

The mediating role of family cohesion in the relationship between frequency of marital conflict and depressive symptoms among Ethiopian adolescents: An explanatory correlational study

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Abstract

Background: Marital conflict may be associated with adolescent depressive symptoms, partly through its relationship with the emotional bonds within the family. However, this relationship remains underexplored among adolescents in Ethiopia.

Purpose: This study examined the associations between frequency of marital conflict, family cohesion, and depressive symptoms among Ethiopian adolescents, with particular attention to the potential mediating role of family cohesion.

Materials and methods: An explanatory correlational study was conducted in April 2024 among 1,960 Grade 9 and 10 students from six government secondary schools in Assosa Woreda, Benishangul-Gumuz Regional State, Ethiopia. Data were collected using adapted measures of the frequency dimension of the Children's Perception of Interparental Conflict Scale, the Balanced Cohesion subscale of the Family Adaptability and Cohesion Evaluation Scale IV, and the Depression subscale of the Depression Anxiety Stress Scales–21. Pearson correlations and covariance-based structural equation modeling with maximum likelihood estimation were performed. The indirect effect was assessed using 5,000 bootstrap resamples.

Results: Frequency of marital conflict was positively correlated with depressive symptoms ($r = .515, p < .01$) and negatively correlated with family cohesion ($r = -.396, p < .01$). Family cohesion was negatively correlated with depressive symptoms ($r = -.588, p < .01$). The structural model demonstrated excellent fit (CFI = 1.000, TLI = 1.000, RMSEA = .000, 90% CI [.000, .010]). Family cohesion showed a significant indirect association between marital conflict frequency and depressive symptoms ($\beta = .251$, 95% bootstrap CI [.216, .291], $p < .001$), alongside a significant direct association ($\beta = .447, p < .001$). The model explained 60.6% of the variance in depressive symptoms.

Conclusion: Family cohesion may represent an important relational pathway linking frequent marital conflict with adolescent depressive symptoms. Longitudinal research is needed to clarify temporal relationships and strengthen causal interpretation.

Statements of Significance

Significance for health: This study provides evidence of significant associations between marital conflict, family cohesion, and depressive symptoms among 1,960 Ethiopian adolescents. The findings indicate that family cohesion partially mediates the association between the frequency of marital conflict and depressive symptoms, highlighting the importance of family relationships in understanding adolescent mental health. These findings may inform family-sensitive approaches to adolescent mental health assessment and support.

Significance for future research: This study contributes context-specific evidence from Ethiopian adolescents to the literature on social relationships and mental health. The findings provide a basis for

future longitudinal research to examine how marital conflict and family cohesion relate to changes in depressive symptoms over time. Further intervention studies are needed to determine whether approaches that strengthen family relationships can improve adolescent mental health outcomes. Future research should investigate psychological mechanisms and protective factors, strengthen culturally appropriate measurement, and evaluate whether family-sensitive interventions improve adolescent mental health. Research involving more diverse populations is also needed to establish the generalizability of these associations and investigate potential social inequalities in adolescent mental health.

1 Introduction

Adolescence is a formative period in which emotional, social, and academic demands converge, making psychological difficulties during these years particularly damaging with long-lasting effects on adulthood. These difficulties can disrupt crucial developmental milestones, leaving heavy foot-print that alters the trajectory of their adult life [1]. Globally, approximately one in seven young people aged 10–19 years experiences a mental health condition, with depression among the leading causes of illness and disability in this age group; the burden is especially far-reaching because depressive symptoms can interfere with school attendance[2], concentration[3], academic functioning[4, 5], social relationships[6, 7], and longer-term opportunities[8, 9]. The World Health Organization estimates that depression affects about 1.3% of adolescents aged 10–14 years and 3.4% of those aged 15–19 years, while emphasizing that adolescent mental health problems can impair educational and social development and extend into adulthood (World Health Organization [WHO], 2025). The situation has become particularly severe, widespread and unaddressed public health crisis in Ethiopia. A recent systematic review and meta-analysis estimated a pooled prevalence of depression of 35.52% among Ethiopian students, based on 17 studies involving 8,798 participants (95% CI: 30.54%–40.51%), although substantial heterogeneity across studies cautions against treating this estimate as a uniform national prevalence[10]. A subsequent review similarly estimated depression among Ethiopian youth at approximately 36%, reinforcing the considerable burden of depressive symptoms in this population[11]. Within this broader context, the family deserves particular attention. Adolescents do not encounter psychological stressors in isolation; they experience them within relationships that can either provide stability or amplify uncertainty [12, 13]. Interparental conflict is one such family stressor[14]. Evidence from Ethiopia suggests that marital conflict is common in some settings: in Durbete town, Amhara Region, 42.7% of surveyed couples reported conflict approximately three to five times per month, while a further 28.5% reported conflict at least twice per month [15]. Thus, understanding whether and how recurring conflict between parents is connected with adolescents' depressive symptoms is not simply a question about marital relationships; it is a question about an everyday family environment in which adolescent psychological and educational development takes place.

A substantial body of research has linked conflict between parents with psychological difficulties among children and adolescents. Buehler et al., in a meta-analysis of 68 studies and 348 statistical effects, found a meaningful association between interparental conflict and youth internalizing and externalizing

problems, with an average effect size of $d = .32$ [16]. More recent evidence has provided an even more differentiated picture. For example, van Eldik et al. (2020), synthesizing 169 studies of child maladjustment, found that several dimensions of the interparental relationship—including conflict frequency, relationship quality, hostility, disengagement, and unconstructive conflict—were associated with children's maladjustment, suggesting that the way conflict is conceptualized matters rather than treating all interparental conflict as a single undifferentiated construct[17]. Similarly, a recent systematic review and meta-analysis of 89 studies involving 64,462 participants reported a positive association between interparental conflict and depressive symptoms ($r = .32$), indicating that young people exposed to greater conflict tend to report more depressive symptoms[18]. Yet an important distinction remains underdeveloped. Much of the literature has examined interparental conflict as a composite or multidimensional construct[19–21] and has frequently combined depressive symptoms with broader categories of internalizing problems [22, 23]. Consequently, comparatively less attention has been given to the specific association between the frequency of marital conflict and adolescents' depressive symptoms. This distinction matters because recurrent parental conflict may constitute a qualitatively different family experience from isolated disagreement. Frequency can signal to adolescents that conflict is a recurring feature of family life and may therefore shape their expectations about family stability. Evidence specifically focused on adolescents is also less extensive than the broader child-and-youth literature might suggest. For example, Zhang et al. found, in a longitudinal sample of Chinese adolescents, that interparental conflict predicted subsequent depressive symptoms, whereas earlier depressive symptoms did not significantly predict later interparental conflict[24]. Likewise, Luo et al. (2023) found a significant association between interparental conflict and depressive symptoms among Chinese adolescents[25]. These findings strengthen the case for examining adolescence as a distinct developmental period, while also leaving unanswered whether the same pattern is evident in an Ethiopian context and when conflict is operationalized specifically in terms of its frequency.

The family consequences of marital conflict may extend beyond the adolescent's direct emotional response to the conflict itself. From a family-systems perspective, persistent conflict between parents can alter the broader relational climate in which family members interact, potentially weakening communication, support, and connectedness[26, 27]. Empirical work provides several indications that this broader family process is relevant. Unger et al., for example, found that family functioning mediated some associations between interparental conflict and adolescent depressed mood, although the pattern differed according to the issue around which parents were arguing and was more evident among girls[28]. Other studies have similarly documented pathways through which conflict between parents spills over into other family relationships. Hess, using longitudinal data from German families, found that greater interparental conflict was associated with less parental emotional warmth and more negative communication, which in turn was related to poorer children's social well-being[29]. Mills et al. further demonstrated that destructive interparental conflict was associated with poorer parent–adolescent communication, with adolescents' emotional insecurity serving as an explanatory process[30]. More recently, Luo et al. reported that family functioning mediated the association between interparental conflict and adolescent depressive symptoms[25]. Taken together, these findings suggest that conflict

occurring within the marital subsystem may reverberate through the wider family system. Yet the existing literature has rarely isolated family cohesion as the specific family process associated with the frequency of marital conflict. This is a meaningful omission because family cohesion captures a particular quality of family life, and the extent to which family members experience emotional bonding, support, and connectedness may provide a more precise account of how repeated marital conflict is associated with adolescents' perceptions of their family environment. The question is consequently not only whether frequent marital conflict is associated with adolescent distress, but whether it is also accompanied by a less cohesive family environment.

Family cohesion, in turn, has been consistently implicated in adolescent psychological adjustment, although the evidence is not equally developed for depressive symptoms specifically. Research across different contexts generally suggests that adolescents who perceive their families as emotionally connected and supportive tend to experience fewer psychological difficulties. McKeown et al., in a large community sample of 3,191 young adolescents, found that lower perceived family cohesion was associated with higher depressive symptoms even after accounting for family structure and parental education[31]. Similarly, Cumsille and Epstein found an inverse association between family cohesion and adolescent depressive symptoms among families receiving outpatient treatment, with adolescents' satisfaction with family cohesiveness and adaptability emerging as a particularly strong correlate of depressive symptoms[32]. Evidence from South Africa also indicates that dysfunctional family interaction is associated with greater adolescent depressive symptomatology, whereas positive family communication, cohesion, and parental support may reduce vulnerability to depressive symptoms[33]. In sub-Saharan Africa more broadly, Nabayinda et al. found that family cohesion was negatively associated with depression among school-going children with elevated behavioral challenges in southern Uganda, suggesting that cohesive family relationships may represent an important protective family resource[34]. Longitudinal evidence further indicates that changes in family cohesion can matter: Guassi Moreira and Telzer found that adolescents who experienced increases in family cohesion during the transition from high school to college reported declines in depressive symptoms[35]. Nevertheless, important uncertainties remain. Much of the literature has examined family cohesion alongside broader indicators of mental health, internalizing problems, or family functioning, while fewer studies have focused specifically on adolescents' depressive symptoms. Moreover, findings generated in Western, Asian, and other African settings cannot simply be assumed to apply to Ethiopian adolescents, whose family relationships are embedded in distinctive social, cultural, and economic circumstances. The association between family cohesion and adolescent depressive symptoms therefore warrants further examination in contexts that remain underrepresented in the literature.

The most important missing piece of knowledge, however, concerns how these family processes may fit together. Previous research has investigated several mediating mechanisms linking interparental conflict with youth adjustment, including adolescents' emotional insecurity, threat appraisals, triangulation, parent–child communication, self-esteem, parenting behavior, and broader family functioning. For instance, Grych et al. found that adolescents' triangulation into parental disagreements mediated associations between parental conflict and internalizing and externalizing problems, while supportive

parent–child relationships could reduce adolescents’ threat and self-blame[36]. Ying et al. identified parent–child communication and self-esteem as serial mediators between interparental conflict and children’s depressive symptoms[37]. More directly relevant to the family system, Unger et al.[28] found that family functioning mediated some pathways between interparental conflict and adolescent depressed mood, and Luo et al.[25] subsequently reported a mediating role for family functioning in the association between interparental conflict and adolescent depressive symptoms. Other work has examined emotional security as an explanatory mechanism consistent with Emotional Security Theory (EST), demonstrating that family or interparental insecurity can help explain links between conflict and youth psychological adjustment[30, 38]. However, these studies do not establish the specific mediating role proposed in the present research. Family functioning is a broader construct than family cohesion, and family climate has likewise been operationalized in ways that combine cohesion with other dimensions. Even studies explicitly examining family cohesion have generally focused on its direct association with psychological outcomes or have placed it within more complex models involving other mediators. For example, Kavalcı and Güven [39] examined family cohesion as a mechanism connecting parental conflict patterns with depression symptoms, but their participants were adults aged 18–65 years rather than adolescents. Thus, despite growing interest in family processes as pathways linking interparental conflict with youth mental health, the mediating role of family cohesion in the association between frequency of marital conflict and adolescents’ depressive symptoms remains insufficiently examined, particularly among adolescents living with their biological parents in Ethiopia.

These limitations point to a set of connected gaps rather than a single missing correlation. First, the literature has tended to emphasize broad measures of interparental conflict and general internalizing or adjustment problems, leaving the specific relationship between frequency of marital conflict and adolescents’ depressive symptoms less clearly established. Second, developmental specificity remains an issue. Although children and adolescents are often combined within the same evidence base, adolescence involves distinctive changes in autonomy, emotional regulation, peer orientation, and sensitivity to family relationships. Thus, findings from younger children cannot automatically be generalized to students in Grades 9 and 10. Third, while family functioning has been considered as a pathway linking interparental conflict to youth adjustment, direct evidence concerning the relationship between frequency of marital conflict and family cohesion is limited. Fourth, although the association between family cohesion and adolescent mental health is relatively well documented, evidence specifically addressing depressive symptoms remains less developed in some contexts. Fifth, the literature has identified numerous mediating processes—including emotional insecurity, threat appraisal, triangulation, parent–child communication, self-esteem, parenting behavior, and general family functioning – but has not sufficiently tested whether family cohesion itself serves as the mechanism connecting recurrent marital conflict with adolescent depressive symptoms. Finally, the geographical concentration of existing evidence leaves Ethiopia comparatively underrepresented. This contextual gap matters because family processes do not occur independently of cultural expectations, household structures, social support systems, and broader socioeconomic conditions. Indeed, the strong heterogeneity observed in Ethiopian depression research underscores the need for context-sensitive

investigation rather than assuming that associations established elsewhere operate identically in Ethiopian families[10].

Addressing these gaps has both theoretical and practical significance. At the theoretical level, examining family cohesion alongside marital conflict and adolescent depressive symptoms can extend a family-systems understanding of how conflict in one relational subsystem may be associated with the functioning of the family as a whole. Emotional Security Theory (EST) provides a particularly useful framework for this purpose. EST proposes that children and adolescents are motivated to preserve a sense of safety and security within the family and that exposure to interparental conflict can threaten perceptions of family stability and relational security[40, 41]. Contemporary applications of EST continue to show that interparental conflict is associated with adolescents' perceptions of insecurity and subsequent mental health difficulties [42]. From this perspective, a frequently conflictual marital relationship may do more than generate momentary distress, and may undermine adolescents' confidence that the family is a predictable, supportive, and emotionally connected environment. Family cohesion is therefore theoretically relevant as a possible relational condition through which adolescents experience or interpret the broader consequences of marital conflict. At the practical level, identifying such a pathway could help school psychologists, counselors, family therapists, and other practitioners move beyond treating adolescent depressive symptoms solely as an individual problem. If family cohesion is meaningfully associated with both marital conflict and adolescent depressive symptoms, interventions might benefit from strengthening family connectedness and supportive relationships alongside efforts to address marital conflict. Such knowledge is particularly valuable in Ethiopia, where the documented burden of student depression is substantial and research on family-level mechanisms remains comparatively limited.

Against this background, the present study examines the relationships among frequency of marital conflict, family cohesion, and adolescents' depressive symptoms among Grade 9 and Grade 10 students living with their biological parents in secondary schools in Assosa Woreda, Benishangul-Gumuz Region, Ethiopia. Guided by Emotional Security Theory and using an explanatory correlational design with covariance-based structural equation modeling (CB-SEM), the study addresses both the direct associations among these constructs and the proposed indirect pathway through family cohesion. Because the data were collected at a single point in time, the study does not assume temporal causality; rather, it tests whether the hypothesized pattern of associations is statistically consistent with the proposed theoretical model. Specifically, the study hypothesizes that (1) greater frequency of marital conflict will be positively associated with adolescents' depressive symptoms; (2) greater frequency of marital conflict will be negatively associated with family cohesion; (3) greater family cohesion will be negatively associated with adolescents' depressive symptoms; and (4) family cohesion will significantly mediate the association between frequency of marital conflict and adolescents' depressive symptoms (See Fig. 1). By bringing these relationships together within one model and examining them among adolescents in an underrepresented Ethiopian setting, the study seeks to clarify whether the broader family environment provides a plausible relational link between recurring marital conflict and adolescent depressive symptoms.

2 Methods

2.1 Study setting and design

An explanatory correlational design was employed to examine the associations among the study variables[43]. Data were collected in April 2024 from Grade 9 and 10 students enrolled in government secondary schools in Assossa Woreda, Benishangul-Gumuz Regional State, Ethiopia. Restricting eligibility to these grade levels was intended to establish a relatively homogeneous developmental and age range and thereby minimize age-related variability in cognitive functioning, including memory, intelligence, and processing speed [44]. Adolescents served as the primary informants because self-report is appropriate for assessing their subjective experiences and perceptions of interparental conflict [45]. Eligibility was further limited to adolescents living with both biological parents. Adolescents from divorced families were excluded because parental separation may involve additional and qualitatively distinct stressors that could influence adolescents' psychological experiences independently of ongoing interparental conflict [46].

2.2 Participants

Participants were recruited from government secondary schools in Assossa Woreda using a multistage sampling strategy that incorporated simple random, stratified, and purposive sampling procedures. The sampling frame consisted of the 10 government secondary schools in the woreda, which operate under the same regional education system, follow a common curriculum, and serve broadly comparable student populations. Six schools—Asossa Senior Secondary School, Kushmegani, Mengele Abrhamo, Nebar Komishiga, Oura, and Selga No. 2 – were selected from the 10 schools using a lottery-based simple random sampling procedure.

Within the selected schools, students were stratified by grade level, with Grades 9 and 10 treated as separate strata. Both grade levels were intentionally represented rather than sampled in proportion to their enrollment. Within each stratum, purposive sampling was used to identify students who met the study eligibility criterion of living with both biological parents.

The required sample size was determined a priori using Daniel Soper's online structural equation modeling (SEM) sample size calculator, which incorporates model complexity, anticipated effect size, statistical power, and significance level[47]. Based on an anticipated effect size of .10, statistical power of .80, an alpha level of .05, nine latent variables, and 47 observed variables in the proposed structural model, the estimated minimum sample size was 1,960 participants.

A total of 1,960 eligible adolescents participated in the study. Of these, 846 (43.2%) were male and 1,114 (56.8%) were female. Regarding grade level, 996 participants (50.8%) were in Grade 9 and 964 (49.2%) were in Grade 10. Participants had a mean age of 16.49 years (SD = 0.50).

2.3 Measures

2.3.1 Children's Perception of Interparental Conflict Scale (CPIC)

The Children's Perception of Interparental Conflict Scale (CPIC)[45] was used to assess adolescents' perceptions of conflict between their parents. The present study focused on the Frequency dimension, which captures adolescents' perceptions of how often interparental conflict occurs. Accordingly, frequency of marital conflict was operationalized as adolescents' perceptions of the regularity with which conflict occurs between their parents, irrespective of the intensity, content, or resolution of the conflict. Retrospective reports of interparental conflict have been widely used in family research [48–50], and previous research has provided support for the validity of retrospective reports of adverse family experiences [51–53].

The original CPIC uses a three-point response format (True, Sort of true, and False). In the present study, the Frequency items were adapted to a five-point Likert-type response scale ranging from 1 (Never) to 5 (Always) to provide greater response differentiation and sensitivity to variability in adolescents' perceptions of interparental conflict. Previous research suggests that adolescents can reliably respond to five-point rating scales and that expanded response formats may increase measurement sensitivity relative to more limited response options[54, 55].

The original Frequency dimension comprises six items assessing how often adolescents perceive their parents to engage in conflict. Following the pilot study, four items were retained for the present study. Two items "I often see my parents arguing" and "My parents frequently nag and complain about each other around the house" were removed because they exhibited very low factor loadings and nonsignificant parameter estimates. A sample retained item was "My parents are often mean to each other even when I am around." Gong and Paulson [56] reported a reliability coefficient of .87 for the Frequency subscale. In the present study, the four-item adapted Frequency scale demonstrated a Cronbach's alpha of .62.

2.3.2 Family Adaptability and Cohesion Evaluation Scale (FACES IV)

Family cohesion was conceptualized as the emotional bonding among family members, as perceived by adolescents in Grades 9 and 10 [57]. Consistent with this conceptualization, adolescents' perceptions of family cohesion were assessed using the Balanced Cohesion subscale of the Family Adaptability and Cohesion Evaluation Scale IV (FACES IV) (Olson et al., 2019; Olson, 2011). Family cohesion represents an important family-level protective factor that may buffer adolescents against the adverse effects of external stressors, including marital conflict[60].

The FACES IV is a 42-item self-report measure of family functioning. In the present study, participants completed the six items comprising the Balanced Cohesion subscale. This subscale assesses adolescents' perceived connectedness and emotional bonding among family members. Previous

research has also used the Balanced Cohesion subscale independently within a structural equation model [61]. Items were rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores indicating greater perceived family cohesion. A representative item is: "Although family members have individual interests, they still participate in family activities."

Evidence from previous studies supports the internal consistency of the Balanced Cohesion subscale across different populations. Cronbach's alpha coefficients of .83 and .89 have been reported among Portuguese adults[62] and Spanish young adults (mean age = 23.39 years) [61], respectively. In addition, the Hebrew version of the Balanced Cohesion Scale of FACES III demonstrated good internal consistency ($\alpha = .82$) among Ethiopian immigrant adolescents in Israel[63]. In the present study, the six-item Balanced Cohesion subscale demonstrated acceptable internal consistency (Cronbach's $\alpha = .81$).

2.3.3 The Depression, Anxiety, and Stress Scale (DASS-21)

Adolescents' current depressive symptoms were assessed using the seven-item Depression subscale of the Depression Anxiety Stress Scales–21 (DASS-21), the abbreviated version of the original DASS [64]. The DASS-21 comprises three seven-item subscales measuring Depression, Anxiety, and Stress. The Depression subscale assesses symptoms characterized by dysphoria, hopelessness, devaluation of life, self-deprecation, diminished interest or involvement, anhedonia, and inertia. Consistent with previous research, which has used individual DASS-21 subscales rather than the complete instrument [65, 66], only the Depression subscale was administered in the present study.

The original DASS-21 uses a four-point response format. In the present study, the Depression subscale was adapted to a five-point Likert response format ranging from 1 (*did not apply to me at all*) to 5 (*applied to me very much, or most of the time*). The response options were: (1) *did not apply to me at all*; (2) *did not apply to me*; (3) *applied to me to some degree or some of the time*; (4) *applied to me to a considerable degree or a good part of the time*; and (5) *applied to me very much or most of the time*. A sample item is, "I couldn't seem to experience any positive feeling at all." The five-point format was adopted to provide greater differentiation among respondents' symptom levels because the measure was used to assess depressive symptoms dimensionally rather than to classify participants using diagnostic categories or established clinical severity cut-offs. Methodological evidence suggests that response formats with fewer than five categories may constrain score variability and reduce measurement reliability[67]. Accordingly, scores obtained using the adapted response format should not be directly interpreted using the original DASS-21 severity thresholds, and comparisons with studies employing the original four-point scoring procedure should be made cautiously.

The Depression subscale has demonstrated strong internal consistency among adolescent populations, with Cronbach's alpha coefficients of .92 in a sample of American adolescents[68] and .82 in an Ethiopian adolescent sample [69]. In the present study, the seven-item Depression subscale demonstrated excellent internal consistency (Cronbach's $\alpha = .93$).

2.4 Ethical approval and procedures

Ethical approval

was obtained from the Research Ethics Committee of the School of Psychology, Addis Ababa University (Reference No. SoP-Eth.Co/005/2023) in January 2023. The study was conducted in accordance with established ethical principles for research involving human participants, including voluntary participation, informed consent and assent, confidentiality, anonymity, and the right to withdraw without penalty.

Given that the participants were adolescents, written informed consent was obtained from their parents or legal guardians, followed by written assent from the adolescents. To facilitate parental consent, a list of eligible students was prepared in Excel and distributed with an information letter outlining the study purpose, procedures, voluntary nature of participation, confidentiality measures, and the right to decline or withdraw. Students took these materials home for parental review, and parents or guardians who agreed to their child's participation provided written consent by signing the consent form.

Adolescent assent was obtained using a separate assent form and accompanying information letter written in accessible language. The materials explained the purpose and procedures of the study and emphasized that participation was voluntary, responses would remain confidential and anonymous, and participants could refuse to answer any question or discontinue participation without providing a reason. Before providing assent, students were given an opportunity to ask questions and seek clarification.

Data collection commenced only after both parental consent and adolescent assent had been obtained. Trained data collectors explained the study procedures and participants' rights, responded to questions, and read the instructions and selected sample questionnaire items aloud to facilitate comprehension. Participants completed the structured paper-and-pencil questionnaire during regular classroom sessions, requiring approximately 20 minutes. They were reminded that they could omit any question or withdraw from the study at any time. No financial or other incentives were provided. Completed questionnaires were collected anonymously and handled confidentially throughout the data collection and data management processes.

2.5 Data analysis methods

Data analysis proceeded in several stages. Descriptive statistics, including frequencies, means, standard deviations, and ranges, were calculated to characterize the sample and study variables. Pearson product-moment correlation coefficients were then computed to examine bivariate associations among marital conflict frequency, family cohesion, and depressive symptoms.

Before structural equation modeling (SEM), univariate and multivariate normality were assessed using SPSS Version 27 and AMOS Version 23, respectively. Skewness values were $-.028$ for marital conflict frequency, $-.009$ for family cohesion, and $-.013$ for depressive symptoms. Kurtosis values were $-.518$, $-.537$, and -1.177 , respectively, with all absolute values well below commonly cited thresholds for substantial departures from normality[70–72].

Multivariate normality was assessed using Mardia's multivariate kurtosis statistic and associated critical ratio (CR) in AMOS. The multivariate kurtosis estimate was .418 (CR = .364). The CR differed statistically from zero, and its absolute value was below the more conservative criterion of 5.00 commonly used to identify substantial multivariate nonnormality in SEM[73]. The data were therefore considered sufficiently close to multivariate normality for maximum-likelihood estimation. Multivariate outliers were assessed using squared Mahalanobis distance (D^2) and its associated probability. No observations had a probability value below .001, indicating no cases with an extreme multivariate distance from the centroid [74].

Covariance-based structural equation modeling was conducted in AMOS Version 23 to examine whether family cohesion mediated the association between marital conflict frequency and adolescents' depressive symptoms. Marital conflict frequency was specified as the predictor, depressive symptoms as the outcome, and family as the mediator. Model parameters were estimated using maximum likelihood. Model fit was evaluated using multiple complementary indices: the chi-square statistic (χ^2), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR), consistent with recommendations for evaluating SEM model adequacy [71, 75]. Because the chi-square statistic is sensitive to sample size, model adequacy was evaluated based on the overall pattern of fit across multiple indices rather than χ^2 alone.

Finally, the indirect effect of marital conflict frequency on depressive symptoms through family cohesion was examined using bias-corrected bootstrap estimation with 5,000 resamples in AMOS Version 23[76]. An indirect effect was considered statistically significant when its 95% bootstrap confidence interval did not include zero[77].

3 Results

3.1 Sample characteristics

The study included 1,960 adolescents recruited from Grades 9 and 10 in six secondary schools in Assosa Woreda in April 2024. Of the participants, 846 (43.2%) were male and 1,114 (56.8%) were female. The mean age was 16.49 years (SD = 0.50). Participants were almost equally distributed across Grade 9 (50.8%) and Grade 10 (49.2%), with approximately half attending Asossa Senior Secondary School (49.9%) (see Table 1).

Table 1
Sample characteristics

Characteristic	n (%) or Mean (SD)
Gender	
Male	846 (43.2)
Female	1,114 (56.8)
Age (years)	16.49 (0.50)
School	
Asossa Senior Secondary School	978 (49.9)
Kushmegani	57 (2.9)
Mengele Abrhamo	100 (5.1)
Nebar Komishiga	254 (13.0)
Oura	220 (11.2)
Selga No. 2	351 (17.9)
Grade level	
Grade 9	996 (50.8)
Grade 10	964 (49.2)

3.2 Descriptive statistics

Descriptive statistics were used to summarize the distribution of the study variables, including the frequency of marital conflict, family cohesion, and depressive symptoms among Ethiopian adolescents. As presented in Table 2, the mean score for frequency of marital conflict was 12.08 (SD = 3.03), with scores ranging from 4 to 20. Family cohesion had a mean score of 18.03 (SD = 4.92), with observed scores ranging from 6 to 30. The mean score for depressive symptoms was 20.85 (SD = 8.48), with scores ranging from 7 to 35. Among the three variables, depressive symptoms showed the greatest variability in scores, as indicated by its relatively larger standard deviation. Overall, these findings describe the central tendency and observed variability of the study variables and provide a descriptive basis for further analyses examining the relationships among marital conflict, family cohesion, and depressive symptoms.

Table 2
Descriptive statistics of the study variables

Variables	Mean (SD)	Minimum	Maximum
Frequency of marital conflict	12.08(3.03)	4	20
Family cohesion	18.03(4.92)	6	30
Depressive symptoms	20.85(8.48)	7	35
Note. N = 1960			

3.3 Correlations among Study Variables

Pearson correlation analysis was conducted to examine the associations among frequency of marital conflict, family cohesion, and depressive symptoms among Ethiopian adolescents ((N = 1,960)). As presented in Table 3, frequency of marital conflict was significantly negatively correlated with family cohesion (($r = -.396$), ($p < .01$)), indicating that higher levels of marital conflict were associated with lower levels of family cohesion. In contrast, frequency of marital conflict was significantly positively correlated with depressive symptoms (($r = .515$), ($p < .01$)), suggesting that more frequent marital conflict was associated with higher levels of depressive symptoms. Furthermore, family cohesion was significantly negatively correlated with depressive symptoms (($r = -.588$), ($p < .01$)), indicating that higher family cohesion was associated with fewer depressive symptoms.

Overall, the findings demonstrate statistically significant associations among all three study variables. The negative association between family cohesion and depressive symptoms was the strongest of the three observed correlations in absolute magnitude, followed by the positive association between frequency of marital conflict and depressive symptoms. These findings provide preliminary support for examining family cohesion as a potential mediator in the relationship between frequency of marital conflict and depressive symptoms. However, the correlational findings alone do not establish causality or confirm a mediating effect; these require formal mediation analysis.

Table 3
Correlations among study variables

1	Variables	1	2	3
	Frequency of marital conflict	1	-.396**	.515**
2	Family cohesion		1	-.588**
3	Depressive symptoms			1
Note. N = 1960. Values represent Pearson correlation coefficients. ** $p < 0.01$ (two-tailed).				

3.4 Results of the structural model

The hypothesized structural model was evaluated using covariance-based structural equation modeling (CB-SEM) with maximum likelihood estimation. The model was overidentified, with 153 distinct sample moments and 37 parameters to be estimated, yielding 116 degrees of freedom. The results indicated an excellent fit between the hypothesized model and the observed data, ($\chi^2(116) = 110.676$), ($p = .622$), ($\chi^2/df = 0.954$), Tucker–Lewis index (TLI) = 1.000, comparative fit index (CFI) = 1.000, standardized root mean square residual (SRMR) = .0132 and root mean square error of approximation (RMSEA) = .000, with a 90% confidence interval of [.000, .010]. The probability of close fit (PCLOSE) was 1.000. Collectively, these indices indicate that the hypothesized structural model fits the observed data very well.

The structural paths showed that the frequency of marital conflict was positively and significantly associated with adolescents' depressive symptoms (standardized direct effect, $((\beta) = .447)$, ($B = 0.876$), ($SE = 0.080$), critical ratio = 10.901, 95% CI [.381, .512], ($p < .001$)). This indicates that more frequent marital conflict was associated with higher levels of depressive symptoms, even after accounting for family cohesion (See Table 4). The total effect of marital conflict on depressive symptoms was also positive and statistically significant ($((\beta) = .697)$, ($B = 1.367$), ($SE = 0.082$), 95% CI [.654, .739], ($p < .001$)).

Furthermore, frequency of marital conflict was negatively associated with family cohesion ($((\beta) = -.587)$, ($B = -0.742$), ($SE = 0.057$), critical ratio = -13.070, 95% CI [-.641, -.533], ($p < .001$)). This finding suggests that more frequent marital conflict was associated with lower levels of family cohesion. Family cohesion, in turn, was negatively associated with adolescents' depressive symptoms ($((\beta) = -.427)$, ($B = -0.662$), ($SE = 0.053$), critical ratio = -12.519, 95% CI [-.486, -.364], ($p < .001$)), indicating that greater family cohesion was associated with fewer depressive symptoms.

The indirect effect of marital conflict on depressive symptoms through family cohesion was positive and statistically significant ($((\beta) = .251)$, ($B = 0.491$), ($SE = 0.043$), 95% CI [.216, .291], ($p < .001$)). Because the bootstrap confidence interval did not include zero, the results support a statistically significant indirect association through family cohesion. The indirect and direct effects were both statistically significant and positive, indicating a pattern consistent with partial mediation. Thus, family cohesion may help explain part of the association between frequency of marital conflict and depressive symptoms, while a significant direct association remains.

The squared multiple correlations indicated that the model explained 60.6% of the variance in adolescents' depressive symptoms ($R^2 = .606$) and 34.5% of the variance in family cohesion ($R^2 = .345$). Overall, the findings support the proposed structural model and suggest that family cohesion is an important potential explanatory pathway linking marital conflict with depressive symptoms among Ethiopian adolescents.

Table 4

Total, direct and indirect effects between study variables for the specified structural model (N = 1960)

1	Structural paths/Effect	(β)	B	SE	T	95% CI	p
	Frequency of marital conflict ↕ Adolescents' depressive symptoms (total effect)	.697	1.367	.082	-	.654, .739	< .001
	Frequency of marital conflict ↕ Adolescents' depressive symptoms (direct effect)	.447	.876	.080	10.901	.381, .512	< .001
2	Frequency of marital conflict ↕ Family cohesion	-.587	-.742	.057	-13.07	-.641, -.533	< .001
3	Family cohesion ↕ Adolescents' depressive symptoms	-.427	-.662	.053	-12.519	-.486, -.364	< .001
4	Indirect effect	.251	.491	.043	-	.216, .291	< .001
Note. (β)=Standardized coefficient; B=Unstandardized coefficient; SE=Standard error; T= Critical ratio; 95% CI= Bootstrap lower and upper limit of the 95% confidence interval for standardized regression coefficients; p=level of significance; Squared multiple correlation (R^2) for adolescents' depressive symptoms = .606; Squared multiple correlation (R^2) for Family cohesion=.345							

4 Discussions

The present study examined the associations among frequency of marital conflict, family cohesion, and adolescents' depressive symptoms and tested whether family cohesion statistically mediated the association between marital conflict and depressive symptoms. Using data from 1,960 Grade 9 and 10 students living with their biological parents in secondary schools in Assosa Woreda, the findings revealed a coherent pattern across the four hypothesized relationships. More frequent marital conflict was positively associated with adolescents' depressive symptoms and negatively associated with family cohesion, whereas greater family cohesion was negatively associated with depressive symptoms. Moreover, family cohesion significantly mediated the association between frequency of marital conflict and adolescents' depressive symptoms, although the direct association between marital conflict and depressive symptoms remained significant. Taken together, these findings provide support for a family-process account of adolescent depressive symptoms and are broadly consistent with the propositions of Emotional Security Theory (EST), while extending existing evidence to an underrepresented Ethiopian context. Nevertheless, because the present study used cross-sectional data, the findings are best interpreted as evidence of theoretically consistent associations rather than definitive evidence of temporal or causal processes.

4.1 Hypothesis 1: Frequency of marital conflict is positively related to adolescents' depressive symptoms

The first hypothesis predicted a positive relationship between the frequency of marital conflict and adolescents' depressive symptoms. This hypothesis was strongly supported. Frequency of marital conflict was positively associated with adolescents' depressive symptoms ($\beta = .697, p < .001$). Importantly, the association remained significant after accounting for the indirect pathway through family cohesion, with a direct effect of $\beta = .447 (p < .001)$. The total effect was .697, indicating that adolescents who reported more frequent marital conflict also tended to report substantially higher levels of depressive symptoms. Within the specified structural model, 60.6% of the variance in adolescents' depressive symptoms was explained. Although the magnitude of this association should not be interpreted causally, the finding nevertheless indicates a strong empirical connection between adolescents' perceptions of the interparental relationship and their psychological wellbeing.

The finding is consistent with the extensive literature linking interparental conflict with youth internalizing problems. Buehler et al.[16], in a meta-analysis of 68 studies comprising 348 statistical effects, found that interparental conflict was associated with youth problem behaviors, including internalizing difficulties. More recent evidence provides further support for this association. Jiang et al.[18], in a systematic review and meta-analysis of 89 studies involving 64,462 participants, found a significant positive relationship between interparental conflict and depressive symptoms ($r = .32, 95\% \text{ CI } [.30, .35]$). Their finding is particularly relevant to the present study because they also reported that the association was stronger when parental conflict was assessed using the Children's Perception of Interparental Conflict Scale (CPIC). The present study similarly relied on adolescents' perceptions of the frequency of marital conflict using the frequency subscale of the CPIC. Thus, the current finding not only converges with the broader evidence base but also provides more specific evidence concerning the frequency dimension of marital conflict.

This specificity is important because much of the previous literature has conceptualized interparental conflict as a relatively broad or composite construct. Harold and Sellers[14] argued that youth responses to interparental conflict are influenced by its dimensional and qualitative characteristics, including how frequently conflict occurs and how parents express and manage disagreement. Likewise, van Eldik et al. [17], in a meta-analysis encompassing 169 studies of child maladjustment and 61 studies of responses to interparental conflict, found that conflict frequency represented a meaningful dimension of the interparental relationship in relation to child functioning. The present study therefore contributes to this literature by isolating frequency of marital conflict rather than treating interparental conflict as an undifferentiated exposure. The finding suggests that the repeated occurrence of parental conflict may be particularly salient for adolescents' psychological functioning, even without assuming that frequency operates independently of other characteristics such as intensity, hostility, or resolution.

The result can also be interpreted within Emotional Security Theory (EST). EST proposes that children's and adolescents' responses to interparental conflict are shaped by their motivation to preserve a sense of emotional security within the family system. Interparental conflict can signal potential instability in the family and may therefore activate emotional and behavioral responses intended to manage perceived threats to family security. When such conflict occurs frequently, adolescents may have repeated

opportunities to experience uncertainty, vigilance, distress, or concern about the stability of their family relationships. These processes provide a theoretically plausible explanation for why frequent marital conflict may be associated with greater depressive symptoms. The present data are consistent with this proposition, although they cannot establish whether emotional insecurity actually explains the observed association because emotional security itself was not directly measured in the current model.

Evidence from adolescent research further strengthens this interpretation. Zhang et al.[24], using two waves of data from 867 Chinese adolescents, found that interparental conflict in Grade 7 predicted depression in Grade 8, whereas depression in Grade 7 did not significantly predict subsequent interparental conflict. Although the longitudinal design of that study provides stronger evidence regarding temporal ordering than the present cross-sectional design, the convergence in findings is notable. Similarly, Luo et al. found that interparental conflict was associated with adolescent depressive symptoms through family functioning in a two-wave longitudinal study[25]. These findings suggest that the association identified in the present study is not simply attributable to evidence from younger children or to research conducted in Western contexts. Rather, it appears relevant during adolescence and across culturally different settings.

4.2 Hypothesis 2: Frequency of marital conflict is negatively related to family cohesion

The second hypothesis predicted that more frequent marital conflict would be associated with lower family cohesion. This hypothesis was supported, with frequency of marital conflict showing a significant negative association with family cohesion ($\beta = -.587, p < .001$). The structural model explained 34.5% of the variance in family cohesion. Thus, adolescents who perceived more frequent conflict between their parents also tended to perceive weaker emotional connectedness and cohesion within their families.

This finding provides an important extension of previous research because the relationship between the frequency of marital conflict and family cohesion has received considerably less direct attention than the relationship between interparental conflict and broader indicators of family functioning. Existing studies nevertheless provide a conceptual basis for the observed association. Clark and Phares found that interparental conflict was negatively related to perceptions of the parent–child relationship and parental emotional availability[78]. Hess, using repeated observations from the German Family Panel, similarly reported that increased interparental conflict was associated with decreased parental emotional warmth and increased negative communication[29]. Although these constructs are not identical to family cohesion, their findings suggest that conflict within the interparental relationship may extend beyond the couple relationship and become reflected in the broader relational climate experienced by children.

The present finding is also consistent with research emphasizing interconnected family processes during adolescence. Grych et al.[36] found that adolescents exposed to more frequent, intense, and poorly resolved interparental conflict were more likely to experience triangulation, while supportive parent–child relationships reduced adolescents' threat and self-blame appraisals. Similarly, Fosco et al. demonstrated that the broader family climate, defined in terms of cohesion and organization, was

relevant to adolescents' responses to interparental conflict[79]. Families that maintained or increased positive family climate appeared better protected against the psychological implications of increasing interparental conflict. Together, these findings suggest that the interparental relationship and broader family functioning should not be considered entirely separate domains.

The negative association between marital conflict and family cohesion is particularly compatible with the family-system implications of EST. Emotional security is not simply a property of the marital relationship; it is embedded within adolescents' perceptions of the family as a relational system. Frequent parental conflict may therefore alter how adolescents understand the stability, connectedness, and predictability of their family environment. When conflict becomes a recurring characteristic of family life, adolescents may perceive less emotional unity among family members and fewer opportunities for positive relational exchanges. In this sense, reduced family cohesion may represent one manifestation of a broader family context in which adolescents perceive diminished relational security.

4.3 Hypothesis 3: Family cohesion is negatively related to adolescents' depressive symptoms

The third hypothesis proposed that family cohesion would be negatively associated with adolescents' depressive symptoms. This hypothesis was supported: family cohesion was significantly and negatively associated with depressive symptoms ($\beta = -.427, p < .001, 95\% \text{ CI } [-.486, -.364]$). The confidence interval lies entirely below zero, providing clear evidence of a negative association between adolescents' perceptions of family cohesion and their depressive symptoms. In substantive terms, adolescents who perceived greater emotional connectedness within their families tended to report fewer depressive symptoms.

This finding is consistent with a substantial body of empirical research. Nabayinda et al.[34], studying school-going children in southern Uganda, found that family cohesion was significantly associated with lower levels of depression and concluded that cohesion may represent an important protective family resource. The relevance of this finding to the present study is enhanced by its sub-Saharan African context. Nevertheless, the current study extends the evidence geographically to Ethiopia and developmentally to Grade 9 and 10 adolescents. Rawatlal et al.[33] similarly found that dysfunctional family interaction was associated with greater adolescent depressive symptomatology, whereas positive communication, cohesion, and support were associated with more secure parent–adolescent relationships and lower risk of depression.

Evidence from larger and longitudinal studies also supports the present result. McKeown et al.[31], in a community sample of 3,191 young adolescents, found that higher perceived family cohesion was associated with lower depressive symptoms. Their findings further suggested that adolescents' perceptions of emotional bonding may be more consequential for depressive symptoms than family structure itself. White et al.[80] found significant associations between family cohesion and psychiatric symptoms among adolescent girls, while Guassi Moreira and Telzer[35] reported that adolescents who experienced increases in family cohesion during the transition to college showed declines in depressive

symptoms. Lin and Yi[81] similarly found that family cohesion was associated with subsequent adolescent outcomes, including depression. These findings converge with the present result despite differences in age, culture, measures, and study design.

The present finding is also consistent with the conceptual assumptions of EST. If adolescents are motivated to maintain emotional security within their family relationships, then a cohesive family environment may provide relational resources that help adolescents interpret family stress as more manageable. Emotional connectedness may communicate that important family relationships remain available despite disagreement between parents. Conversely, low cohesion may provide fewer experiences of belonging, support, and relational stability, potentially leaving adolescents more psychologically vulnerable when confronted with family stress. Thus, family cohesion may be particularly relevant not simply because it represents “positive family functioning,” but because it may shape the relational context within which adolescents experience and interpret threats to family security.

This interpretation should nevertheless be distinguished from the stronger claim that family cohesion directly protects adolescents from depression. The current design does not establish temporal precedence. Moreover, the relationship between cohesion and depression may involve additional processes. Freed et al.[82], for example, found that family functioning was associated with adolescent depressive symptoms in relation to emotional clarity, highlighting the possibility that family relationships may influence psychological functioning through adolescents’ capacity to understand and regulate emotional experiences. Van Eickels et al.[83] likewise identified shame-proneness and expressive suppression as mechanisms linking family cohesion with adolescent mental health. These studies suggest that cohesion may operate as part of a larger network of emotional and interpersonal processes rather than as an isolated protective factor.

The current finding is therefore important both for replication and extension. It replicates the general observation that adolescents who perceive stronger family connectedness tend to report fewer depressive symptoms while extending that evidence to an Ethiopian adolescent population. This is particularly valuable given the relative scarcity of research examining specific family processes and adolescent depression in Ethiopia. The result also reinforces the importance of adolescents’ subjective perceptions of their family environment. Family cohesion is meaningful here not merely as an externally defined characteristic of the household but as an adolescent-perceived relational experience.

4.4 Hypothesis 4: Family cohesion mediates the relationship between frequency of marital conflict and adolescents’ depressive symptoms

The fourth hypothesis predicted that family cohesion would mediate the relationship between frequency of marital conflict and adolescents’ depressive symptoms. The results supported this hypothesis. Frequency of marital conflict was negatively associated with family cohesion, and family cohesion was negatively associated with depressive symptoms, producing a significant indirect effect of $\beta = .251$ (95% CI [.216, .291]). Because the confidence interval did not include zero, the indirect association was statistically significant. In addition, the direct association between frequency of marital conflict and

depressive symptoms remained significant ($\beta = .447, p < .001$). This pattern is consistent with partial mediation, indicating that family cohesion statistically accounts for part of the association between frequency of marital conflict and adolescents' depressive symptoms, while a substantial association remains outside this pathway.

The mediation finding represents an important contribution because previous research has more commonly examined broader family functioning, parent-child communication, or other psychological mechanisms rather than family cohesion specifically as an intermediary process. Unger et al.[28] found that family functioning mediated the effects of interparental conflict on adolescent depressed mood, although the mediating effect varied according to the type of conflict and was more evident among girls. The present study extends this work by examining a more specific component of family functioning-family cohesion - and by focusing specifically on frequency of marital conflict. This distinction allows the current study to identify a particular family relational process that may be relevant to the association between parental conflict and adolescent depressive symptoms.

The result also converges with Luo et al.[25], who found that family functioning mediated the relationship between interparental conflict and depressive symptoms among Chinese adolescents in a longitudinal moderated mediation model. Their findings suggested that interparental conflict may be associated with poorer family functioning, which in turn may be associated with greater depressive symptoms. The present finding is consistent with this broader family-process pathway, but it should not be interpreted as providing the same level of evidence concerning temporal mechanisms. Because the current data were collected at one time point, the observed indirect effect represents a statistical mediation pattern, rather than evidence that marital conflict temporally precedes reductions in family cohesion which subsequently lead to depressive symptoms.

The present result is also compatible with Ying et al.[37], who found that parent-child communication and self-esteem serially mediated the association between interparental conflict and children's depressive symptoms. Taken together with the current findings, this literature suggests that there may be multiple pathways through which the interparental relationship is associated with youth psychological adjustment. These pathways may operate at both the family level and the individual level. Interparental conflict may be associated with changes in family relationships and communication, while also influencing adolescents' cognitions, emotional experiences, and coping resources. The current study adds family cohesion to this emerging network of potential explanatory processes.

The mediation pathway can be understood particularly well through EST. The theory proposes that adolescents respond to interparental conflict partly on the basis of its implications for their emotional security within the family system. Frequent conflict may be associated with a less cohesive family environment, which may in turn correspond to a weaker sense of relational connectedness and security. Reduced cohesion may therefore represent one route through which adolescents' exposure to frequent marital conflict becomes linked with depressive symptoms. The current findings do not directly test emotional security as a mediator, but the observed pattern is compatible with the theory's broader

proposition that the implications of interparental conflict depend partly on how adolescents perceive and experience the family system surrounding the conflict.

The fact that the mediation was partial is theoretically informative. Family cohesion did not account for the entire association between marital conflict and depressive symptoms. This suggests that the relationship between the interparental relationship and adolescent mental health cannot be reduced to changes in family cohesion alone. Other mechanisms identified in EST and related research may also contribute. Grych et al. [36], for example, demonstrated the importance of triangulation, threat appraisals, self-blame, and supportive parent–child relationships in adolescents' responses to interparental conflict. Mills et al. found that emotional insecurity mediated associations between destructive interparental conflict and parent–adolescent communication[30]. Similarly, Fosco et al. demonstrated the relevance of threat appraisals and broader family climate in understanding the longer-term implications of interparental conflict[79]. The persistence of a direct association in the present model is therefore consistent with the possibility that family cohesion represents one of several interconnected processes linking parental conflict with adolescent depressive symptoms.

The mediation finding also contributes to the empirical literature by bringing together three constructs that have generally been examined in more fragmented ways: the frequency of marital conflict, family cohesion, and adolescent depressive symptoms. Much of the existing literature has established that interparental conflict is associated with adolescent adjustment problems and that family cohesion is associated with adolescent mental health. The present findings connect these strands by demonstrating a statistically significant indirect pathway linking the frequency of marital conflict to depressive symptoms through family cohesion. This provides a more integrated account of the family processes associated with adolescent psychological wellbeing.

The Ethiopian context further strengthens the contribution of this finding. Much of the empirical literature on interparental conflict, family functioning, and adolescent mental health has been conducted in North American, European, or East Asian contexts and samples. Evidence from Sub-Saharan Africa remains comparatively limited, despite important differences in family structures, social networks, cultural expectations, and socioeconomic circumstances that may shape adolescents' experiences of family relationships. The current findings therefore extend the literature by demonstrating that the proposed pattern is also evident among adolescents in Benishangul-Gumuz Regional State, Ethiopia. Similarly, the findings should not be assumed to demonstrate that the same mechanisms operate identically across cultural settings. Rather, they provide an important empirical basis for future culturally sensitive research examining how family cohesion and adolescents' interpretations of interparental conflict operate within Ethiopian family contexts.

Overall, the four hypotheses form a theoretically coherent pattern. More frequent marital conflict was associated with greater depressive symptoms and lower family cohesion, while greater family cohesion was associated with fewer depressive symptoms. Furthermore, family cohesion statistically mediated part of the association between marital conflict and depressive symptoms. These findings are broadly

compatible with EST because they place adolescents' psychological wellbeing within the context of the interparental relationship and the wider family system. The findings extend previous research by focusing specifically on frequency of marital conflict, examining adolescents rather than primarily younger children, testing family cohesion as a distinct mediator, and providing evidence from Benishangul-Gumuz, Ethiopia. The use of a large sample of 1,960 Grade 9 and 10 students further provides a substantial empirical basis for examining these relationships in the study population.

Taken together, the findings suggest that understanding adolescent depressive symptoms requires attention not only to adolescents as individuals but also to the relational environments in which they develop. The results support a perspective in which the interparental relationship and broader family cohesion are interconnected components of adolescent psychological wellbeing. For prevention and intervention, this implies that efforts to reduce adolescent depressive symptoms may benefit from considering family processes alongside individual-level psychological interventions. However, the present evidence should be viewed as an important starting point for such approaches rather than as evidence that changing family cohesion or marital conflict will necessarily produce reductions in depression. Establishing those implications will require longitudinal and intervention research capable of testing the temporal and causal processes suggested by the present findings.

4.5 Theoretical implications

The findings support the relevance of family cohesion as a potential explanatory pathway linking frequency of marital conflict with depressive symptoms among Ethiopian adolescents. Marital conflict was negatively associated with family cohesion ($\beta = -.587$), while family cohesion was negatively associated with depressive symptoms ($\beta = -.427$). The significant indirect effect ($\beta = .251$), 95% CI [.216, .291]), alongside a remaining direct association ($\beta = .447$), is consistent with partial mediation. This pattern aligns with family systems perspectives, which emphasize the interconnectedness of family relationships and suggest that conflict between parents may be associated with the broader relational environment in which adolescents develop.

The findings are also compatible with emotional security and family stress perspectives. Recurrent parental conflict may be associated with reduced feelings of security and family connectedness, potentially increasing adolescents' vulnerability to emotional difficulties. However, emotional security, conflict appraisal, and coping mechanisms were not directly assessed. Consequently, these explanations remain theoretically plausible rather than empirically established mechanisms. The remaining direct association further suggests that family cohesion does not fully account for the relationship between marital conflict and depressive symptoms. Other individual, relational, and contextual factors may also be relevant. The study therefore contributes to theory by identifying family cohesion as a potentially important component of a broader explanatory framework, without establishing a causal sequence.

4.6 Implication for practice

The findings suggest that professionals supporting adolescents should consider family circumstances alongside individual mental health needs. School counselors, psychologists, social workers, and healthcare providers may benefit from assessing exposure to parental conflict, perceived family support, and depressive symptoms together. Where appropriate, family-oriented support could emphasize constructive communication, nonviolent conflict management, emotional responsiveness, and supportive parent–adolescent relationships.

Nevertheless, the cross-sectional findings do not demonstrate that strengthening family cohesion will reduce depressive symptoms. Greater cohesion should not automatically be considered beneficial when it involves excessive control or restricted autonomy. Furthermore, family-based approaches should not replace individual mental health assessment or appropriate treatment for adolescents experiencing significant depressive symptoms. Where conflict involves violence, intimidation, or coercive control, safety must take precedence over joint family interventions. Practice should therefore be individualized, culturally responsive, and guided by adolescents' needs and circumstances.

4.7 Limitations of the study

Several limitations should be considered when interpreting the findings. First, the cross-sectional design precludes establishing temporal ordering and causal relationships among frequency of marital conflict, family cohesion, and depressive symptoms. Although the significant indirect effect was consistent with the hypothesized partial mediation model, it represents a statistical association rather than evidence of a causal mechanism. The possibility of reciprocal relationships cannot be excluded; for example, depressive symptoms may influence adolescents' perceptions of family relationships, while lower family cohesion may be associated with more frequent marital conflict. Longitudinal studies with repeated assessments are needed to establish temporal sequences and examine how these family processes and depressive symptoms may influence one another over time. Intervention studies could further investigate whether reducing interparental conflict or strengthening family cohesion leads to improvements in adolescent mental health.

Second, all study variables were assessed using adolescent self-report measures. Although adolescents' perceptions are theoretically relevant to understanding how family relationships are associated with psychological well-being, reliance on a single informant and measurement method may introduce reporting biases and shared-method variance, potentially inflating observed associations. Adolescents' current emotional states may also influence their perceptions of marital conflict and family cohesion. Future studies should consider incorporating multiple informants, including parents where appropriate, and complementary assessment methods to evaluate the robustness of these associations.

Third, the measures used may not fully capture the complexity of the constructs examined. The frequency of marital conflict does not necessarily reflect its intensity, hostility, resolution, or the extent to which adolescents directly witness parental disagreements. Similarly, family cohesion scores may not fully distinguish supportive emotional connectedness from potentially restrictive forms of family involvement. In addition, depressive symptom scores indicate the severity of reported symptoms but do

not establish a clinical diagnosis of depressive disorder. Future research could benefit from multidimensional assessments of interparental conflict, family functioning, and adolescent mental health, alongside appropriate clinical assessments where feasible.

Fourth, although the hypothesized structural model demonstrated excellent fit to the observed data, good model fit does not establish that the proposed model is uniquely correct or that its underlying relationships are causal. Alternative models, including those specifying reciprocal or differently ordered relationships among marital conflict, family cohesion, and depressive symptoms, may also be consistent with the data. Comparisons of theoretically plausible alternative models, independent replication, and longitudinal structural equation modeling would help assess the robustness of the proposed explanatory framework.

Finally, the generalizability of the findings should be considered in light of the study population and setting. Although the large sample of 1,960 students provides a substantial basis for estimating associations, participants were Grade 9 and 10 students recruited from six government secondary schools in Assosa Woreda, Ethiopia. The findings may not generalize to adolescents in other regions, private schools, or out-of-school populations, whose family circumstances and social environments may differ. Furthermore, potentially relevant factors, including parental mental health, socioeconomic adversity, parent–child relationship quality, and exposure to violence, were not accounted for in the reported analyses and may partly explain the observed associations. Future studies involving more geographically diverse and socioeconomically heterogeneous populations, together with appropriate assessment of potential confounders, are needed to evaluate the transferability and robustness of these findings.

Taken together, these limitations warrant cautious interpretation of the findings but do not negate their contribution to understanding the associations among interparental conflict, family cohesion, and adolescent depressive symptoms. The results provide a basis for further research into the role of family relationships in adolescent mental health, particularly through longitudinal designs and intervention studies capable of testing temporal and causal hypotheses.

4.8 Directions for future research

Future research should extend the present findings by clarifying the temporal relationships, underlying processes, and contextual conditions linking marital conflict, family cohesion, and adolescent depressive symptoms. First, longitudinal studies with repeated assessments are needed to establish temporal ordering and examine whether more frequent marital conflict precedes subsequent declines in family cohesion and increases in depressive symptoms. Such studies should account for baseline depressive symptoms and relevant confounding factors while also testing reciprocal pathways, including whether changes in adolescent mental health are associated with subsequent changes in perceptions of family relationships. Although longitudinal designs would strengthen temporal inference, causal interpretations would require careful consideration of confounding, measurement quality, and model specification.

These studies would help determine whether the significant indirect association observed in the present study reflects a temporally ordered explanatory pathway.

Second, future studies should investigate the psychological and relational processes that may help explain the association between marital conflict and adolescent depressive symptoms. Potential mechanisms include emotional insecurity, self-blame, perceived threat, coping strategies, parent–adolescent communication, and perceived parental support. Research should also distinguish the frequency of marital conflict from its intensity, hostility, resolution, and adolescents’ direct exposure to parental disagreements. Examining these dimensions together with family cohesion could clarify why some adolescents experiencing frequent marital conflict report greater psychological difficulties than others. In addition, theoretically informed analyses should investigate potential protective factors, including supportive parent–adolescent relationships, school connectedness, and access to trusted adults, rather than assuming that all adolescents are equally vulnerable to family conflict.

Third, future research should strengthen the measurement of family processes and adolescent mental health through culturally and linguistically validated instruments and, where feasible, multiple informants and complementary assessment methods. Combining adolescent reports with parent reports, structured observations, or appropriate clinical assessments could help distinguish adolescents’ subjective experiences from other indicators of family functioning and mental health. Qualitative research could further explore how adolescents interpret parental conflict, experience family cohesion, and identify sources of support within their families and communities. Such approaches are particularly relevant in Ethiopia, where family relationships and their meanings may be shaped by diverse sociocultural circumstances. Careful validation of measures across populations would also improve the comparability of findings between studies.

Fourth, research involving more geographically and socially diverse populations is needed to assess the generalizability of the present findings beyond Grade 9 and 10 students attending government secondary schools in Assosa Woreda. Future studies should include adolescents from different Ethiopian regions, rural and urban communities, private and government schools, and out-of-school populations. Where sample sizes and study designs permit, researchers should examine whether the associations among marital conflict, family cohesion, and depressive symptoms vary according to gender, socioeconomic circumstances, age, and other relevant social characteristics. These investigations could help identify differences in vulnerability and access to protective resources and clarify how family-related processes intersect with broader social inequalities in adolescent mental health.

Fifth, future studies should assess the robustness of the proposed mediation model by comparing theoretically justified alternative models and examining the sensitivity of indirect effects to plausible confounding factors and measurement assumptions. In particular, models incorporating reciprocal relationships or alternative pathways through parent–adolescent relationships, emotional insecurity, and social support could provide a more comprehensive account of the processes linking family conflict with adolescent mental health. Independent replication in different populations and, where feasible,

longitudinal structural equation modeling would help determine whether the proposed model remains consistent across settings and over time.

Finally, intervention research should examine whether programmes addressing interparental conflict, improving family communication, or strengthening supportive family relationships are feasible, acceptable, safe, and effective in improving adolescent mental health. Initial studies should establish cultural appropriateness and accessibility before progressing to controlled evaluations of mental health outcomes. Where appropriate, researchers should investigate whether changes in family cohesion accompany changes in depressive symptoms and whether intervention effects differ across family circumstances. Safeguarding must remain central to such work, particularly in families experiencing violence or coercive control, because joint family interventions may not be safe or appropriate in every circumstance.

Collectively, these research priorities could advance understanding of family relationships as a social context for adolescent mental health and clarify whether family cohesion represents a modifiable factor associated with depressive symptoms. By integrating longitudinal evidence, culturally appropriate measurement, attention to social inequalities, and carefully evaluated interventions, future research could provide a stronger empirical basis for adolescent mental health promotion and inform contextually appropriate family-sensitive support strategies in Ethiopia and comparable settings.

5 Conclusions

This study examined the associations among frequency of marital conflict, family cohesion, and depressive symptoms among adolescents in Assosa Woreda, Ethiopia. The findings showed that more frequent marital conflict was associated with higher levels of depressive symptoms and lower family cohesion, while greater family cohesion was associated with fewer depressive symptoms. The significant indirect association through family cohesion, alongside the remaining direct association between marital conflict and depressive symptoms, was consistent with a partial mediation pattern. The model also accounted for a substantial proportion of the variance in depressive symptoms, highlighting the relevance of family relationships to understanding adolescent psychological well-being in this setting.

These findings suggest that efforts to support adolescent mental health may benefit from considering both exposure to interparental conflict and the quality of emotional relationships within the family. However, the cross-sectional design does not establish temporal order or causality, and the observed indirect association should not be interpreted as proof that family cohesion reduces the effects of marital conflict. Longitudinal studies are needed to clarify these relationships over time, while intervention research should assess whether family-focused approaches can improve adolescent mental health. Overall, the study identifies family cohesion as a potentially important relational pathway linking frequent marital conflict with depressive symptoms among Ethiopian adolescents and provides a basis for further research in this underrepresented context.

Declarations

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Ethical Approval This project was performed in accordance with the Declaration of Helsinki. The study was approved by the Institutional Ethical Committee of Addis Ababa University

Informed consent Written informed consent was obtained from parents or legal guardians, and written assent was obtained from all adolescent participants before their inclusion in the study.

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Figures

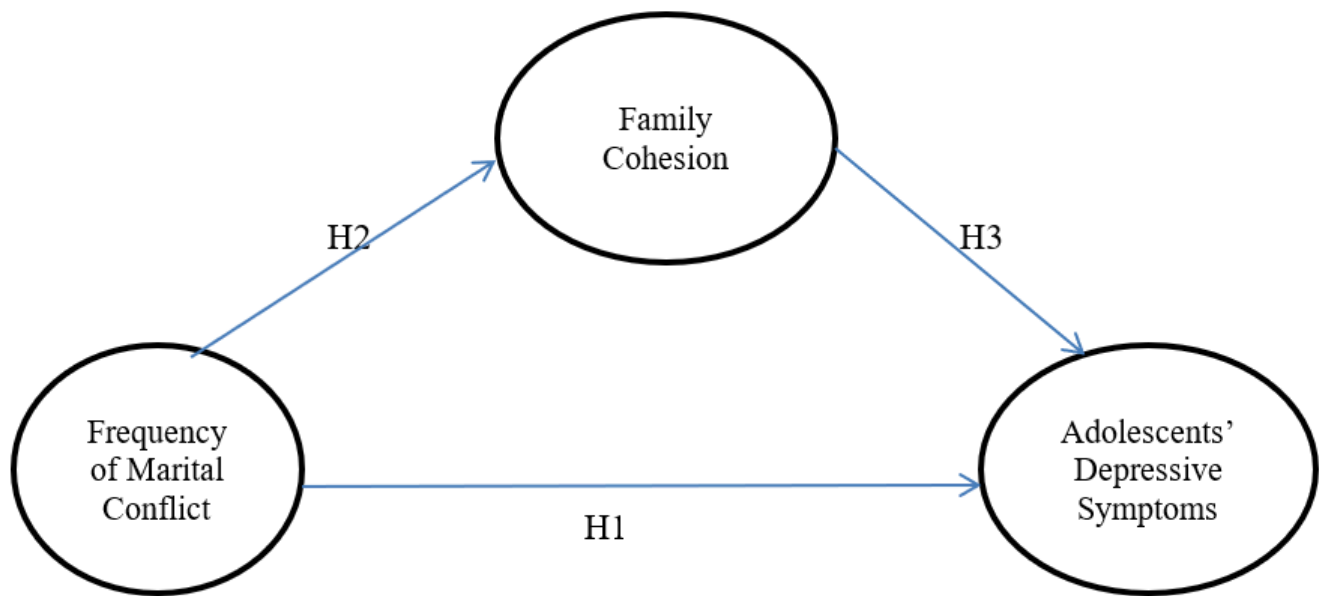


Figure 1

Diagrammatic representation of the research hypotheses