


# From Autonomy Support to Moral Reasoning: The Mediating Role of Emotional Maturity in Adolescents

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### ABSTRACT

This study aimed to examine the mediating role of emotional maturity in the relationship between perceived parental autonomy support and moral reasoning among adolescents. The study utilized a descriptive correlational design involving 407 high school students aged 15 to 18 from various regions in Austria. The sample size was determined based on the Morgan and Krejcie sampling table and selected using stratified random sampling. Data were collected through three standardized self-report instruments: the Perceptions of Parents Scale (POPS) for autonomy support, the Emotional Maturity Scale (EMS), and the Sociomoral Reflection Measure–Short Form (SRM-SF) for moral reasoning. Statistical analyses were conducted using SPSS-27 and AMOS-21. Descriptive statistics and Pearson correlation coefficients were computed to examine the relationships among the variables. Structural Equation Modeling (SEM) was employed to test the hypothesized mediation model and assess overall model fit using standard indices such as CFI, TLI, GFI, and RMSEA. The results revealed significant positive correlations between autonomy support and emotional maturity ( $r = .43, p < .001$ ), autonomy support and moral reasoning ( $r = .39, p < .001$ ), and emotional maturity and moral reasoning ( $r = .46, p < .001$ ). The SEM analysis confirmed good model fit ( $\chi^2/df = 2.29$ , CFI = 0.97, RMSEA = 0.056), and demonstrated that emotional maturity significantly mediated the relationship between autonomy support and moral reasoning. The indirect effect of autonomy support on moral reasoning through emotional maturity was statistically significant ( $\beta = .19, p < .001$ ), alongside a significant direct effect ( $\beta = .23, p = .003$ ), indicating partial mediation. The findings suggest that emotional maturity serves as a significant psychological mechanism through which perceived parental autonomy support enhances adolescents' moral reasoning. Promoting emotionally supportive and autonomy-encouraging parenting practices may be essential for fostering ethical development in youth.

**Keywords:** Adolescents, Moral Reasoning, Emotional Maturity, Autonomy Support.

## 1. Introduction

Adolescence is a critical developmental period marked by profound emotional, cognitive, and social changes that shape the trajectory of moral development. During this stage, individuals move beyond externally imposed rules and begin to internalize values, beliefs, and ethical principles, gradually evolving toward autonomous moral reasoning. One of the key questions in developmental psychology concerns how environmental and individual factors interact to promote or hinder this transition. Among these, autonomy support from parents and emotional maturity have gained increasing attention as possible contributors to moral reasoning development. However, the pathways through which these factors influence adolescents' ethical growth remain complex and multifaceted. Recent research has emphasized that moral reasoning does not emerge in isolation but is embedded within broader interpersonal and emotional systems that evolve throughout adolescence (Lindsey, 2025).

Autonomy support, defined as the degree to which significant others, especially parents, encourage independent thinking, offer choices, and minimize pressure, has been widely associated with positive adolescent outcomes, including psychological well-being, academic engagement, and internalization of prosocial values (Keskin & Branje, 2022). Theoretical frameworks such as Self-Determination Theory argue that autonomy-supportive environments satisfy the basic psychological need for autonomy, thereby fostering internal motivation and personal endorsement of values, which are essential for the development of moral reasoning. In contrast, controlling parenting styles may undermine adolescents' ability to reflect on moral issues independently, thus restricting their ethical growth (Main et al., 2021). Research has shown that adolescents who perceive their parents as autonomy-supportive are more likely to develop internalized moral orientations and exhibit higher levels of moral maturity (Darling et al., 2019). Furthermore, the quality of parent-adolescent communication and emotional closeness plays a central role in shaping adolescents' interpretive frameworks for understanding social rules and moral dilemmas (Chiang et al., 2024).

Although autonomy support appears to create a conducive environment for moral reasoning, its effects are not always direct or immediate. One potential mechanism through which autonomy support may operate is the development of emotional maturity. Emotional maturity

refers to an individual's ability to manage affective responses, delay gratification, tolerate frustration, and engage in reflective self-regulation. Adolescents who are emotionally mature are better equipped to consider multiple perspectives, weigh the consequences of their actions, and resolve moral conflicts in a principled manner (Vrihat et al., 2023). Empirical studies have found that autonomy-supportive parenting practices contribute to improved emotion regulation skills, which, in turn, are associated with more advanced moral reasoning processes (Ratliff et al., 2023). In emotionally stable individuals, moral decisions are less likely to be driven by impulsivity or external pressures and more likely to reflect internalized ethical standards (Huang et al., 2023).

The development of emotional maturity in adolescence is influenced by multiple psychosocial factors, including family dynamics, peer interactions, and cultural context. Longitudinal studies have demonstrated that consistent parental warmth, empathic communication, and shared emotional understanding are foundational for adolescents' emotional regulation and growth (Hale et al., 2020; Keskin & Branje, 2022). Notably, emotion regulation and emotional clarity have been identified as protective factors in adolescence, promoting resilience, prosocial behavior, and a deeper sense of responsibility toward others (Mastrotheodoros et al., 2019). Moreover, the presence of supportive adult figures has been linked with decreased emotional volatility and increased self-reflection in young people, which are both crucial components of mature moral reasoning (Main et al., 2019). Emotional maturity allows adolescents to navigate ethically ambiguous situations by balancing empathy with cognitive control and delaying reactive responses in favor of thoughtful deliberation (Lee et al., 2020).

Understanding the interplay between emotional maturity and moral reasoning is particularly important in today's social context, where adolescents are exposed to diverse and often conflicting value systems. With the expansion of digital media and globalization, young people increasingly face moral challenges that require not only cognitive sophistication but also emotional resilience (Reijmersdal & Dam, 2020). In such an environment, the ability to regulate affect and reflect critically on moral issues becomes a crucial skill. Prior research suggests that emotionally mature adolescents are more likely to engage in principled reasoning, show concern for others' welfare, and resist peer pressure to engage in unethical behaviors (Delgado et al., 2022; Zhang et al., 2021). This highlights the mediating role

of emotional maturity in transforming external sources of guidance, such as parental autonomy support, into internalized moral commitments.

In addition to parental influences, adolescents' capacity for moral reasoning is also shaped by their broader social environments, including peer relationships, school climate, and community values. For instance, adolescents who experience emotionally validating peer interactions are more likely to exhibit moral concern and fairness in their interpersonal relationships (Ge, 2024). Attachment to caregivers, particularly in father-adolescent dynamics, has also been shown to predict long-term outcomes in emotional stability and ethical behavior (Vetterly et al., 2024). Adolescents who feel emotionally secure are less likely to react defensively or aggressively in morally charged situations and more likely to evaluate actions based on justice and compassion (Dittman et al., 2025). Conversely, when emotional needs are neglected or when parent-child relationships are characterized by conflict or misattunement, adolescents may struggle with moral disengagement or justification of unethical behaviors (ÇAn, 2022; Suryani et al., 2020).

Another aspect that cannot be overlooked is the role of adolescents' active agency in navigating their moral development. Although parental autonomy support lays the groundwork, adolescents must still interpret, internalize, and apply these influences within their own lived experiences. As research has shown, dyadic synchrony and responsiveness within parent-child interactions contribute significantly to the adolescent's ability to make sense of emotional cues and integrate them into their moral reasoning (Lindsey, 2025). This bidirectional process reinforces the need to study not only the external support systems but also the internal capacities—like emotional maturity—that empower adolescents to become ethical decision-makers (Meuronen et al., 2024). Adolescents who feel heard and respected are more likely to express their thoughts openly and engage in reflective moral discourse (Villarreal & Nelson, 2021). Self-disclosure within emotionally safe relationships supports the formation of an integrated identity, including a consistent moral self (Liu et al., 2024).

Additionally, cultural and contextual variables may modulate the impact of autonomy support and emotional maturity on moral reasoning. For example, studies conducted in collectivist societies emphasize the role of relational harmony and interdependence in shaping moral judgments, while those in individualist cultures prioritize autonomy and justice-based reasoning (Mutmainah, 2024).

Adolescents from different backgrounds may thus vary in how they interpret autonomy support or express emotional maturity, highlighting the need for culturally sensitive research in this domain (Musabelliu et al., 2018). Nevertheless, across cultural contexts, the common thread appears to be the presence of emotionally attuned and autonomy-supportive environments that encourage the development of self-regulated moral thinkers (Robinson et al., 2018).

Taken together, the existing literature suggests that both autonomy support and emotional maturity are significant predictors of moral reasoning, with emotional maturity potentially serving as a mediating mechanism that explains how supportive parenting contributes to adolescents' moral development. Despite the robust theoretical underpinnings and empirical evidence supporting this model, few studies have empirically tested the mediating role of emotional maturity within this specific pathway. Furthermore, there is a lack of research focusing on these constructs among adolescent populations in European countries such as Austria, where cultural norms regarding autonomy and emotional expression may differ from those in other contexts. To address these gaps, the present study aims to investigate the mediating role of emotional maturity in the relationship between perceived parental autonomy support and moral reasoning in Austrian adolescents.

By employing a descriptive correlational design and analyzing data from a diverse sample of adolescents, this study contributes to a more nuanced understanding of how parental behaviors and internal emotional capacities interact to foster moral growth. It builds upon prior work that has highlighted the importance of supportive socialization environments and individual emotional competencies in adolescent development (Dittman et al., 2025; Hale et al., 2020). Specifically, the study seeks to determine whether emotional maturity acts as a psychological bridge through which autonomy support enhances adolescents' capacity for principled moral reasoning.

## 2. Methods and Materials

### 2.1. Study Design and Participants

This study employed a descriptive correlational design to examine the relationships among autonomy support, emotional maturity, and moral reasoning in adolescents, as well as to investigate the mediating role of emotional maturity. The statistical population consisted of high school students from various urban regions in Austria. Using the

Morgan and Krejcie (1970) table to determine an appropriate sample size for a large population, 407 adolescents were selected through stratified random sampling to ensure adequate representation across gender and age groups. Participants were eligible if they were between 15 and 18 years old and enrolled in public or private secondary schools. Informed consent was obtained from both participants and their parents prior to data collection. Data were gathered using three standardized instruments: the Perceptions of Parents Scale (POPS) to measure autonomy support, the Emotional Maturity Scale (EMS) to assess emotional maturity, and the Sociomoral Reflection Measure–Short Form (SRM-SF) to evaluate moral reasoning. All instruments were administered in a classroom setting under the supervision of trained research assistants.

## 2.2. Measures

### 2.2.1. Moral Reasoning

To assess the dependent variable of moral reasoning, the Sociomoral Reflection Measure–Short Form (SRM-SF) developed by Gibbs, Basinger, and Fuller (1992) was utilized. This standardized instrument consists of 11 open-ended items that prompt adolescents to justify their judgments regarding various moral dilemmas related to interpersonal responsibilities and societal rules. Each response is scored on a 5-point scale, reflecting the developmental sophistication of moral reasoning from preconventional to postconventional stages. The total score is obtained by averaging across all items, with higher scores indicating more advanced moral reasoning. The SRM-SF is widely used in developmental psychology and has demonstrated robust psychometric properties, with studies confirming its strong inter-rater reliability (above 0.80) and construct validity in diverse adolescent populations (Kotluk & Tormey, 2022, 2023; Lee et al., 2021).

### 2.2.2. Emotional Maturity

Emotional maturity was measured using the Emotional Maturity Scale (EMS) developed by Singh and Bhargava (1990). This self-report questionnaire contains 48 items divided into five subscales: Emotional Stability, Emotional Progression, Social Adjustment, Personality Integration, and Independence. Respondents rate items on a 5-point Likert scale ranging from "very much" to "not at all." Higher scores indicate greater emotional immaturity, while lower scores reflect emotional maturity. The EMS is widely recognized

for its application in adolescent and young adult populations and has shown satisfactory internal consistency (Cronbach's alpha ranging from 0.73 to 0.83 across subscales) and content validity through multiple validation studies in different cultural contexts (Monika et al., 2023; Sruthikeerthy, 2023).

### 2.2.3. Autonomy Support

Perceived autonomy support was assessed using the Perceptions of Parents Scale (POPS) developed by Grolnick, Ryan, and Deci (1991). Specifically, the parental autonomy support subscale was employed, which includes 12 items rated on a 7-point Likert scale ranging from "not at all true" to "very true." The items are designed to evaluate the degree to which adolescents perceive their parents as supportive of their self-initiation and choice. The subscale yields a composite score, with higher scores reflecting higher perceived autonomy support. The POPS has been validated extensively and exhibits high internal reliability (Cronbach's alpha > 0.85) and confirmed construct and criterion validity in studies involving adolescent samples across different cultures (Kim & Ko, 2024; Phipps et al., 2024).

## 2.3. Data Analysis

Data analysis was conducted using SPSS version 27 and AMOS version 21. Initially, descriptive statistics including means, standard deviations, and correlation coefficients were calculated to provide a general overview of the relationships among the study variables. Pearson correlation analysis was used to examine the bivariate associations between the dependent variable (moral reasoning) and each of the independent variables (autonomy support and emotional maturity). To explore the mediating role of emotional maturity in the relationship between autonomy support and moral reasoning, Structural Equation Modeling (SEM) was employed using AMOS-21. The model fit was evaluated using standard indices.

## 3. Findings and Results

The final sample consisted of 407 adolescents aged between 15 and 18 years ( $M = 16.47$ ,  $SD = 1.09$ ). Among the participants, 231 (56.75%) were female and 176 (43.24%) were male. Regarding school type, 264 students (64.86%) were enrolled in public schools, while 143 students (35.13%) attended private schools. In terms of grade level, 102 participants (25.06%) were in 10th grade, 148 (36.35%)

in 11th grade, and 157 (38.58%) in 12th grade. Most participants identified as middle socioeconomic status ( $n = 249$ , 61.18%), followed by low socioeconomic status ( $n =$

98, 24.08%) and high socioeconomic status ( $n = 60$ , 14.74%).

**Table 1**

*Descriptive Statistics for Study Variables (N = 407)*

Variable	Mean (M)	Standard Deviation (SD)
Autonomy Support	5.84	0.77
Emotional Maturity	2.91	0.61
Moral Reasoning	3.78	0.68

The results presented in Table 1 show the descriptive statistics for the main study variables. The mean score for perceived autonomy support was 5.84 ( $SD = 0.77$ ), indicating a generally high level of autonomy support perceived by participants. The mean for emotional maturity was 2.91 ( $SD = 0.61$ ), reflecting moderate levels of emotional self-regulation and maturity. Moral reasoning had a mean score of 3.78 ( $SD = 0.68$ ), suggesting that participants, on average, engaged in moderately advanced levels of moral reflection.

Prior to conducting the main analyses, statistical assumptions for Pearson correlation and Structural Equation

Modeling (SEM) were examined and met. The data showed normal distribution, as indicated by skewness values ranging from -0.71 to 0.58 and kurtosis values between -0.82 and 0.69 across all study variables. Linearity was assessed through scatterplot inspection, confirming linear relationships between variables. No evidence of multicollinearity was found; the Variance Inflation Factor (VIF) values ranged from 1.12 to 1.48, and tolerance values exceeded 0.67. Additionally, the Mahalanobis distance test identified no multivariate outliers beyond the critical value ( $\chi^2(3) = 16.27$ ,  $p < .001$ ), confirming that the dataset was appropriate for SEM analysis.

**Table 2**

*Pearson Correlation Coefficients Between Study Variables (N = 407)*

Variables	1	2	3
1. Autonomy Support	—		
2. Emotional Maturity	.43** ( $p < .001$ )	—	
3. Moral Reasoning	.39** ( $p < .001$ )	.46** ( $p < .001$ )	—

As shown in Table 2, there were significant positive correlations between all key variables. Autonomy support was positively correlated with emotional maturity ( $r = .43$ ,  $p < .001$ ) and moral reasoning ( $r = .39$ ,  $p < .001$ ). Emotional maturity was also significantly correlated with moral

reasoning ( $r = .46$ ,  $p < .001$ ). These findings indicate that higher levels of autonomy support are associated with greater emotional maturity and more advanced moral reasoning, and that emotional maturity is positively linked with moral reasoning in adolescents.

**Table 3**

*Fit Indices for the Structural Equation Model*

Fit Index	Value	Recommended Cut-off
Chi-Square ( $\chi^2$ )	134.87	—
Degrees of Freedom (df)	59	—
$\chi^2/df$	2.29	$< 3.00$
GFI	0.95	$> 0.90$
AGFI	0.92	$> 0.90$
CFI	0.97	$> 0.95$
RMSEA	0.056	$< 0.08$
TLI	0.96	$> 0.95$



The fit indices reported in Table 3 indicate that the structural model had a good fit to the data. The chi-square to degrees of freedom ratio was 2.29, which is within the acceptable range. The Goodness-of-Fit Index (GFI = 0.95) and Adjusted Goodness-of-Fit Index (AGFI = 0.92) both

exceeded the recommended threshold of 0.90. Additionally, the Comparative Fit Index (CFI = 0.97) and Tucker-Lewis Index (TLI = 0.96) were above 0.95, and the Root Mean Square Error of Approximation (RMSEA = 0.056) fell below 0.08, supporting the adequacy of the model.

**Table 4**

*Total, Direct, and Indirect Effects in the Structural Model*

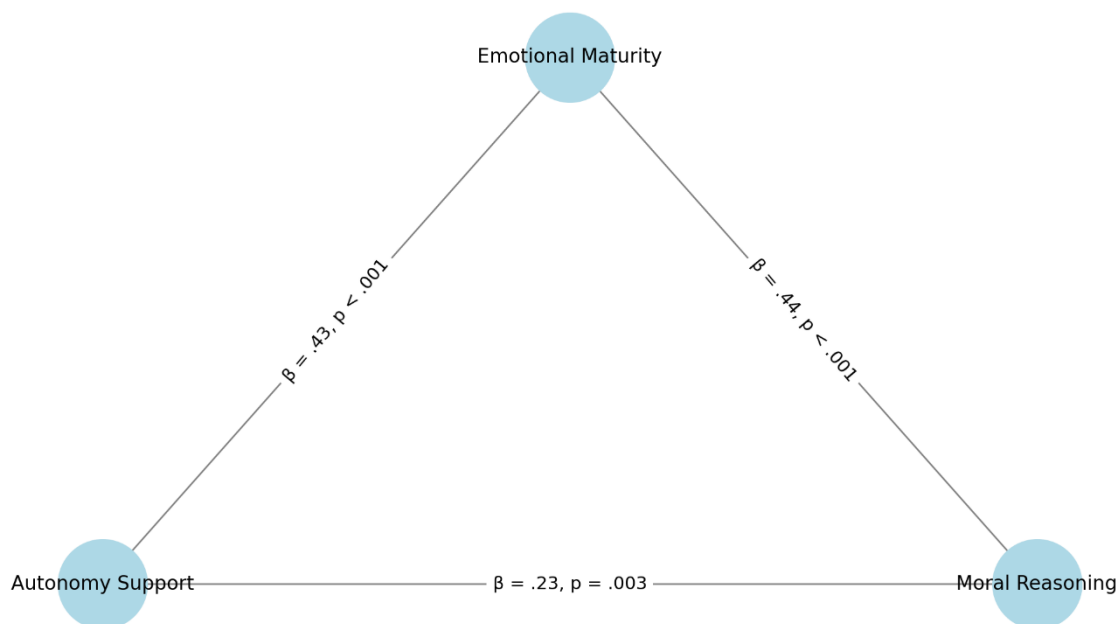
Path	B	S.E.	$\beta$	p
Autonomy Support → Emotional Maturity	0.47	0.06	.43	< .001
Emotional Maturity → Moral Reasoning	0.39	0.05	.44	< .001
Autonomy Support → Moral Reasoning (direct)	0.21	0.07	.23	.003
Autonomy Support → Moral Reasoning (indirect)	0.18	0.04	.19	< .001
Autonomy Support → Moral Reasoning (total)	0.39	0.06	.42	< .001

Table 4 presents the total, direct, and indirect path coefficients between the study variables in the structural model. Autonomy support significantly predicted emotional maturity ( $B = 0.47$ ,  $\beta = .43$ ,  $p < .001$ ), and emotional maturity significantly predicted moral reasoning ( $B = 0.39$ ,  $\beta = .44$ ,  $p < .001$ ). There was also a significant direct effect from autonomy support to moral reasoning ( $B = 0.21$ ,  $\beta =$

.23,  $p = .003$ ). Importantly, the indirect effect of autonomy support on moral reasoning through emotional maturity was also significant ( $B = 0.18$ ,  $\beta = .19$ ,  $p < .001$ ), indicating partial mediation. The total effect of autonomy support on moral reasoning was strong and statistically significant ( $B = 0.39$ ,  $\beta = .42$ ,  $p < .001$ ), confirming the proposed mediation model.

**Figure 1**

*Model with Beta Coefficients*



#### 4. Discussion and Conclusion

The aim of the present study was to examine the relationship between parental autonomy support and moral reasoning in adolescents, and to investigate the mediating

role of emotional maturity within this relationship. Using a sample of 407 adolescents from Austria, the study applied Pearson correlation analysis and Structural Equation Modeling (SEM) to analyze the data. The findings revealed

significant positive correlations between perceived parental autonomy support and both emotional maturity and moral reasoning. Additionally, emotional maturity showed a significant positive association with moral reasoning. The SEM results confirmed that emotional maturity mediated the relationship between autonomy support and moral reasoning, indicating that adolescents who perceive higher levels of parental autonomy support are more likely to develop emotional maturity, which in turn enhances their moral reasoning capacity.

These findings are consistent with a growing body of literature emphasizing the importance of autonomy-supportive parenting in adolescent development. Prior studies have shown that when parents encourage independence, provide meaningful rationales for expectations, and recognize their adolescents' perspectives, youth are more likely to internalize values and develop coherent moral frameworks (Keskin & Branje, 2022; Main et al., 2021). Adolescents who experience this form of parenting often feel more empowered to engage in reflective thinking and develop a personal sense of ethical responsibility. The significant direct path observed between autonomy support and moral reasoning aligns with this evidence, suggesting that parental encouragement of autonomy nurtures adolescents' ability to engage in complex moral deliberation.

In line with these findings, the mediating role of emotional maturity provides an important insight into the underlying mechanism of moral development. Emotional maturity encompasses the regulation of affective responses, tolerance of frustration, self-control, and empathy—all of which are vital for moral functioning. Adolescents with higher emotional maturity are better equipped to consider the emotional consequences of their actions, understand others' perspectives, and engage in principled moral reasoning. These capacities allow them to move beyond rule-based thinking and adopt values rooted in empathy and justice. Previous research supports this, indicating that adolescents with more developed emotion regulation capacities tend to exhibit greater moral sensitivity and less moral disengagement (Huang et al., 2023; Ratliff et al., 2023).

The results of this study support the proposition that emotional development does not operate in isolation but is shaped by relational contexts, particularly the nature of parent-child interactions. Prior studies emphasize the role of emotionally validating and autonomy-supportive environments in fostering adolescents' emotional maturity (Chiang et al., 2024; Meuronen et al., 2024). Adolescents

who feel emotionally secure with their caregivers are more likely to develop self-awareness and emotional regulation skills that serve as foundations for ethical reasoning. For instance, when adolescents experience open communication and supportive guidance from parents, they are more likely to reflect on emotions rather than react impulsively—an ability that supports moral thoughtfulness (Main et al., 2019).

Furthermore, the study's findings align with research highlighting the emotional dimension of moral reasoning. Adolescents who regulate their emotions well are less likely to rely on externally imposed rules and more likely to adopt internal principles when making moral decisions (Hale et al., 2020). They are also more resilient in morally ambiguous situations, demonstrating a capacity for empathy and prosocial judgment (Ge, 2024; Vetterly et al., 2024). This reinforces the significance of emotional competence in ethical development, as it bridges the gap between knowing what is right and being motivated to act in accordance with moral principles.

The study also resonates with research that examines the dynamics of adolescent agency in moral development. Adolescents are not merely passive recipients of parental input; rather, they interpret and internalize parental behaviors through the lens of their emotional and cognitive development. Parental autonomy support may lay the groundwork for moral development, but the actualization of moral reasoning depends on the adolescent's own emotional growth and reflective capacities (Lindsey, 2025; Villarreal & Nelson, 2021). In emotionally mature adolescents, autonomy support can be transformed into a stable moral identity. In contrast, adolescents with lower emotional maturity may lack the reflective capacity to integrate moral lessons into behavior, even when exposed to autonomy-supportive environments (Delgado et al., 2022).

Cultural and contextual factors also provide relevant interpretive frameworks for the results. In the Austrian context, where adolescent independence and open family dialogue are culturally encouraged, autonomy support may have a particularly strong influence on moral development. However, even in other sociocultural contexts, research has shown that the combination of autonomy support and emotional validation fosters ethical awareness and self-regulation in adolescents (ÇAn, 2022; Liu et al., 2024). The present study contributes to this literature by emphasizing the universal relevance of emotional maturity as a mediating factor, even while acknowledging the potential for cultural

variation in how autonomy and emotional regulation are expressed and valued.

Moreover, the results offer insight into how relational closeness and emotional expression within the family setting influence the internalization of moral values. Studies have shown that adolescents who feel emotionally connected to their caregivers are more likely to disclose concerns, reflect on personal experiences, and adopt moral values shared within the family system (Chiang et al., 2024; Zhang et al., 2021). Emotional closeness facilitates not only self-disclosure but also openness to moral guidance, especially when this guidance is provided in an autonomy-supportive manner (Villarreal & Nelson, 2021). This study supports those findings by showing that autonomy support strengthens emotional maturity, which in turn promotes more advanced moral reasoning.

Interestingly, this study's findings also offer a counterpoint to research on parental control and emotionally dismissive parenting, which has been linked to impaired emotion regulation and delayed moral development (Darling et al., 2019; Mastrotheodoros et al., 2019). Adolescents who experience high levels of parental control may internalize external rules without truly understanding or endorsing them, which can hinder the development of autonomous moral reasoning. In contrast, adolescents in autonomy-supportive environments are given the space to question, evaluate, and ultimately internalize values in a way that reflects personal conviction and emotional awareness (Lee et al., 2020; Mutmainah, 2024).

Another critical implication is the reinforcement of emotional maturity as a protective factor in adolescent development. Research shows that emotional maturity contributes to positive peer relationships, academic persistence, and lower rates of behavioral problems (Lindsey, 2025; Musabelliu et al., 2018). The current study expands this by demonstrating its mediating role in the moral domain, suggesting that interventions aimed at enhancing emotional regulation skills may also foster ethical reasoning and responsible behavior in adolescents. Given the increasing emotional challenges faced by adolescents in today's digital and socially complex environments, supporting emotional maturity becomes even more critical (Reijmersdal & Dam, 2020; Robinson et al., 2018).

This study also contributes to the understanding of moral development as a multidimensional process that integrates cognitive, emotional, and relational components. Rather than viewing moral reasoning as solely a product of logical thinking or parental instruction, the findings emphasize the

importance of emotional self-awareness and supportive relational dynamics. As such, emotional maturity serves as a bridge that connects external guidance with internal moral growth.

Despite its contributions, this study has several limitations that must be acknowledged. First, the cross-sectional design limits the ability to draw causal conclusions about the relationships among autonomy support, emotional maturity, and moral reasoning. Longitudinal studies would provide a more robust understanding of how these variables influence each other over time. Second, the use of self-report measures may introduce bias due to social desirability or inaccurate self-perception, particularly in adolescents who may have varying levels of insight into their emotional and moral functioning. Third, the study was conducted within a single national context (Austria), which may limit the generalizability of the findings to adolescents in other cultural or socioeconomic environments. Furthermore, although stratified sampling was used to ensure demographic representation, potential confounding factors such as parental education level, family structure, or school type were not extensively analyzed.

Future studies should consider using longitudinal designs to examine the developmental trajectories of emotional maturity and moral reasoning over time, especially in relation to changes in parental autonomy support. Including observational or peer-report measures may also provide a more comprehensive and objective assessment of emotional competence and moral behavior. Additionally, it would be valuable to replicate the study in other cultural contexts to explore how cultural norms surrounding autonomy and emotional expression shape moral development. Researchers could also investigate the role of additional mediators or moderators, such as peer influence, cognitive empathy, or digital media exposure, to expand the explanatory model and capture the complexity of adolescent moral development.

Educators, counselors, and parents can draw on the findings of this study to better support adolescents' emotional and moral growth. Schools should incorporate emotional literacy programs that help students build self-awareness, regulation skills, and interpersonal empathy—skills essential for moral reasoning. Parenting workshops could emphasize the importance of autonomy support and emotional validation, equipping caregivers with strategies to foster open communication and independence in adolescents. Finally, policy initiatives in education and family welfare should recognize the interdependence of



emotional development and moral competence in fostering responsible and ethical future citizens.

### Authors' Contributions

Authors contributed equally to this article.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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### Declaration of Interest

The authors report no conflict of interest.

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### Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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