students aged 17-19 years at a school in Mangalore, Karnataka, between July 2024 and June 2025. Participants completed the Parental Authority Questionnaire and the personal and social identity subscales of the Aspects of Identity Questionnaire-IV. Data were analyzed using descriptive statistics, t-tests, and hierarchical multiple regression, with parsimonious a priori models estimated as a robustness check.

RESULTS: Personal identity (M=36.2, SD=9.06) was rated far more important than social identity (M=23.5, SD=7.56), $t(59)=8.94$, $P<0.001$, $d=1.55$. Boys perceived both parents as more permissive than girls did. Father's permissive parenting was the strongest correlate of personal identity across every model specification ($\beta=0.51$, $P=0.001$ in the full model). Adolescents from below-poverty-line households scored higher on both identity domains. No maternal parenting style was associated with either outcome.

CONCLUSION: Paternal parenting and household economic position, rather than maternal parenting, were the salient family correlates of identity in this sample. Findings suggest that school psychosocial programs should actively engage fathers and adopt asset-based framing in low-income catchments, although the small single-school sample requires replication before programmatic adoption.

Introduction

Adolescence is widely characterized, following Erikson,[1] as a period organized around the task of forming a coherent sense of identity. Marcia[2] operationalized this process in terms of exploration and commitment, describing four identity statuses - achieved, foreclosed, moratorium, and diffused - and more recent dual-cycle models[3] further distinguish identity formation from identity maintenance. It is important to be precise about what the present study does and does not measure against this backdrop. Marcia's status framework requires instruments that classify individuals into statuses or capture exploratory and commitment processes directly; the present study did not use such an instrument. Instead, we used two subscales of the Aspects of Identity Questionnaire-IV (AIQ-IV),[15] an instrument grounded in identity-orientation theory, which asks respondents to rate how important different bases of self-definition - a personally defined sense of self versus one's social roles and relationships - are to their own sense of identity. Accordingly, we use the terms "personal identity salience" and "social identity salience" throughout, rather than identity status, and treat Marcia's and Erikson's frameworks as broad conceptual background rather than as the operational model tested here.

This distinction matters for health promotion practice. School-based adolescent health programs in India - notably the Rashtriya Kishor Swasthya Karyakram and the school health and wellness component of Ayushman Bharat, under which designated teachers deliver structured sessions on themes including emotional well-being, self-awareness, gender equity, and interpersonal relationships[23, 24] - work directly on the material of identity. Modules on self-awareness ask adolescents to articulate who they are as individuals; modules on relationships and community ask them to locate themselves within families, peer groups, and society. The World Health Organization's life-skills framework makes self-awareness and interpersonal relationship skills two of its core competencies.[25] Yet program content is typically standardized nationally, while the family environment in which adolescents form these self-definitions varies substantially by region, community, and household economic position. Program designers and implementing teachers have little local evidence on which family factors shape what adolescents actually treat as important to their sense of self, and therefore on where a standardized module is likely to land on receptive ground and where it may need adaptation.

Parenting styles - broadly categorized as authoritative, authoritarian, and permissive[4, 5] - are among the most consistently studied environmental influences on adolescent development, including identity-related outcomes. Separately, identity diffusion and foreclosure as defined within Marcia's status paradigm have been linked to elevated risk of depression, anxiety, and lower self-esteem.[6] We note this literature to motivate why identity-related constructs are of interest to those concerned with adolescent well-being; because the present study measured identity-domain salience rather than identity status, and did not administer any direct measure of depression, anxiety, or other mental health outcomes, our data speak to this literature only indirectly, as background motivation, and cannot be taken as a test of it.

Despite a well-established body of work linking parenting to adolescent identity-related outcomes, several gaps remain. Much of the existing literature is fragmented: the specific pathways through which parenting influences identity exploration and commitment have rarely been directly tested, potential moderators such as digital media use and changing family configurations have received limited attention, and persistent inconsistencies in how parenting styles are defined and operationalized continue to impede cumulative progress.[6] Recent work from South and Southeast Asia echoes these concerns: Rosyidul' Ibad et al.[7] found significant correlations between democratic, authoritarian, and permissive parenting styles and adolescent self-identity in Indonesia, while Gidwani and Mandal[8] documented links between parental responsiveness and attachment security in Indian adolescents. A shortage of longitudinal and cross-cultural designs capable of charting developmental trajectories adds to these difficulties.[9] Studies conducted in India underscore the relevance of cultural context: Rezvan et al.[10], studying 400 adolescents in and around Mysore city with the same PAQ and AIQ-IV instruments employed here, reported higher personal identity among adolescents with authoritarian parents, together with an effect of developmental stage on all identity components Vasudeva[11] demonstrated significant gender differences in self-esteem across parenting styles in Uttar Pradesh, and Sarkar[12] found that authoritative parenting positively predicted agreeableness and conscientiousness in a Karnataka sample.

Indian evidence on the distinct role of fathers is more limited but is beginning to accumulate. In a sample of 186 adolescents aged 14–19 years in Bengaluru, Chetan et al.[26] used the same PAQ and reported that perceived paternal permissive and authoritative-flexible styles were positively correlated with adolescents' endorsement of their own rights, with correlations for fathers generally stronger than those for mothers. Jeyaseelan et al.,[27] using the PAQ and a version of the Aspects of Identity Questionnaire among 309 college students in Tiruvannamalai, Tamil Nadu, reported that authoritative parenting was positively associated with personal, relational, social, and collective identity. A cross-cultural review of Indian research concluded that authoritative parenting is generally linked with better adolescent outcomes while findings on permissive parenting are mixed,[28] comparisons of Indian and US college students suggest that perceptions of parenting style are culturally patterned,[29] and studies centred on perceived paternal parenting in Indian adolescents have begun to appear.[31] In a school-based survey, greater parental involvement was also associated with lower odds of poor mental health among Indian adolescents.[30] Taken together, the Indian literature is heterogeneous in the parenting style it favours, varies by region, age group, and instrument, and rarely separates mothers from fathers. To our knowledge, few Indian studies have examined maternal and paternal parenting separately in relation to personal and social identity salience in a school setting. We offer the present study as a modest, locally grounded contribution toward that gap.

A further practical gap concerns fathers. School-based parent engagement in India - parent-teacher meetings, orientation sessions, consent processes for health programming - is in practice attended disproportionately by mothers, and program materials addressed to "parents" are often received by mothers alone. If paternal parenting carries independent weight for adolescent identity, this represents a systematic blind spot in how school health programs reach families.

This exploratory study therefore examines associations between perceived parenting styles and personal and social identity salience among adolescents in Mangalore, with attention to gender and to the distinct contributions of mothers and fathers, and considers what the resulting pattern implies for the design and targeting of school-based psychosocial programming. Given the collectivist and hierarchically organized social context of the study site, we anticipated that cultural factors might shape these associations in ways not fully captured by frameworks developed elsewhere.[13] Because the design is cross-sectional, self-report, and drawn from a single school with a modest sample, we frame all associations as preliminary and hypothesis-generating, and treat the programmatic implications as directions for program development and evaluation rather than as recommendations ready for immediate adoption.

Aim

To examine associations between perceived parenting styles and personal and social identity salience among school-going adolescents, and to identify, on an exploratory basis, which family and socioeconomic characteristics school-based psychosocial and life-skills programming may need to account for when delivered in comparable settings.

Objectives

- To describe the distribution of perceived maternal and paternal parenting styles among school-going adolescents and compare them by adolescent gender.
- To assess the relative importance adolescents place on personal and social bases of self-definition, as a baseline indicator of where standardized life-skills content on self-awareness and on relationships is likely to meet existing adolescent priorities.
- To explore associations between perceived parenting styles and identity salience, distinguishing maternal from paternal contributions.
- To examine, on an exploratory basis, whether these associations persist after adjusting for demographic and socioeconomic characteristics, using hierarchical multiple regression, while explicitly treating the resulting model as hypothesis-generating given the sample size.
- To derive, from the observed pattern, specific and testable implications for the targeting and content of school-based psychosocial programming.

Materials and Methods

Design and setting

A cross-sectional study was conducted among 60 adolescents in grades 11 and 12 at a private school in Mangalore, Karnataka, over a 12-month period from July 2024 to June 2025. The school serves a predominantly lower-income catchment area and, like all secondary schools in the state, is a delivery site for nationally mandated adolescent health and life-skills content.

Sampling procedure

All students in grades 11 and 12 (commerce and science streams) who had lived with their parents for at least 10 years were identified as eligible. All eligible students were invited to participate; of these, 60 provided both parental consent and adolescent assent and were enrolled. As every eligible student was invited and all consenting volunteers were enrolled, the achieved sample constitutes a non-probability, total-population sample of eligible, consenting students within a single school, rather than a random or lottery-based subsample of a larger eligible pool. Students who were sick or unavailable during data collection were excluded.

Measures

Data were collected using a structured questionnaire comprising three components. First, a demographic proforma collected information on age, gender, religion, family type, economic status, and parental education. Second, the Parental Authority Questionnaire (PAQ)[14] was used to assess

perceived parenting styles. The PAQ contains 30 items (10 per subscale: authoritative, authoritarian, permissive) rated on a 5-point Likert scale. In the present sample, internal consistency was α = 0.81 (authoritative), 0.79 (authoritarian), and 0.76 (permissive) for the mother version, and 0.79, 0.77, and 0.74 respectively for the father version. Third, the personal identity (10 items, α = 0.83) and social identity (8 items, α = 0.78) subscales of the AIQ-IV[15] were used to assess the relative importance adolescents place on these two bases of self-definition, each rated on a 5-point importance scale. Both instruments are brief, self-administered, and require no clinical training to deliver, which is relevant to their potential use as low-burden baseline measures within school programs. We did not administer any measure of depression, anxiety, self-esteem, or other mental health outcome.

Statistical analysis

Data were analyzed using SPSS version 27 with descriptive statistics, independent-samples t-tests, and one-way analysis of variance. To explore whether associations between parenting styles and identity salience persisted after adjustment for demographic covariates, hierarchical multiple regression was conducted separately for personal and social identity. In Step 1, seven demographic covariates were entered: sex, age group, economic status, family type, religion (Hindu and Christian, with Muslim as reference), and a composite parental education index. In Step 2, the six PAQ subscale scores were added as a block. Variance inflation factors (all < 2.5) indicated no problematic multicollinearity, and residuals were approximately normally distributed (Shapiro-Wilk $P > 0.05$ for both outcomes). Regression analyses were conducted using Python (statsmodels 0.14) on the original item-level dataset. Ninety-five percent confidence intervals are reported for every coefficient.

Sample size and model parsimony

With N = 60 and 13 predictors in the final regression model, the ratio of cases to predictors (approximately 4.6:1) falls well below conventional guidance for stable multiple regression. Applying Green's[22] rule of thumb - $N \geq 50 + 8k$ for testing the overall model and $N \geq 104 + k$ for testing individual predictors - the present model would require at least 154 cases to test the overall R^2 reliably and at least 117 cases to test individual predictors with adequate power; the achieved sample meets neither threshold. This does not mean the reported associations are false, but it does mean that coefficient estimates may be unstable and should not be treated as confirmed independent predictors on the basis of this dataset alone.

To address this directly, two more parsimonious, a priori-specified models were estimated from the same dataset as a robustness check on the personal-identity finding. Model A retained only the two demographic covariates that were significant in the original Step 1 (economic status, parental education) plus father's permissive parenting, giving a three-predictor model (cases-to-predictors ratio 20:1). Model B added adolescent sex and the remaining two paternal PAQ subscales, giving a six-predictor model (ratio 10:1). Both are reported alongside the full 13-predictor model, which is retained for transparency.

Ethical considerations

The study protocol was approved by the Yenepoya Ethics Committee-1 (Protocol No. YEC-1/2024/367) prior to data collection, in accordance with the Declaration of Helsinki and the ICMR National Ethical Guidelines for Biomedical and Health Research Involving Human Participants (2017). The research was carried out following the guidelines of this ethics committee. All participants were informed about the study's purpose, their right to withdraw at any time without consequence, and the confidentiality of their responses. Written informed consent was obtained from parents or legal guardians, and written assent was obtained from all adolescent participants. No identifying information was recorded on questionnaires, and data were stored securely and accessible only to the research team.

Results

Sociodemographic characteristics

The sample comprised slightly more females (n = 32, 53.3%) than males (n = 28, 46.7%). Most participants were 17 years old (78.3%), came from nuclear families (81.7%), and a large proportion (73.3%) were from below-poverty-line households, reflecting the predominantly lower-income catchment area of the school, which is relevant to the interpretation of parenting practices given documented associations between economic disadvantage and parenting behavior.[16] The majority were Muslim (61.7%), followed by Hindu (30.0%) and Christian (8.3%) participants [Table 1].

Table 1
Sociodemographic profile of participants (n = 60)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	28	46.7
	Female	32	53.3
Age (years)	17	47	78.3
	18–19	13	21.7
Religion	Hindu	18	30.0
	Muslim	37	61.7
	Christian	5	8.3
Type of family	Nuclear	49	81.7
	Joint/extended	11	18.3
Economic status	Above poverty line	16	26.7
	Below poverty line	44	73.3

Distribution of perceived parenting styles

Among mothers, authoritarian parenting obtained the highest mean score (M = 33.4, SD = 3.86), slightly exceeding endorsement of the authoritative style (M = 32.5, SD = 4.12), with permissive parenting lowest (M = 30.2, SD = 4.94). Among fathers, the authoritative style was most clearly identified (M = 31.8, SD = 5.14), compared with permissive (M = 30.9, SD = 4.35) and authoritarian styles (M = 30.1, SD = 4.35); the high proportion of neutral responses for authoritarian fathering (68.3%) suggests that fathers in this sample were not prominently associated with controlling behavior. Full distributions are reported in Supplementary Tables S1 and S2. Boys rated both parents as significantly more permissive than girls did (mother: $t(58) = 2.07$, $P = 0.043$; father: $t(58) = 2.61$, $P = 0.012$).

Personal and social identity salience

Personal identity was rated very or extremely important by 66.7% of participants, with 35.0% selecting the highest importance rating. In contrast, no participant rated social identity as extremely important. Mean scores confirmed this divergence: personal identity (M = 36.2, SD = 9.06) substantially exceeded social identity (M = 23.5, SD = 7.56), and a paired-samples t-test confirmed the difference as highly significant, $t(59) = 8.94$, $P < 0.001$, $d = 1.55$, a large effect [Table 2]. Rezvan et al.[10] and Jeyaseelan et al.[27] also used AIQ-based instruments in Indian samples; however, differences in age range, subscale composition, and scoring mean that absolute score levels cannot be compared directly, and we make no claim of equivalence.

Table 2
Personal and social identity endorsement, n (%) unless stated (n = 60)

Identity domain	Slightly important	Somewhat important	Very important	Extremely important	M	SD
Personal identity	1 (1.7)	19 (31.7)	19 (31.7)	21 (35.0)	36.2	9.06
Social identity	22 (36.7)	28 (46.7)	10 (16.7)	0 (0.0)	23.5	7.56

Bivariate associations

All three paternal parenting styles were significantly and positively associated with personal identity at the bivariate level (authoritative $r = 0.289$, $P = 0.025$; authoritarian $r = 0.286$, $P = 0.027$; permissive $r = 0.397$, $P = 0.002$), while no maternal style reached significance (the strongest, authoritarian mothering, $r = 0.228$, $P = 0.080$). None of the six PAQ subscales was significantly associated with social identity. Full correlation matrices are reported in Supplementary Tables S3 and S4.

Hierarchical regression

For personal identity, demographic covariates alone explained a significant proportion of variance, $R^2=0.23$, adjusted $R^2=0.13$, $F(7,52) = 2.24$, $P = 0.045$. Adding the six parenting-style scores improved the model, $\Delta R^2=0.27$, $F(6,46) = 4.20$, $P = 0.002$, with the full model explaining 50.4% of variance (adjusted

R^2=0.36), F(13,46) = 3.59, P < 0.001. Three predictors reached conventional significance: economic status (below poverty line associated with higher personal identity, B = 8.37, 95% CI 3.08 to 13.67, β = 0.41, P = 0.003), parental education (B = 3.32, 95% CI 0.45 to 6.20, β = 0.29, P = 0.024), and father's permissive parenting (B = 1.06, 95% CI 0.44 to 1.67, β = 0.51, P = 0.001) [Table 3].

Table 3
Hierarchical regression predicting personal identity salience (n = 60)

Predictor	B (Step 1)	P	B (Step 2)	95% CI (Step 2)	β	P (Step 2)
Female	-2.09	0.379	0.10	-4.22 to 4.42	0.01	0.963
Age 18–19 years	-2.23	0.447	-3.10	-8.33 to 2.13	-0.14	0.239
Below poverty line	8.81	0.005	8.37	3.08 to 13.67	0.41	0.003
Joint/extended family	4.39	0.169	5.10	-0.40 to 10.60	0.22	0.069
Religion (Hindu)	1.82	0.506	3.07	-2.02 to 8.16	0.16	0.231
Religion (Christian)	6.16	0.157	5.82	-1.77 to 13.41	0.18	0.130
Parental education	3.38	0.043	3.32	0.45 to 6.20	0.29	0.024
Mother - authoritative	-	-	-0.42	-0.98 to 0.15	-0.19	0.144
Mother - authoritarian	-	-	0.43	-0.28 to 1.14	0.18	0.233
Mother - permissive	-	-	-0.44	-1.04 to 0.16	-0.24	0.146
Father - authoritative	-	-	0.30	-0.20 to 0.81	0.17	0.235
Father - authoritarian	-	-	0.06	-0.52 to 0.64	0.03	0.837
Father - permissive	-	-	1.06	0.44 to 1.67	0.51	0.001

Step 1: R^2=0.23, adjusted R^2=0.13, F(7,52) = 2.24, P = 0.045. Step 2: R^2=0.50, adjusted R^2=0.36, F(13,46) = 3.59, P < 0.001. ΔR^2=0.27, F-change(6,46) = 4.20, P = 0.002. CI: Confidence interval

For social identity, the demographic covariate model was also significant, R^2=0.25, adjusted R^2=0.15, F(7,52) = 2.47, P = 0.029, but adding parenting styles did not significantly improve fit, ΔR^2=0.14, F(6,46) = 1.73, P = 0.135. Economic status was the only predictor reaching significance (B = 6.34, 95% CI 1.43 to 11.25, β = 0.37, P = 0.013); father's permissive parenting did not (B = 0.56, 95% CI -0.01 to 1.13, β = 0.32, P = 0.056). We report this coefficient and its confidence interval, which spans zero, rather than describing it as approaching significance - a phrase that overstates what a non-significant result with a wide interval can support. Full results are given in Supplementary Table S5.

Robustness check: reduced models

Both reduced models converged with the full exploratory model: father's permissive parenting remained a significant, independent correlate of personal identity across every specification (full model β = 0.51, P = 0.001; Model A β = 0.40, P = 0.001; Model B β = 0.33, P = 0.011), indicating that the association is not solely an artifact of the original model's overfitting risk [Table 4]. For social identity, the reduced models again identified economic status and parental education as the most consistent correlates, with father's permissive parenting non-significant in every specification (Supplementary Table S5).

Table 4
Reduced, a priori regression models predicting personal identity salience (n = 60)

Predictor	**B**	**95% CI**	**β**	**P**
Model A (k = 3)				
Below poverty line	7.34	2.40 to 12.28	0.36	0.004
Parental education	3.79	0.98 to 6.59	0.33	0.009
Father - permissive	0.83	0.36 to 1.29	0.40	0.001
Model A fit: R^2=0.30, adjusted R^2=0.27, F(3,56) = 8.12, P < 0.001				
Model B (k = 6)				
Female	-0.09	-4.52 to 4.34	-0.00	0.968
Below poverty line	7.16	2.12 to 12.21	0.35	0.006
Parental education	3.64	0.82 to 6.46	0.32	0.012
Father - authoritative	0.19	-0.30 to 0.68	0.11	0.445
Father - authoritarian	0.28	-0.27 to 0.83	0.14	0.307
Father - permissive	0.70	0.17 to 1.23	0.33	0.011
Model B fit: R^2=0.34, adjusted R^2=0.27, F(6,53) = 4.63, P = 0.001				

For k = 3, Green's rule requires n ≥ 74 (overall model) and n ≥ 107 (individual predictors); for k = 6, n ≥ 98 and n ≥ 110. The achieved n = 60 still falls short of full adequacy, but the cases-to-predictors ratios (20:1 and 10:1) are more defensible than the 4.6:1 ratio of the full 13-predictor model. CI: Confidence interval

Discussion

This exploratory study examined how perceived parenting styles relate to personal and social identity salience among school-going adolescents in Mangalore, and what the resulting pattern implies for school-based psychosocial programming. Three findings carry programmatic weight: the near-total absence of maternal parenting effects alongside a consistent paternal one; the strong prioritization of

personal over social identity; and the independent association of household economic position with both identity domains.

Maternal parenting and identity salience

No maternal parenting style was significantly associated with either identity domain, a pattern that held after adjustment for demographic covariates. This runs counter to work reporting positive links between authoritative mothering and adolescent identity-related outcomes.[18] One untested explanation is that in the predominantly Muslim, below-poverty-line context of this study, maternal parenting may operate through mechanisms not captured by the PAQ - for instance, emotional availability, religious socialization, or economic coping strategies.[16] We flag this as a hypothesis for future research rather than a conclusion supported by the present data. A weak positive bivariate trend between authoritarian mothering and personal identity ($r = 0.228$, $P = 0.080$) did not reach significance and should not be over-interpreted, although it is consistent with cross-cultural work suggesting that stricter parental control does not invariably work against identity-related outcomes.[13]

Paternal parenting and identity salience

The picture for fathers was different. In bivariate analysis, all three paternal styles were positively and significantly associated with personal identity salience. This convergence points to the broader salience of fathers' involvement in this sample, consistent with arguments that fathers exert a distinctive developmental influence that research has historically undervalued.[19] The indiscriminate positive association across all three paternal styles is theoretically unexpected: standard developmental theory would predict authoritative - not authoritarian or permissive - fathering to be uniquely beneficial.[4, 20] The hierarchical regression clarified this somewhat: once maternal styles, other paternal styles, and demographic covariates were included, father's permissive parenting emerged as the strongest correlate of personal identity, while paternal authoritative and authoritarian styles no longer reached significance. We emphasize that a 13-predictor model fitted to 60 cases cannot on its own establish this as a stable, independent effect, although its persistence across both reduced models is reassuring.

We can only speculate about mechanism. One possibility is that, within this sociocultural context, a father's lenient stance is read by adolescents as an expression of trust and autonomy rather than disengagement; an alternative is that permissive fathering functions as compensatory flexibility in households where fathers are less involved in day-to-day caregiving. We present both explicitly as untested hypotheses, and we did not measure adolescents' subjective interpretation of paternal leniency or fathers' caregiving involvement directly.

These paternal findings sit in partial agreement with Indian work from the same broad region. Chetan et al.,[26] also using the PAQ in South India, observed that fathers' permissive style was positively related to adolescents' endorsement of their rights, and that associations with paternal styles were stronger than those with maternal styles; they also noted no maternal association for nurturance rights and suggested that mothers' nurturance may be taken for granted by adolescents. Their outcome (attitudes toward

rights) is conceptually distinct from identity salience, so we cite it as a contextual parallel and not as confirmation. By contrast, Rezvan et al.[10] reported higher personal identity among adolescents with authoritarian parents in Mysore, Jeyaseelan et al.[27] reported positive associations for authoritative parenting in Tamil Nadu, and a review of Indian literature describes findings on permissive parenting as mixed.[28] We therefore do not read our results as contradicting the Indian literature; rather, they illustrate how much findings vary across regions, age groups, instruments, and socioeconomic settings, and they reinforce the value of locally generated evidence and of replication. Family roles in India are also changing, and some authors describe growing warmth and engagement among fathers in urban families;[26] how a lenient paternal stance is read by adolescents may therefore differ between households and communities, which our data cannot resolve.

Social identity, gender, and economic position

Neither maternal nor paternal parenting emerged as a correlate of social identity, and the parenting-style block did not significantly improve prediction beyond demographic covariates. This is broadly consistent with theoretical work suggesting that personal identity processes take priority during adolescence, particularly in settings undergoing rapid social change.[21] The finding that boys perceived higher permissiveness from both parents is in line with evidence that male adolescents are afforded more autonomy in many cultural contexts.[11, 13] It is important not to conflate perceived permissiveness with objectively more permissive behavior: these are adolescents' subjective appraisals, which may themselves be shaped by gender-role expectations.[17] Economic status was independently associated with both personal and social identity, with adolescents from below-poverty-line households scoring higher on both dimensions even after adjustment. Candidate explanations - peer networks, religious community involvement, or other identity-supportive mechanisms not captured by the parenting measures used here - remain untested.

Implications for School-Based Psychosocial Health Promotion

The following implications follow from the observed pattern. Because the study is exploratory and drawn from a single school, we frame them as hypotheses for program development and evaluation rather than as recommendations ready for immediate implementation.

Fathers are an underused point of contact

Paternal, not maternal, parenting carried the observable association with identity salience in this sample, yet school-based parent engagement in India is in practice weighted toward mothers. If this pattern replicates, it identifies a concrete mismatch between where schools direct family-facing effort and where the measurable family association lies. A testable program adaptation would be father-specific engagement - scheduling parent sessions outside standard working hours, issuing separately addressed invitations rather than generic "parent" communications, and recording attendance by parent rather than by household so that reach can actually be monitored. Attendance by parent gender is a low-cost

process indicator that most schools do not currently capture, and collecting it would permit evaluation of whether such adaptations work before any claim is made about their effect on adolescents.

Autonomy granting, not parenting-style labels, is the useful content

Parent-facing components of adolescent health programming often promote authoritative parenting as a generic good. The present data do not support that framing in this setting: the paternal style associated with higher personal identity salience was the permissive one, and the authoritative style was not independently associated with either outcome. Rather than prescribing a style, program content addressed to fathers might more usefully focus on how autonomy granting is interpreted by adolescents, and on distinguishing leniency that communicates trust from leniency that reflects disengagement - a distinction our data cannot adjudicate but which program content could usefully raise. Any such content should be developed with, and pilot-tested on, fathers in comparable settings rather than adapted from Western parent-training curricula.

Gendered autonomy is measurable and actionable

Boys perceived both parents as more permissive than girls did, a difference that reached significance for both mothers and fathers. Gender equity is already a designated theme within national school health and wellness content,[23, 24] and this finding gives that theme a specific, locally observed anchor: differential autonomy granting within the household, as adolescents themselves perceive it. Sessions on gender equity that work from adolescents' own reported experience of differential freedom are likely to be more concrete than those working from abstract principle, and perceived permissiveness is measurable before and after with a short existing instrument.

Low-income catchments warrant asset-based rather than deficit framing

Adolescents from below-poverty-line households scored higher on both personal and social identity salience, independent of parenting style. School health programming in low-income catchments frequently proceeds on a deficit assumption. These data, provisional as they are, point the other way, and suggest that programs in such catchments might be designed to build on existing identity resources rather than to remediate assumed deficits. Identifying what those resources are - peer networks, community and religious involvement, or other mechanisms - is a priority for formative research preceding program design.

A low-burden baseline measure for program evaluation

The AIQ-IV personal and social identity subscales are short, self-administered, and require no clinical training to deliver or score, and they discriminated sharply in this sample. Where school programs deliver self-awareness and relationship modules but evaluate them only through knowledge tests or attendance, these subscales offer a feasible outcome measure of whether the constructs the modules target are

shifting. We note, however, that the instrument lacks formal cultural validation and Indian normative data, which would need to be established before it could support cross-site comparison or program accountability.

Where standardized content meets existing priorities

The large gap between personal and social identity endorsement (d = 1.55) suggests that life-skills content built around self-awareness addresses something these adolescents already treat as important, whereas content concerning social roles, community belonging, and collective identity engages a domain they rate as considerably less central. This does not argue for dropping the latter; if anything it argues for more scaffolding there, and for not assuming that participation in relationship-focused modules reflects the same level of personal investment that self-focused modules attract.

Limitations

- Only 60 adolescents from a single school in one geographic area participated. This was a non-probability, total-population sample of eligible, consenting students rather than a random sample, which limits generalizability to Indian adolescent populations more broadly and means the programmatic implications above apply, at most, to comparable settings.
- This study cannot establish causal relationships between parenting styles and identity salience, as data were collected at a single time point using self-report measures of both predictor and outcome variables. Longitudinal, multi-informant designs are needed to assess directionality.
- Self-report questionnaires are potentially influenced by social desirability bias and reflect adolescents' subjective perceptions rather than observed parenting behavior. The absence of formal cultural validation and published normative data for Indian adolescent populations is a further limitation; item-level psychometric analyses within this population are warranted.
- The final regression model included 13 predictors for 60 cases, a ratio well below established guidance for stable estimation. The reported associations should be treated as exploratory and hypothesis-generating pending replication in an adequately powered sample.
- No measure of depression, anxiety, self-esteem, or other mental health outcome was administered. The present findings should not be read as evidence about adolescent mental health outcomes.
- The AIQ-IV subscales measure the importance adolescents place on different bases of self-definition; they do not measure Marcia's identity statuses or the underlying exploration and commitment processes.
- The programmatic implications drawn above are derived from observational, cross-sectional associations and have not been tested as interventions. They are offered as hypotheses for program development and evaluation.

Conclusion

In this exploratory, single-school sample, fathers' - not mothers' - parenting carried the observable association with adolescent identity salience, with paternal permissiveness the strongest correlate of personal identity across every model specification. Adolescents prioritized personal over social identity by a large margin, and those from below-poverty-line households scored higher on both domains independent of parenting style. If these patterns replicate in larger and more diverse samples, they suggest three adjustments to school-based psychosocial programming in comparable settings: deliberate engagement of fathers rather than undifferentiated outreach to "parents"; content addressing how adolescents interpret parental autonomy granting rather than promotion of a parenting-style label; and asset-based rather than deficit-based design in low-income catchments. Given the modest sample size relative to the number of predictors, and the absence of any mental health outcome measure, these findings are preliminary. We suggest that future work combine validated identity measures, direct well-being outcomes, and adequately powered, longitudinal, multi-informant designs, and that the programmatic implications identified here be tested prospectively before adoption.

Declarations

Data availability

The datasets generated and analyzed during the current study are not publicly available due to participant confidentiality but are available from the corresponding author on reasonable request.

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Contributions

A.S.D.: concept, design, data acquisition, manuscript editing. G.C.: supervision, data analysis, statistical analysis. A.R.A.H.: literature search, manuscript preparation, manuscript review. All authors have read and approved the final manuscript and agree to be accountable for all aspects of the work.

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Ethics declarations

Ethics approval and consent to participate

The study protocol was approved by the Yenepoya Ethics Committee-1 (Protocol No. YEC-1/2024/367) prior to data collection, in accordance with the Declaration of Helsinki and the ICMR National Ethical Guidelines for Biomedical and Health Research Involving Human Participants (2017). The research was carried out following the guidelines of this ethics committee. Written informed consent was obtained from parents or legal guardians, and written assent was obtained from all adolescent participants.

Clinical trial number:

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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