

Chapter # 13

THE ROLE OF MATERNAL AND PATERNAL AUTONOMY SUPPORT IN YOUNG ADOLESCENT ALCOHOL CONSUMPTION

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ABSTRACT

Self-esteem (SE), descriptive normative beliefs (DNB), and alcohol availability (AA) have been identified as salient gender-specific risk factors for alcohol use (AU) among young adolescents. However, empirical research examining dyadic associations between maternal and paternal autonomy support and adolescent AU, both directly and indirectly via these risk factors, remains limited. The present study therefore investigated the relationships among perceived parental autonomy support, SE, AA, DNB, and lifetime AU using parallel mediation analyses in a sample of 1,125 adolescents (M age = 12.99, SD = 0.77; 50.1% girls). Among boys, maternal autonomy support was associated with higher SE but not with AU, whereas paternal autonomy support was indirectly associated with a lower likelihood of AU through higher SE and less favorable DNB regarding peer drinking. Among girls, both maternal and paternal autonomy support were indirectly associated with a lower likelihood of AU. Specifically, maternal autonomy support was linked to higher SE and lower AA, which were in turn related to reduced odds of AU. Similarly, paternal autonomy support was associated with lower AA and less favorable DNB, both of which were linked to a decreased likelihood of AU. These findings underscore the importance of parenting and perceived social context in adolescent alcohol-related behavior.

Keywords: parental autonomy support, self-esteem, alcohol availability, descriptive normative beliefs, lifetime alcohol consumption, adolescents.

1. INTRODUCTION

Parental autonomy support has consistently been linked to a range of positive outcomes, including increased intrinsic motivation, enhanced interest, reduced pressure and tension, greater creativity, improved cognitive flexibility, deeper conceptual understanding, more positive emotional experiences, higher self-esteem, increased trust, greater persistence in behavior change, and improved physical and psychological well-being compared to controlling approaches (Deci & Ryan, 1987). An autonomy orientation reflects an individual's ability to initiate and regulate behavior based on personal goals and interests, emphasizing a sense of volition rather than responding to external pressures or constraints (Deci & Ryan, 1985).

Research from the 1970s and 1980s indicated that boys generally received more parental autonomy support, whereas studies from the 1990s showed a slight shift toward greater support for girls (Endendijk, Groeneveld, Bakermans-Kranenburg, & Mesman, 2016). As these authors noted, although gender stereotypes may influence some families, a systematic review suggests minimal overall differences in the upbringing of boys and girls. Another review suggested that differences in parenting based on gender may be driven

more by societal stereotypes than by actual behavioral differences in children. While many parents aim to raise their children in a gender-neutral manner, research on how parenting influences gender role development remains limited, despite its importance for counseling and intervention practices (Morawska, 2020). Morawska's literature review suggests that parental responses often vary according to the child's gender, potentially shaping developmental outcomes in domains such as emotional expression, pain responsiveness, compliance, toy play, and aggression.

Research has highlighted the vital role of parental autonomy support in children's mental health (Ma, Ma, & Wang, 2022). The authors examined the relationship between parental autonomy support and adolescents' mental health, including life satisfaction and emotional symptoms, while also exploring the mediating role of self-esteem. Their findings indicated that parental autonomy support was positively linked to life satisfaction and negatively linked to emotional symptoms, with self-esteem partially mediating both associations. The child's self-esteem is the key mechanism driving the impact of parenting strategies (Yang, Schaninger, & Laroche, 2013). Self-esteem is crucial for understanding how individuals perceive, value, and evaluate themselves, providing insight into their behavior (Sarkova et al., 2006). During adolescence, teens may distance themselves from family to test their independence while relying on peers for self-definition and self-esteem. Despite craving independence, they also seek nurture and friendship, grappling with self-doubt, belonging, and self-image (Plummer, 2014).

Autonomy support, together with parental monitoring and warmth are essential parenting dimensions that significantly impact adolescent health behaviors, although the mechanisms through which they exert influence may vary (Kwon & Wickrama, 2014). Children whose parents grant them autonomy may have greater control over their own behavior due to being listened to and trusted; however, this supportive dynamic may also make them more open to parental influence (Lenne et al., 2019). Alcohol consumption is one of the most common health-related behaviors during adolescence. Delayed alcohol use was linked to parental modeling, monitoring, communication, and restricted access. Lower drinking was associated with similar factors, including disapproval and support (Ryan, Jorm, & Lubman, 2010). The findings suggest that adopting stricter alcohol-specific parenting practices, such as setting more rules about alcohol use and limiting its availability at home, may help protect children from alcohol consumption (Van den Eijnden, R., Van De Mheen, D., Vet, R., & Vermulst, 2011).

However, previous studies suggest that the link between parental autonomy support and alcohol use remains unclear, with inconsistent findings potentially due to differences in samples and measurement approaches (Wolff & Crockett, 2011). Additionally, the authors suggest a reciprocal relationship between autonomy granting and risk behavior, adolescents who avoid risks may receive more autonomy, while others use their autonomy to engage in risky behaviors. If these effects counterbalance each other, the overall association between autonomy granting and risk behavior may weaken.

Previous research by Sicilia, Águila, Posse, and Alcaraz-Ibáñez (2020) indicated that social factors that promote a sense of autonomy, where individuals perceive little or no pressure regarding their intentions or behaviors, can enhance motivation to engage in health-related activities. In contrast, social influences characterized by pressure, such as subjective or descriptive norms, may discourage future engagement in such behaviors. Chatzisarantis, Hagger, and Smith (2007) identified a positive association between descriptive norms, defined as individuals' perceptions of the prevalent behaviors enacted by the majority within their social group (Lapinski & Rimal, 2005), perceived social support, and perceived autonomy support. Considering the influence of various social factors from

different sources may provide deeper insights into how social contexts shape health-related intentions and behaviors (Sicilia et al., 2020). Although understanding the processes and predictors of adolescent substance use and risk behaviors is essential, existing research has largely emphasized individual-level factors over family dynamics, and mothers over fathers (Adamsons & Russell, 2023). It was found, that the significance of family structure, parent-child relationships, and role behaviors differs depending on the gender composition of the dyads and the specific outcome variables under study. The findings highlight that these associations are conditional and emphasize the importance of examining both the generalizability and the specificity of results across different outcomes and distinct groups of individuals (Vanassche, Sodermans, Matthijs, & Swicegood, 2014).

The design of this study was informed by two main considerations: (i) the need to better understand parenting-related factors that contribute to delaying adolescents' initiation of alcohol consumption, given its high prevalence. Data from ESPAD countries indicate that 73% of adolescents report lifetime alcohol consumption, with 33% initiating use at age 13 or younger; prevalence rates are slightly higher among girls (74%) than boys (72%) (ESPAD Group, 2025). (ii) the research-based need to investigate the gender-specific association between parental autonomy support and lifetime alcohol consumption. This study examines the association between perceived autonomy support from fathers and mothers and lifetime alcohol consumption among boys and girls, using mediation analyses. It is hypothesized that self-esteem, descriptive normative beliefs, and perceived alcohol availability will mediate the relationship between parental autonomy support and adolescents' lifetime alcohol consumption.

2. MEASURES

2.1. Sample and Procedure

The research sample consisted of 1,125 young adolescents (mean age = 12.99 years, SD = 0.77), with 50.1% being girls. The data was gathered using paper-and-pen questionnaires from seventh-grade adolescents attending primary schools in Slovakia during September and October 2017. Prior to data collection, informed consent was obtained from all participants. Twelve primary schools across various regions in Slovakia participated, aiming to represent schools from diverse areas and towns of varying sizes. At each school, all seventh-grade pupils took part in the study. The questionnaires were completed during two class periods in the presence of a trained research team member, with teachers absent to ensure confidentiality. The study received ethical approval from the university's ethics committee.

2.2. Measures

The Autonomy Support subscale of the Perceptions of Parents Scale (Grolnick, Ryan, & Deci, 1991) measured the extent of autonomy support provided by mothers (7 items) and fathers (7 items) as perceived by young adolescents. Participants completed the scale separately for each parent using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The Autonomy Support subscale demonstrated Cronbach's alphas of 0.64 for mothers and 0.70 for fathers.

Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965). The scale consists of 10 items that assess respondents' perceptions of themselves, such as "At times I think I am no good at all," "I feel that I am a person of value, at least on an equal plane with others," and "I take a positive attitude towards myself." The scale

includes 5 positive and 5 negative statements, each rated on a 4-point Likert scale (1 = strongly agree to 4 = strongly disagree). The total self-esteem score ranges from 10 to 40, with higher scores indicating greater self-esteem. Cronbach's alpha for RSE total score was 0.73.

Lifetime alcohol consumption. A simple question was used: "Have you ever consumed alcohol, even just one sip? (any beverage containing alcohol)". For the purposes of statistical analysis, the response scale was dichotomized into: 0 = No (No, never), 1 = Yes (I've tried it, I've consumed alcohol multiple times, I drink alcohol regularly, at least once a month, I drink alcohol regularly, at least once a week).

Descriptive normative beliefs were assessed using one item: "According to your estimation, how many of the pupils at your school use alcohol?" (Elek, Miller-Day, & Hecht, 2006). The item was scored on a 4-point scale ranging from 1 = almost none to 4 = most.

Perceived alcohol availability was assessed by asking respondents to rate its accessibility using the question: "How difficult do you think it would be for you to get alcohol if you wanted to?" Responses were recorded on a five-point scale: 1 = Impossible, 2 = Very difficult, 3 = Fairly difficult, 4 = Fairly easy, 5 = Very easy.

2.3. Statistical Analyses

The chi-square test and Mann-Whitney U test were used to analyse the data. Mediation models were examined using the PROCESS macro Model 4 for SPSS (Hayes, 2017), also performed separately for boys and girls. The bias-corrected 95% confidence interval (CI) was calculated with 5,000 bootstrap samples. A mediating effect was considered significant if the value zero was not included in the 95% CI. Statistical significance was defined as a two-tailed value of $p < .05$. All analyses were performed using SPSS 25.0.

3. RESULTS

A chi-square test for independence indicated a significant association between gender and lifetime alcohol consumption, $\chi^2 (1, n = 1125) = 9.82, p = 0.002$. Specifically, 63.3% of boys and 54.1% of girls reported alcohol consumption.

A Mann-Whitney U test revealed significant gender differences in fathers' autonomy support, self-esteem, descriptive normative beliefs, and perceived alcohol availability, all with small effect sizes (Table 1). Compared to girls, boys reported significantly lower levels of autonomy support from their fathers and descriptive normative beliefs, but higher levels of self-esteem and perceived alcohol availability.

A Mann-Whitney U test was conducted separately for boys and girls to determine whether those who reported no lifetime alcohol consumption differed from those who reported lifetime alcohol consumption in terms of maternal autonomy support and paternal autonomy support. The results of the U test revealed: (i) a significant difference in maternal autonomy support levels among girls who reported no lifetime alcohol consumption ($Md = 4.00, n = 252$) and those who reported lifetime alcohol consumption ($Md = 3.86, n = 293$), $U = 30,986.50, z = -3.25, p = 0.001, r = 0.14$. (ii) a significant difference in paternal autonomy support levels among girls who reported no lifetime alcohol consumption ($Md = 3.86, n = 188$) and those who reported lifetime alcohol consumption ($Md = 3.71, n = 238$), $U = 17,910.00, z = -3.55, p < 0.001, r = 0.17$.

Girls who reported no lifetime alcohol consumption received more autonomy support from both mothers and fathers, all with small effect sizes. In contrast, the results of the *U* test revealed no significant differences in maternal autonomy support and paternal autonomy support between boys who reported no lifetime alcohol consumption and those who reported lifetime alcohol consumption.

3.1. Mediation Analyses

The parallel mediation analyses conducted separately for boys and girls examined the associations between maternal autonomy support and paternal autonomy support (as independent variables), self-esteem, alcohol availability, and descriptive normative beliefs (as mediators), and alcohol consumption (as the dependent variable).

Table 1.
Results of Mann-Whitney U tests by gender of explored variables.

				Boys			Girls						
	M	SD	Median	M	SD	Median	M	SD	Median	<i>U-test</i>	<i>z</i>	<i>p</i>	<i>r</i>
MAS	3.86	0.59	3.86	3.83	0.58	3.86	3.88	0.58	4.00	153120.0	1.66	ns	
PAS	3.71	0.67	3.71	3.66	0.70	3.71	3.77	0.64	3.86	103951.5	2.41	0.016	0.08
SE	2.69	0.41	2.70	2.79	0.38	2.80	2.60	0.42	2.60	115086.0	-7.81	<0.001	0.23
DNB	2.50	0.86	2.00	2.42	0.84	2.00	2.57	0.87	3.00	170410.0	2.91	<0.01	0.09
PA	2.70	1.45	3.00	2.79	1.48	3.00	2.61	1.42	2.00	143327.0	-2.00	<0.05	0.06

Note: MAS = Maternal Autonomy Support, PAS = Paternal Autonomy Support, SE = Self-Esteem, DNB = Descriptive Normative Beliefs, PA = Perceived Alcohol Availability.

3.1.1. Maternal Autonomy Support and Alcohol Consumption among Boys

Maternal autonomy support was positively associated with self-esteem, such that higher maternal autonomy support was related to higher self-esteem (Figure 1). However, maternal autonomy support was not significantly associated with perceived alcohol availability and showed a non-significant negative association with descriptive normative beliefs about alcohol use (Figure 1).

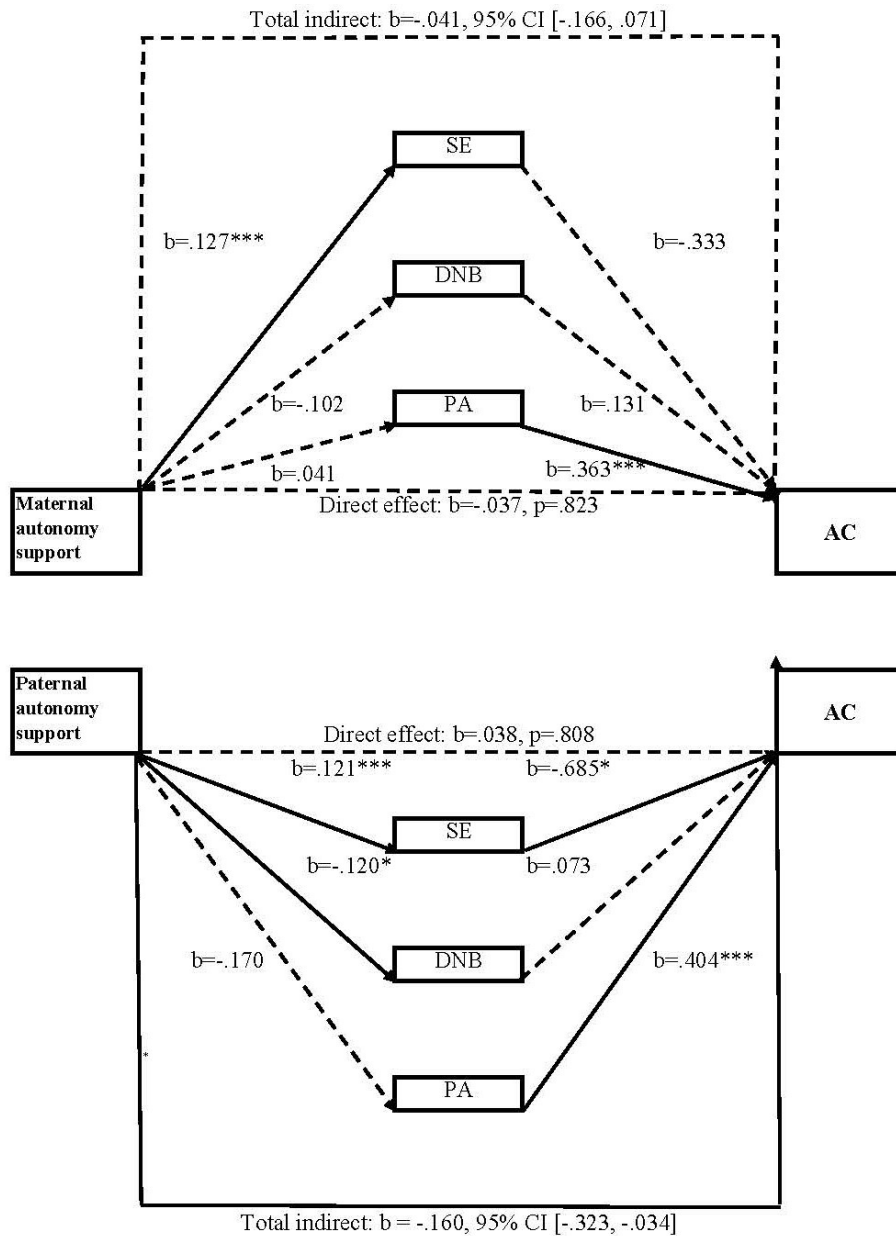
In relation to alcohol consumption, only perceived alcohol availability was significantly positively associated with alcohol use among boys (Figure 1). Maternal autonomy support ($b = -0.04$, $p = .82$), self-esteem, and descriptive normative beliefs were not significantly associated with alcohol consumption.

Indirect associations of maternal autonomy support with alcohol consumption through self-esteem, alcohol availability, and descriptive normative beliefs were also non-significant, as confidence intervals for all indirect paths included zero.

These results suggest that maternal autonomy support is related to boys' self-esteem but does not have a significant association with alcohol consumption either directly or indirectly through the proposed mediators. Instead, perceived alcohol availability appears to be a more proximal correlate of alcohol use in this sample.

3.1.2. Paternal Autonomy Support and Alcohol Consumption among Boys

Figure 1.
Parallel Mediation Models for Boys.



Note: SE = Self-Esteem, DNB = Descriptive Normative Beliefs, PA = Perceived Alcohol Availability, * $p < .05$, *** $p < .001$, Dashed lines represent paths that were not statistically significant.

Paternal autonomy support was positively associated with self-esteem, indicating that higher autonomy support related to higher self-esteem. Autonomy support was negatively, but not significantly, associated with perceived alcohol availability. It was also significantly negatively associated with descriptive normative beliefs about alcohol use, suggesting that greater paternal autonomy support related to less favorable normative beliefs regarding alcohol consumption (Figure 1).

Regarding alcohol consumption, self-esteem was negatively associated with alcohol use, suggesting that boys with higher self-esteem were less likely to consume alcohol. Perceived alcohol availability was positively associated with alcohol consumption. Paternal autonomy support and descriptive normative beliefs were not significantly associated with alcohol consumption (Figure 1).

The total indirect association of paternal autonomy support on alcohol consumption through self-esteem, alcohol availability, and descriptive normative beliefs was significant (Figure 1). The indirect association via self-esteem was significant (95% CI $[-0.185, 0.008]$), whereas the indirect associations via alcohol availability and descriptive normative beliefs were not.

These findings suggest that paternal autonomy support was associated with higher level of self-esteem and less favorable descriptive normative beliefs about alcohol use. Self-esteem, in turn, is associated with a lower likelihood of alcohol use. Although paternal autonomy support was not directly associated with alcohol consumption, it was indirectly linked to a lower likelihood of alcohol use through its positive association with self-esteem.

3.1.3. Maternal Autonomy Support and Alcohol Consumption among Girls

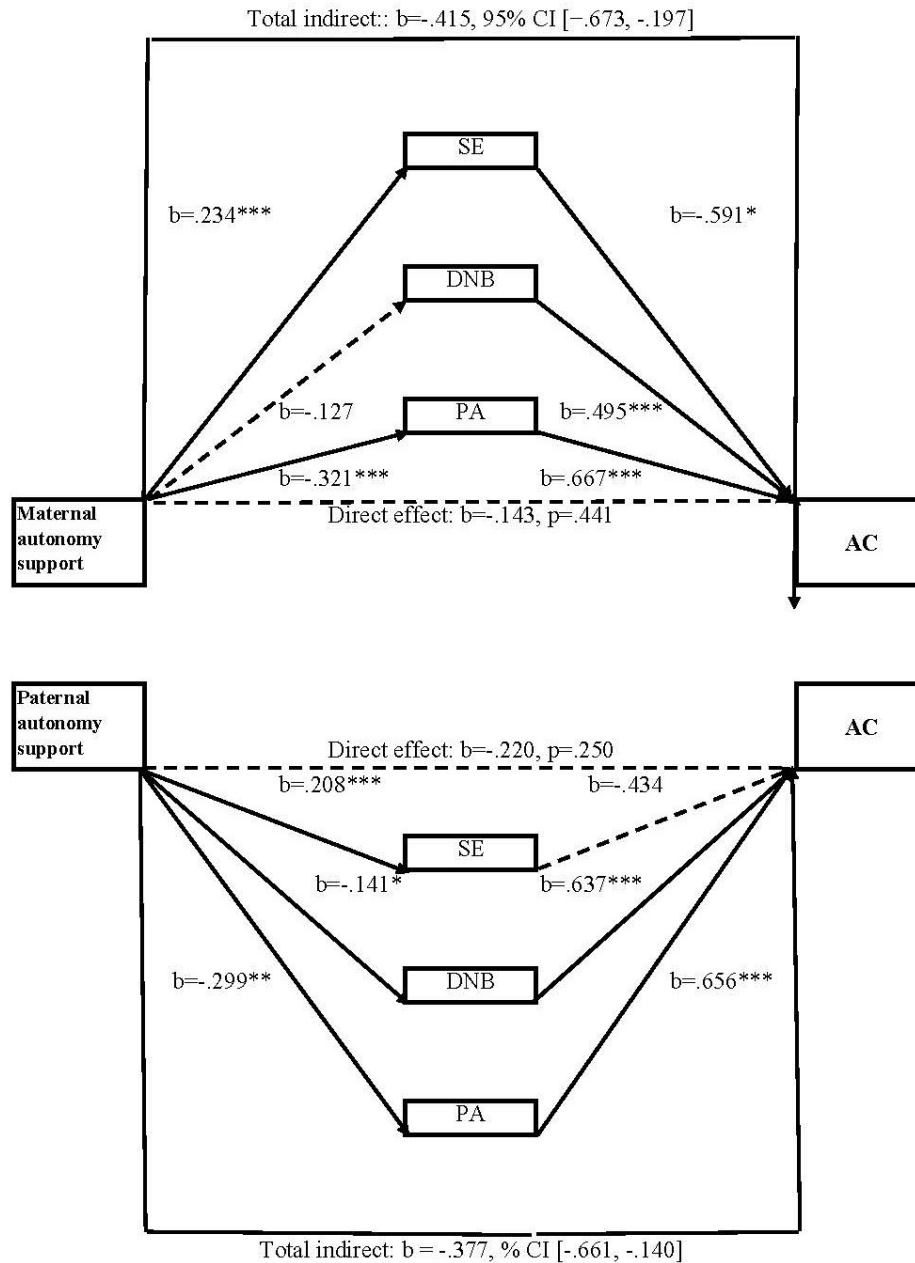
Maternal autonomy support was positively associated with self-esteem, suggesting that higher levels of maternal autonomy support correspond to higher self-esteem (Figure 2). It was also negatively associated with perceived alcohol availability, suggesting that girls who perceived more maternal autonomy support reported lower alcohol availability. The association between maternal autonomy support and descriptive normative beliefs was also negative but marginally significant, reflecting a trend toward less favorable perceptions of peer drinking norms with greater autonomy support (Figure 2).

In the final logistic regression model, self-esteem was negatively associated with alcohol consumption, indicating that higher self-esteem was linked to a lower likelihood of alcohol use. In contrast, alcohol availability and descriptive normative beliefs were both positively associated with alcohol consumption. However, maternal autonomy support was not directly associated with alcohol use (Figure 2).

The total indirect association of maternal autonomy support with alcohol consumption through the mediators was significant, with a 95% bootstrap confidence interval excluding zero (Figure 2). Specifically, the indirect associations through self-esteem ($b = -0.14$, 95% CI $[-0.27, -0.02]$) and alcohol availability ($b = -0.21$, 95% CI $[-0.39, -0.07]$) were significant. The pathway through descriptive normative beliefs ($b = -0.06$) approached significance, with a 95% CI $[-0.15, 0.001]$.

In summary, among girls, maternal autonomy support was associated with reduced alcohol consumption indirectly through higher self-esteem and lower alcohol availability. These findings underscore the importance of maternal autonomy support as a contextual factor in adolescent girls' alcohol-related behaviors, despite the absence of a direct association with alcohol use.

Figure 2.
Parallel Mediation Models for Girls.



Note: SE = Self-Esteem, DNB = Descriptive Normative Beliefs, PA = Perceived Alcohol Availability, * $p < .05$, ** $p < .01$, *** $p < .001$, Dashed lines represent paths that were not statistically significant.

3.1.4. Paternal Autonomy Support and Alcohol Consumption among Girls

Paternal autonomy support was positively associated with self-esteem, indicating that greater paternal autonomy support was linked to higher self-esteem among girls (Figure 2). It was also negatively associated with alcohol availability and with descriptive normative beliefs, suggesting that girls who experienced more autonomy support perceived less access to alcohol and believed their peers engaged less frequently in drinking.

In the final logistic regression model, alcohol availability and descriptive normative beliefs were both positively associated with alcohol consumption among girls. Self-esteem was not significantly associated with alcohol use. The direct association between paternal autonomy support and alcohol consumption among girls was also non-significant (Figure 2).

However, the total indirect association of paternal autonomy support with alcohol consumption through the mediators was statistically significant (Figure 2). Among the indirect pathways, two were statistically significant: the path through alcohol availability, $b = -0.20$, 95% CI $[-0.38, -0.05]$, and the path through descriptive normative beliefs, $b = -0.09$, 95% CI $[-0.20, -0.01]$. The path through self-esteem was not statistically significant, $b = -0.09$, 95% CI $[-0.22, 0.03]$.

In summary, among girls, greater paternal autonomy support was associated with reduced alcohol use indirectly through lower alcohol availability and weaker descriptive normative beliefs about peer drinking, although no direct link with alcohol consumption was observed. These findings highlight the importance of the perceived social and environmental context in the relationship between parenting and alcohol use.

In sum, maternal autonomy support was associated with boys' self-esteem but not with their alcohol consumption, while paternal autonomy support showed an indirect association with alcohol consumption through self-esteem. Among girls, maternal autonomy support was indirectly linked to alcohol consumption via higher self-esteem and lower alcohol availability, and paternal autonomy support via lower availability and weaker peer drinking norms, with no direct effects observed.

4. DISCUSSION AND CONCLUSIONS

Boys reported significantly lower levels of paternal autonomy support compared to girls, although the effect size was small. This outcome appears to be not fully consistent with self-determination theory (Vrolijk, Van Lissa, Branje, Meeus, & Keizer, 2020), which asserts that the need for autonomy is equally important for both genders. Nonetheless, previous studies have indicated that women generally exhibit a higher autonomy orientation (Deci & Ryan, 1985). Boys in this study also reported significantly higher self-esteem than girls. While adolescent girls often experience a slight decline in self-esteem, research suggests this decrease is small and comparable to that of boys (Twenge & Campbell, 2001). A meta-analysis by Orth, Erol, and Luciano (2018) indicates that self-esteem generally increases during childhood, stabilizes in adolescence, and rises again in young adulthood. Although some studies, as noted by the authors, report a slight self-esteem advantage for boys, others find no significant gender differences, suggesting that gender is not a direct determinant of changes in self-esteem. The psychosocial influences related to the onset of puberty may partly account for the differences in alcohol consumption and self-esteem between boys and girls (Glozah, 2014).

Our study found that maternal and paternal autonomy support are differently associated with adolescent alcohol use across genders. Mediation analyses revealed a significant indirect effect of maternal autonomy support on alcohol use through self-esteem

for girls only, and a similar indirect effect of paternal autonomy support through self-esteem for boys. These results align with evidence suggesting that parenting can have different effects on boys and girls (Zheng & Chen, 2025). At the same time, as Leaper (2005) summarized, adolescents' relationships with their mothers tend to be more intense, involving both greater closeness and more frequent conflict, whereas father-daughter relationships are generally more distant, with daughters often perceiving their fathers as detached authority figures. Although sons seek support from their fathers more than daughters do, father-son relationships remain less intimate than those with mothers. Female adolescents also reported viewing their parents as less controlling but simultaneously less supportive of autonomy, reflecting potential gender differences in parenting practices or differences in how adolescents perceive these practices (Young & Tully, 2022). Our mediation models further emphasize the role of same-gender dyads (mother-daughter, father-son). While both maternal and paternal autonomy support were linked to adolescents' self-esteem, self-esteem mediated the relationship between parental autonomy support and lifetime alcohol consumption only in same-gender dyads. Similarly, these findings align with evidence that the father-child relationship exerts a stronger positive influence on reducing risk behaviors in male adolescents than in female adolescents, providing robust support for the link between paternal involvement, parenting styles, and adolescent behavior (Bronte-Tinkew, Moore, & Carrano, 2006).

Nargiso, Friend, and Florin (2013) found that peer normative beliefs were the strongest and most consistent predictors of adolescents' current and lifetime alcohol use, as well as their intentions to start drinking. Poor parent-child relationship quality also increased the likelihood of alcohol use. Additionally, greater perceived alcohol availability was associated with higher odds of use, even after accounting for peer and family factors. Community risk factors, as noted by the authors, were linked to intentions to initiate use, with gender differences observed: poor family relationships had a greater influence on girls, while permissive community norms more strongly affected boys. Our results indicate that perceived alcohol availability and descriptive normative beliefs mediate the relationship between paternal autonomy support and alcohol use, and that perceived alcohol availability mediates the link between maternal autonomy support and alcohol use, both effects occurring only in girls. These findings underscore the importance of gender-specific parenting and adolescents' perceived social context in shaping alcohol-related behaviors.

This study sheds light on how parenting styles influence the initiation of drug use and highlights the importance of family-based programs that consider both parent and child gender. However, reliance on self-reported measures of parental autonomy support and lifetime alcohol use limits a deeper understanding of the role of gendered autonomy support in adolescent health-risk behaviors. Finally, the lower Cronbach's alpha value for the mothers' Autonomy Support subscale indicate a need for more precise cultural adaptation in future research. Future research should incorporate analyses that account for children from divorced and remarried families.

REFERENCES

- Adamsons, K., & Russell, B. (2023). Longitudinal transmission of risk behaviors between mothers, fathers, and adolescents. *Journal of Family Psychology*, 37(7), 1016. doi: 10.1037/fam0001086
- Bronte-Tinkew, J., Moore, K. A., & Carrano, J. (2006). The father-child relationship, parenting styles, and adolescent risk behaviors in intact families. *Journal of family issues*, 27(6), 850-881. <https://doi.org/10.1177/0192513X05285296>

- Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of research in personality*, 19(2), 109-134. [https://doi.org/10.1016/0092-6566\(85\)90023-6](https://doi.org/10.1016/0092-6566(85)90023-6)
- Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of personality and social psychology*, 53(6), 1024. doi: 10.1037//0022-3514.53.6.1024
- Elek, E., Miller-Day, M., & Hecht, M. L. (2006). Influences of personal, injunctive, and descriptive norms on early adolescent substance use. *Journal of Drug Issues*, 36(1), 147-172. <https://doi.org/10.1177/002204260603600107>
- Endendijk, J. J., Groeneveld, M. G., Bakermans-Kranenburg, M. J., & Mesman, J. (2016). Gender-differentiated parenting revisited: Meta-analysis reveals very few differences in parental control of boys and girls. *PloS one*, 11(7), e0159193. <https://doi.org/10.1371/journal.pone.0159193>
- ESPAD Group. (2025). *Key findings from the 2024 European School Survey Project on Alcohol and Other Drugs (ESPAD)*. Lisbon: European Union Drugs Agency. doi: 10.2810/5746644
- Chatzisarantis, N. L., Hagger, M. S., & Smith, B. (2007). Influences of perceived autonomy support on physical activity within the theory of planned behavior. *European Journal of Social Psychology*, 37(5), 934-954. doi: 10.1002/ejsp.407
- Glozah, F. N. (2014). Exploring the role of self-esteem and parenting patterns on alcohol use and abuse among adolescents. *Health psychology research*, 2(3). doi:10.4081/hpr.2014.1898
- Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). Inner resources for school achievement: Motivational mediators of children's perceptions of their parents. *Journal of educational psychology*, 83(4), 508. doi:10.1037/0022-0663.83.4.508
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.
- Kwon, J. A., & Wickrama, K. A. S. (2014). Linking family economic pressure and supportive parenting to adolescent health behaviors: Two developmental pathways leading to health promoting and health risk behaviors. *Journal of Youth and Adolescence*, 43(7), 1176-1190. <https://doi.org/10.1007/s10964-013-0060-0>
- Lapinski, M. K., & Rimal, R. N. (2005). An explication of social norms. *Communication theory*, 15(2), 127-147. <https://doi.org/10.1111/j.1468-2885.2005.tb00329.x>
- Lenne, R. L., Joyal-Desmarais, K., Jones, R. E., Huelsnitz, C. O., Panos, M. E., Auster-Gussman, L. A., ... & Simpson, J. A. (2019). Parenting styles moderate how parent and adolescent beliefs shape each other's eating and physical activity: Dyadic evidence from a cross-sectional, US National Survey. *Journal of Experimental Social Psychology*, 81, 76-84. <https://doi.org/10.1016/j.jesp.2018.06.003>
- Leaper, C. (2005). Parenting girls and boys. In M. H. Bornstein (Ed.) *Handbook of Parenting: Children and parenting*. Vol. Vol. 1. (pp. 189-225). Mahwah, NJ: Lawrence Erlbaum Associates.
- Ma, C., Ma, Y., & Wang, Y. (2022). Parental autonomy support and mental health among Chinese adolescents and emerging adults: The mediating role of self-esteem. *International Journal of Environmental Research and Public Health*, 19(21), 14029. <https://doi.org/10.3390/ijerph192114029>
- Morawska, A. (2020). The effects of gendered parenting on child development outcomes: A systematic review. *Clinical child and family psychology review*, 23(4), 553-576. <https://doi.org/10.1007/s10567-020-00321-5>
- Nargiso, J. E., Friend, K., & Florin, P. (2013). An examination of peer, family, and community context risk factors for alcohol use and alcohol use intentions in early adolescents. *The Journal of Early Adolescence*, 33(7), 973-993. <https://doi.org/10.1177/0272431613477238>
- Orth, U., Erol, R. Y., & Luciano, E. C. (2018). Development of self-esteem from age 4 to 94 years: A meta-analysis of longitudinal studies. *Psychological bulletin*, 144(10), 1045. <https://doi.org/10.1037/bul0000161>
- Plummer, D. (2014). *Helping adolescents and adults to build self-esteem: A photocopiable resource book*. London, England: Jessica Kingsley Publishers.

- Rosenberg, M. (1965). Rosenberg self-esteem scale (RSE). *Acceptance and commitment therapy/Measures package*, 61.
- Ryan, S. M., Jorm, A. F., & Lubman, D. I. (2010). Parenting factors associated with reduced adolescent alcohol use: a systematic review of longitudinal studies. *Australian & New Zealand Journal of Psychiatry*, 44(9), 774-783. <https://doi.org/10.1080/00048674.2010.501759>
- Sarkova, M., Nagyova, I., Katreniakova, Z., Madarasová, Geckova, A., Orosova, O., Middel, B, van Dijk, J. P., & van den Heuvel, W. (2006). Psychometric evaluation of the general health questionnaire-12 and Rosenberg self-esteem scale in Hungarian and Slovak early adolescents. *Studia Psychologica*, 48(1), 69-79.
- Sicilia, A., Águila, C., Posse, M., & Alcaraz-Ibáñez, M. (2020). Parents' and peers' autonomy support and exercise intention for adolescents: Integrating social factors from the self-determination theory and the theory of planned behaviour. *International journal of environmental research and public health*, 17(15), 5365. <https://doi.org/10.3390/ijerph17155365>
- Twenge, J. M., & Campbell, W. K. (2001). Age and birth cohort differences in self-esteem: A cross-temporal meta-analysis. *Personality and social psychology review*, 5(4), 321-344. https://doi.org/10.1207/S15327957PSPR0504_3
- Van den Eijnden, R., Van De Mheen, D., Vet, R., & Vermulst, A. D. (2011). Alcohol-specific parenting and adolescents' alcohol-related problems: The interacting role of alcohol availability at home and parental rules. *Journal of studies on alcohol and drugs*, 72(3), 408-417. <https://doi.org/10.15288/jsad.2011.72.408>
- Vanassche, S., Sodermans, A. K., Matthijs, K., & Swicegood, G. (2014). The effects of family type, family relationships and parental role models on delinquency and alcohol use among Flemish adolescents. *Journal of child and family studies*, 23(1), 128-143. <https://doi.org/10.1007/s10826-012-9699-5>
- Vroljik, P., Van Lissa, C. J., Branje, S. J., Meeus, W. H., & Keizer, R. (2020). Longitudinal linkages between father and mother autonomy support and adolescent problem behaviors: Between-family differences and within-family effects. *Journal of youth and adolescence*, 49(11), 2372-2387. <https://doi.org/10.1007/s10964-020-01309-8>
- Wolff, J. M., & Crockett, L. J. (2011). The role of deliberative decision making, parenting, and friends in adolescent risk behaviors. *Journal of youth and adolescence*, 40(12), 1607-1622. <https://doi.org/10.1007/s10964-011-9644-8>
- Yang, Z., Schaninger, C. M., & Laroche, M. (2013). Demarketing teen tobacco and alcohol use: Negative peer influence and longitudinal roles of parenting and self-esteem. *Journal of Business Research*, 66(4), 559-567. <https://doi.org/10.1016/j.jbusres.2012.01.004>
- Young, R., & Tully, M. (2022). Autonomy vs. control: Associations among parental mediation, perceived parenting styles, and US adolescents' risky online experiences. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 16(2). <https://doi.org/10.5817/CP2022-2-5>
- Zheng, J., & Chen, B. B. (2025). Parent-Adolescent Discrepancies in Perceiving Parental Psychological Control and Autonomy Support Predict Adolescents' Psychological Adjustment: Does Adolescent Gender Make a Difference? *Journal of Youth and Adolescence*, 54, 1-12. <https://doi.org/10.1007/s10964-025-02144-5>

ACKNOWLEDGEMENTS

This work was supported by the Slovak Research and Development Agency, Contract No. APVV-23-0500.

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