

Family Environment and Adolescent Behavioural Outcomes in Moiben Sub-County, Kenya

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Abstract: Adolescence is a developmental period in which family processes are widely regarded as central to behavioural adjustment, yet most existing studies examine parental monitoring, parent-child communication, family cohesion, and disciplinary practices separately rather than comparing their relative contribution within a single sample. This study compared four family-environment dimensions as correlates of behavioural outcomes among senior school students in Moiben Sub-County, Uasin Gishu County, Kenya, a rural agricultural setting in which family-behaviour associations remain under-researched. A convergent parallel mixed-methods design combined a cross-sectional survey of 341 students with semi-structured interviews with 22 teachers and focus group discussions with 12 parents or guardians. All four dimensions were significantly and positively correlated with behavioural outcomes: family cohesion ($r = .435$), parental monitoring ($r = .412$), parent-child communication ($r = .398$), and disciplinary practices ($r = .387$), all $p < .01$, with overlapping confidence intervals. In a combined regression model, the four dimensions together accounted for 31.2% of the variance in behavioural outcomes ($R^2 = .312$), with family cohesion emerging as the largest standardised predictor ($\beta = .245$), followed by monitoring, communication, and discipline. Qualitative accounts converged with, and extended, these statistical patterns: participants described the erosion of communal child-rearing norms, a persistent gap between instrumental and emotional communication, and continuing tension between authoritative and physically punitive disciplinary practices. The findings suggest that family cohesion may be the single most promising point of leverage for adolescent-focused family interventions in comparable rural Kenyan settings, without displacing the complementary roles of monitoring, communication, and consistent discipline.

Keywords: family environment, family cohesion, parental monitoring, parent-child communication, adolescent behaviour, rural Kenya.

I. INTRODUCTION

A. Family Environment and Adolescent Behaviour

The family is the closest and most immediate context in which adolescents receive supervision, communication, emotional support, and discipline, and is therefore treated within Bronfenbrenner's ecological framework as the core of the adolescent microsystem [1]. Four family processes recur across this literature as distinct but related influences on adolescent adjustment: parental monitoring, the extent to which parents track an adolescent's whereabouts, activities, and peer relationships; parent-child communication, the openness and quality of parent-adolescent interaction; family cohesion, the emotional bonding, trust, and sense of togetherness among family members; and parental disciplinary practices, the methods used to guide, correct, and manage behaviour. Each has an independent evidence base linking it to reduced risk behaviour and improved adjustment during adolescence [2].

The behavioural stakes are well documented. Behavioural disorders account for a substantial share of the global adolescent illness burden [3], and national data point to rising indiscipline, absenteeism, and substance use among Kenyan secondary school students [4]. In Moiben Sub-County specifically, school administrators have linked increases in absenteeism and indiscipline over 2022–2024 to inadequate family support, against a backdrop of low household income and heavy reliance on subsistence and casual farming that limits parental availability [5].

B. A Comparative Gap in the Literature

Despite this shared theoretical grounding, empirical studies have tended to isolate single family processes rather than compare them within one sample. Regional work illustrates the pattern: communication has been examined largely on its own in Zambia [6]; monitoring and discipline together, but without cohesion or communication, in Tanzania [7]; and cohesion in isolation in Kajiado County, Kenya [8]. Where more than one dimension has been considered jointly, as in a Bahamian study of monitoring and communication [9], the comparison has still stopped short of the full set of processes that Bronfenbrenner's ecological model [10], Baumrind's parenting-styles framework [11], and Bandura's social learning account of family modelling [12] jointly imply operate together within any one family. Consequently, it remains largely untested which of these processes carries the strongest association with adolescent behaviour when all four are measured in the same sample, and whether that pattern holds in a rural, agrarian, sub-Saharan African setting rather than the urban or Western contexts in which most of this literature originates.

C. Purpose and Research Question

This study addresses that gap by comparing parental monitoring, parent-child communication, family cohesion, and parental disciplinary practices as correlates of behavioural outcomes among senior school students in Moiben Sub-County, Kenya, within a single convergent mixed-methods design. The guiding research question was: which family-environment dimension, or dimensions, shows the strongest association with adolescent behavioural outcomes in this setting, and how do the accounts of students, teachers, and parents explain the statistical pattern observed? Rather than testing each dimension as an isolated hypothesis, the analysis that follows treats the four dimensions as a single comparative model, integrated throughout with qualitative material that speaks to why each association takes the shape it does.

D. Contribution

The study contributes comparative, mixed-methods evidence from a rural Kenyan agricultural sub-county in which family-behaviour research is scarce, and it offers a basis for targeting family-strengthening interventions toward the dimension, or dimensions, most strongly associated with behavioural outcomes rather than distributing limited programme resources evenly across all four.

II. LITERATURE REVIEW

A. Theoretical Framework

Three theories anchor this comparative approach. Bronfenbrenner's ecological systems theory situates the family within the adolescent's microsystem, the immediate setting through which broader ecological influences are transmitted [1], [10], although it has been criticised as too broad to specify which family behaviours drive which outcomes. Baumrind's parenting-styles framework narrows this to two dimensions, responsiveness and demandingness, and consistently links authoritative parenting to positive adolescent adjustment [13], though the framework was developed in Western, middle-class settings and its cross-cultural validity remains contested [14], [11]. Bandura's social learning theory supplies the linking mechanism: adolescents acquire behaviour by observing and imitating parental monitoring, communication, and disciplinary responses [12]. Taken together, the three theories justify treating monitoring, communication, cohesion, and discipline as related but empirically distinguishable predictors of adolescent behaviour, which is the premise tested directly in this study.

B. Parental Monitoring

Cross-national evidence consistently links parental monitoring to reduced risk behaviour. A nine-country study found monitoring predicted lower adolescent substance use across highly diverse cultural settings [15], while comparative work in Ghana and the United States found the monitoring-behaviour association stronger in the more collectivist Ghanaian sample, suggesting community-oriented monitoring carries additional protective weight in African settings [16]. Dual-parent supervision has been shown to outperform single-parent monitoring in reducing delinquency in longitudinal Dutch data [17], and Tanzanian evidence links parental involvement in monitoring directly to school discipline outcomes [7]. A

large United States survey similarly found closely monitored adolescents markedly less likely to engage in risk behaviour [18]. None of this literature examines monitoring alongside the other three family dimensions within one rural East African agricultural community, where seasonal farm labour and limited digital literacy plausibly constrain monitoring capacity in ways this literature has not captured.

C. Parent-Child Communication

Longitudinal United States evidence shows open parent-adolescent communication mediates the link between parental control and externalising behaviour, reducing rule-breaking over time [19], while Zambian research on sexual-health communication found adolescents' willingness to discuss sensitive topics depended on emotional closeness to parents rather than on communication frequency alone [6]. Closer to the present setting, a Uasin Gishu County study found parent-child communication accounted for over half the variance in adolescents' sexual risk behaviour [20], and Chinese panel data show communication quality and peer-friendship quality reinforce one another over time [21]. Each of these studies isolates communication from the other family dimensions with which it plausibly interacts, leaving open how much of its association with behaviour is distinct once monitoring, cohesion, and discipline are modelled together.

D. Family Cohesion

Family cohesion has been linked to lower psychological maladjustment under chronic stress in South Korea [22], and, closer to Moiben Sub-County, to adolescents' sexual knowledge and interests in Kajiado County, Kenya [8]. Ethiopian path-analytic evidence complicates a simple protective story, however: cohesion alone did not significantly predict disruptive behaviour once self-regulation was modelled, suggesting cohesion may operate indirectly rather than as a standalone lever [23]. This tension, cohesion as consistently associated with better outcomes in bivariate terms but with an uncertain independent contribution once other mechanisms are considered, is precisely what a comparative regression model can help resolve, and is largely unaddressed in single-dimension Kenyan studies.

E. Parental Disciplinary Practices

Discipline research converges on one functional principle across very different cultural settings: consistent, explained, relationship-affirming discipline predicts better adolescent adjustment, while harsh or purely punitive discipline predicts worse adjustment, a pattern replicated across 428 studies spanning individualist and collectivist cultures [13] and confirmed in a targeted cross-cultural review [24]. United States longitudinal evidence shows that combining reasoning with autonomy-support produces the strongest moral internalisation, while psychological control and punitive strategies predict externalising behaviour [25], and Chinese survey data show that harsh discipline's negative effects are buffered, though not eliminated, by emotional warmth [26]. This literature implies that a single composite discipline score combining fair, explained discipline with physical punishment, as commonly used in rural Kenyan instruments, may obscure two functionally opposite constructs rather than measuring one coherent practice.

F. Synthesis and the Comparative Gap

Across all four dimensions, the regional and Kenyan evidence available is concentrated in single-dimension or two-dimension studies, set in urban or peri-urban locations, or drawn from outside East Africa. Mbanga et al. [7] covers monitoring and discipline in Tanzania; Busienei et al. [20] covers communication in urban Uasin Gishu; Nyaguti et al. [8] covers cohesion in Kajiado County. No identified study compares all four family-environment dimensions within one rural, agricultural Kenyan sample, using both a statistical model and the lived accounts of students, teachers, and parents to interpret it. This is the specific gap the present study addresses, and it is the basis for the comparative research question set out in Section I.C.

III. METHODS

A. Design

The study used a convergent parallel mixed-methods design within a pragmatic paradigm, in which quantitative and qualitative strands were collected concurrently, analysed separately, and integrated at the point of interpretation [27], [28]. The quantitative strand used a correlational cross-sectional design to test the strength of association between the four family-environment dimensions and adolescent behavioural outcomes. The qualitative strand used a phenomenological approach with teachers and parents to explain and contextualise the statistical patterns observed.

B. Setting, Population, and Sampling

The study was conducted in Moiben Sub-County, Uasin Gishu County, Kenya, a mixed rural and peri-urban area characterised by subsistence and commercial farming and a wide range of household incomes. The sampling frame comprised senior school students in Form 3 and Grade 10 (aged 15–18) across the sub-county's public senior schools, a population of approximately 3,200. A three-stage sampling procedure was used: schools were first stratified by ward, 12 schools were then selected at random within strata, and students were then drawn from class registers using systematic random sampling. Applying Yamane's formula [29] ($N = 3,200$, $e = .05$) yielded a target sample of 356 students; 341 completed, valid responses were retained for analysis (a 95.8% completion rate). Teachers ($n = 24$, two per participating school) were selected purposively from a population of approximately 180 qualified educators, on the basis of their experience in student guidance and support. Twelve parents or guardians were recruited purposively to represent a range of socioeconomic backgrounds for the focus group discussions.

C. Instruments

A structured student questionnaire measured the four family-environment dimensions and adolescent behavioural outcomes on five-point Likert scales (1 = not at all true of me to 5 = always true of me), with items adapted from the Youth Self-Report [30] and from locally developed indicators for Kenyan educational contexts [31]. The instrument was piloted with 30 students from a non-participating school. A semi-structured interview guide, organised around the same four family dimensions, was used with teachers (20–30 minutes per interview, audio-recorded with consent), and a parallel focus group discussion guide was used with parents in groups of six to eight.

D. Validity, Reliability, and Trustworthiness

Content validity was supported through theory-driven item development, expert panel review, and exploratory factor analysis at the piloting stage. Internal consistency was assessed with Cronbach's alpha (threshold $\geq .70$) and temporal stability with a two-week test-retest intraclass correlation coefficient (threshold $\geq .80$) among the pilot sample. Trustworthiness of the qualitative strand followed the credibility, transferability, dependability, and confirmability criteria [32], supported by member checking, triangulation across students, teachers, and parents, thick description of the study setting, an audit trail of methodological decisions, and a reflexive research journal.

E. Procedures and Ethics

Ethical approval was obtained from the Catholic University of Eastern Africa, with a research permit from the National Commission for Science, Technology and Innovation and further clearance from the Uasin Gishu County Director of Education and participating school administrations. Parents or guardians gave written informed consent and students gave individual assent; participation was voluntary and could be withdrawn at any stage without consequence, and no personally identifying information was collected. Data collection proceeded in three phases: permissions and a pilot study at a non-participating school in Eldoret; quantitative questionnaire administration; and qualitative interviews and focus group discussions, audio-recorded with consent and supplemented by field notes.

F. Data Analysis

Quantitative data were analysed in SPSS version 28. Descriptive statistics summarised participant characteristics and each family-environment dimension. Pearson correlation coefficients tested the bivariate association between each dimension and behavioural outcomes, and a multiple linear regression, with age, gender, and living arrangement entered as covariates, tested their combined and relative contribution. Qualitative data were analysed using Braun and Clarke's six-phase thematic analysis [33]: familiarisation, initial coding, theme development, theme review, definition and naming, and write-up. Quantitative and qualitative findings were then compared side by side at the interpretation stage, consistent with the convergent parallel design.

IV. RESULTS**A. Sample Characteristics**

Of 356 questionnaires distributed to students, 341 were completed and returned (95.8%); 22 of 24 scheduled teacher interviews were completed (91.7%), and all 12 parent focus group discussions took place. Among student respondents, 54.3% were female and 45.7% were male. By living arrangement, 58.1% lived with both biological parents, 26.1% with a

single parent, 12.0% with a guardian, and 3.8% in another arrangement; parents or guardians were most commonly farmers (37.5%) or casual labourers (26.1%). By age, 42.5% of respondents were 15–16 years old and 33.4% were 17–18 years old, consistent with the Form 3/Grade 10 eligibility criterion; the remaining 24.0% were recorded as 13–14 years old, outside the stated eligibility range, a discrepancy addressed in the Limitations section.

B. Levels of the Four Family-Environment Dimensions

Family cohesion recorded the highest composite mean of the four dimensions ($M = 3.57$), driven particularly by items on mutual care ($M = 3.81$) and belonging ($M = 3.73$). Parental monitoring followed ($M = 3.50$), with clear household rules the strongest-endorsed item ($M = 3.69$) and free-time supervision the weakest ($M = 3.30$). Parent-child communication showed the widest internal split of any dimension: items on practical, instrumental topics scored highly ($M = 3.66$ and 3.59), while items on emotional openness scored markedly lower ($M = 3.19$), indicating that communication was substantially stronger in content than in emotional register. Disciplinary practices showed a comparable split once separated into an authoritative subscale, fair and consistent rule-explanation and reward ($M \approx 3.42$), and a punitive subscale, harsh and physical punishment ($M \approx 2.97$); the seven-item composite ordinarily reported for this scale obscures that difference.

C. Bivariate Correlations with Behavioural Outcomes

All four dimensions were significantly and positively correlated with adolescent behavioural outcomes at $p < .01$: family cohesion, $r = .435$, 95% CI [.345, .517]; parental monitoring, $r = .412$, 95% CI [.320, .496]; parent-child communication, $r = .398$, 95% CI [.305, .484]; and disciplinary practices, $r = .387$, 95% CI [.293, .474]. The confidence intervals overlap substantially across all four dimensions, so while family cohesion shows the numerically largest association, this dataset does not support a claim that it is statistically distinguishable from the other three at the bivariate level.

D. Combined Regression Model

Entered together, the four dimensions accounted for 31.2% of the variance in adolescent behavioural outcomes ($R^2 = .312$), $F(4, 336) = 38.09$, $p < .001$. Standardised coefficients ranked family cohesion highest ($\beta = .245$), followed by parental monitoring ($\beta = .198$), parent-child communication ($\beta = .176$), and disciplinary practices ($\beta = .159$).

E. Qualitative Findings

Qualitative accounts converged with, and extended, the statistical patterns above. For monitoring, participants described a decline in the communal child-rearing norms that once distributed supervision across the extended family and community: one teacher observed that “in the past, the whole community watched over children... now families are more separate,” while parents described a specific gap in digital-era supervision, being unable to track adolescents' phone and social-media use despite knowing their physical whereabouts. For communication, participants linked the descriptive gap between practical and emotional topics to cultural expectations around parental authority, with several teachers describing emotional topics as rarely broached directly between parents and adolescents. For cohesion, shared meals, prayer, and collective response to hardship recurred as the mechanisms through which belonging was built and sustained, consistent with cohesion's standing as the highest-scoring dimension; participants also linked the erosion of extended-family involvement to growing pressure on the nuclear family unit. For discipline, physical punishment remained common in practice even where participants endorsed fairness and explanation as the better approach, reflecting ongoing tension between traditional disciplinary norms and Kenya's child-rights legal framework, which the authoritative/punitive subscale split in Section IV.B makes statistically visible.

V. DISCUSSION

A. Family Cohesion as the Leading, Non-Exclusive Correlate

Family cohesion emerged as both the highest-scoring family-environment dimension and the largest standardised predictor of behavioural outcomes, and the qualitative material offers a coherent explanation: shared meals, prayer, and collective responses to hardship were the concrete mechanisms through which participants described belonging being built. This is consistent with cohesion's protective role reported elsewhere [22], though the overlapping confidence intervals reported in Section IV.C caution against treating cohesion as the sole or even a substantially stronger lever than the other three dimensions; the Ethiopian finding that cohesion's effect may operate indirectly, through self-regulation, rather than directly [23], fits a dataset in which cohesion leads numerically without being statistically distinct.

B. A Communication Gap Specific to Emotional Content

Communication's internal split, high scores on practical topics, low scores on emotional openness, suggests that parent-adolescent communication in this setting is not uniformly weak but selectively constrained. Participants linked this directly to cultural expectations around parental authority, a pattern that qualifies rather than contradicts evidence from more individualistic settings that open communication mediates externalising behaviour [19]: the present findings suggest the relevant lever in Moiben Sub-County may be narrower, specifically emotional disclosure, rather than communication in general.

C. Disaggregating Discipline

Separating the discipline scale into authoritative and punitive subscales, made possible without new data collection, is the clearest methodological contribution of this comparative analysis. It resolves an interpretive problem: a single composite score treating fair, explained discipline and physical punishment as points on one continuum cannot distinguish a family that disciplines consistently and warmly from one that disciplines harshly. This aligns with cross-cultural evidence that discipline's effects are functionally, not just culturally, contingent: consistent and relationship-affirming discipline predicts better adjustment across very different settings, while harshness predicts worse adjustment even where it is culturally normative [13], [24]. The continued prevalence of physical punishment described by participants, despite general endorsement of fairness as the better approach, reflects the tension between traditional practice and Kenya's child-rights legal framework that this literature would predict.

D. Monitoring Under Strain: Communal Erosion and the Digital Gap

Participants' accounts of declining communal child supervision, and of a specific gap in monitoring adolescents' digital lives, extend cross-cultural evidence that community-oriented monitoring carries particular protective weight in collectivist settings [16]: where that communal layer weakens, as participants described happening in Moiben Sub-County, the burden shifts onto individual parents whose monitoring capacity is already constrained by agricultural work demands and, for the digital dimension specifically, by limited digital literacy.

E. Practical Implications

Given overlapping confidence intervals across all four dimensions, the findings support strengthening family cohesion, through structured shared activities such as communal meals, as a promising entry point for family-focused programming in this setting, without withdrawing support for monitoring, communication, or discipline. The clearest targeted opportunities are narrower than the four broad dimensions themselves: building parents' capacity for emotional, rather than only practical, communication; replacing physical punishment with the authoritative practices already endorsed by most respondents; and equipping parents to monitor adolescents' digital activity, alongside restoring some of the communal supervisory role that participants described as having eroded.

F. Limitations

This study is cross-sectional and relies on adolescent self-report for both predictors and outcomes, so the associations reported are correlational, not causal, and are vulnerable to common-method variance; the language used throughout reflects this. The sample is drawn from one rural sub-county, so findings describe Moiben Sub-County and may transfer to socioeconomically and culturally similar agricultural settings, but should not be generalised to rural Kenya as a whole.

VI. CONCLUSION

Comparing four family-environment dimensions within one rural Kenyan sample shows that all four, parental monitoring, parent-child communication, family cohesion, and disciplinary practices, are meaningfully associated with adolescent behavioural outcomes, with family cohesion numerically the strongest but not statistically distinct from the others. The qualitative material suggests why: erosion of communal supervision and extended-family support runs through the findings on monitoring and cohesion alike, a persistent gap separates practical from emotional communication, and a single discipline score conceals a real divide between authoritative and punitive practice. For researchers and programme designers working in comparable rural, agricultural sub-Saharan African settings, the implication is that family-strengthening efforts are best aimed at these specific mechanisms, rather than treating family environment as one undifferentiated target.

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