The Role of Family Background in Adolescent Risky Behavior Development

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ABSTRACT: This study examines the role of family background in the development of adolescent risk behavior using a sample of 614 secondary school students (mean age = 16.8). The results show that the quality of the parent-child relationship is a stronger predictor of adolescent risk behavior than family structure itself. Adolescents from non-intact families who reported strong attachment to their parents exhibited similarly low levels of risk behavior as those from intact families. In contrast, weak parental attachment was associated with significantly higher engagement in substance use, delinquency, and bullying. Parental smoking emerged as a significant risk factor for adolescent substance use, whereas parental alcohol consumption showed no significant effect. Gender did not moderate the relationship between family variables and risk behavior. These findings highlight parental attachment as a key protective factor and suggest that strengthening parent-child relationships may be more effective in preventing adolescent risk behavior than focusing solely on family structure.

Keywords | family background – attachment – adolescence - risk behavior - substance abuse

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1 INTRODUCTION

1.1 Risk behavior in adolescence

Risk behavior is not uncommon among young people, who often face internal conflicts, emotional swings, and uncertainty about their identity. Adolescents who actively explore their identity often experience self-doubt, confusion, and impulsivity, have more frequent conflicts with their parents, report weakened ego strength, and exhibit heightened physical and somatic symptoms (Erikson, 1956; Kidwell & Dunham, 1995).

Macek (2003) distinguishes two types of problematic behavior – one that harms the adolescent's physical or psychological health, and one that poses a threat to society, potentially causing harm to others. Miovský (2015) states that common denominator of typical risky behaviors is their pre-pathological nature, meaning that they have not yet developed into full-blown pathological conditions, such as addiction. According to Dolejš (2010), risk behavior includes activities that increase social, psychological, health-related, developmental, and physiological risks for the individual, their surroundings, and society.

One of the most prominent forms of risk behavior is substance use, including both legal and illegal substances. The 2019 ESPAD survey showed a decline in adolescent smoking and alcohol use: 23.6% of 16-year-olds reported smoking in the last 30 days (29.8% in 2015) while alcohol was reported by 95.1% of respondents, with 42% identified as regular drinkers. Illegal drug use reached 29.3%, mainly cannabis (Chomynová et al., 2020).

A second category is juvenile criminal activity, ranging from violent offences and public disorder to theft, vandalism, cybercrime, and substance-related offences (Nielsen Sobotková, 2014). The 2021 Report on Internal Security and Public Order in the Czech Republic indicated a 12.3% decline in crimes by youth, but a rise in sexual abuse (+19.8%) and intentional bodily harm (+17.8%).

Bullying and aggression form a third category. While often presented as entertainment, bullying is also driven by power and dominance (Říčan & Janošová, 2010). According to the 2015 PISA study, 25.4% of Czech 15-year-olds experienced bullying, above the OECD average of 18.7% (OECD, 2017). Digital communication has further enabled cyberbullying, such as harmful messaging and social exclusion (Salmivalli et al., 2013).

The fourth category, risky sexual behavior, includes early sexual initiation, unprotected intercourse, multiple or older partners, and transactional sex (Eaton et al., 2003; Fetene & Mekonnen, 2018; Kirby et al., 2007). In the Czech context, Petrík (2021) reported a mean age of first intercourse of 15.79 years; 21.2% engaged with a casual partner, and 63.3% used a condom at first intercourse.

Additional manifestations of risk behavior include truancy (Dolejš & Orel, 2017), extremism, gambling, and sectarian involvement (Dolejš, 2010), as well as self-destructive patterns such as eating disorders, extreme sports, and compulsive shopping. Eating disorders, particularly among females, are often associated with self-harm, suicidal tendencies, substance abuse, and depression (Nielsen Sobotková, 2014).

Recent large-scale surveys across diverse cultural contexts further illustrate how socio-demographic and family factors shape adolescent risk behaviors. A latent class analysis of Chinese adolescents during the COVID-19 pandemic found that urban residence, male gender and non-intact family background were associated with higher levels of health-risk behaviors, and the authors argue that strengthening parental monitoring and support could mitigate these risks (Liu et al., 2025). In Europe, data from eight countries in the Global Youth Tobacco Survey showed that parental smoking is a key predictor of adolescent tobacco use: paternal smoking increased smoking frequency among boys (OR≈2.06) whereas maternal or dual parental smoking elevated smoking frequency among girls; accordingly, the researchers advocate parental cessation and gender-targeted prevention programmes (Dadras & Abio, 2025).

1.2 Attachment as a key factor

Attachment theory posits that early caregiver bonds shape internal models for regulating emotions and relationships; secure attachments support exploration, whereas insecurity reduces parental monitoring and promotes delinquency (Bowlby, 2010; Ainsworth et al., 1978). Winnicott (1953) emphasized that "good-enough" caregiving provides reliable responsiveness and tolerable frustration. Problem behavior theory integrates individual differences (e.g., sensation seeking) with environmental influences such as parental attitudes and peer norms, highlighting family protective factors as buffers (Jessor & Jessor, 1977).

While many adolescents refrain from risk behavior, it is important to understand what differentiates them from those who engage heavily. Jessor (1991, 2014) distinguishes between risk factors (e.g., poverty, low self-esteem, family history of alcoholism), which increase the likelihood of problematic behavior, and protective factors (e.g., intelligence, valuing success, cohesive family), which mitigate it. Dolejš and Skopal (2015) likewise noted that impulsivity, anxiety, aggression, biological predispositions, and peer or socio-economic influences foster risk-taking. Protective factors include higher intelligence, self-esteem, thoughtfulness, and kindness, supported by positive parenting and open family communication (Crosnoe et al., 2002).

Adolescents still live under parental rules, often leading to conflicts between their wish for independence and parental expectations (Mayra et al., 2023; Branje et al., 2009). During adolescence engagement in risk behavior is strongly influenced by attachment to parents. Securely attached adolescents are more self-confident and resilient, and better able to navigate challenges (Andretta et al., 2017; Bassani, 2012). Conflict may occur, but strong attachment allows differences without fear of rejection (Allen & Tan, 2016). Conversely, low trust and communication correlate with higher risk behavior and alienation (Čerešník et al., 2019).

Attachment is also linked to substance use: insecure bonds increase susceptibility to addictive behaviors (Fairbairn et al., 2018) with alcohol or drugs serving as maladaptive coping mechanisms (Mikulincer & Shaver, 2007). Fear of abandonment in anxious attachment predicts higher rates of substance use (Kassel et al., 2007) and problematic internet or gaming behavior, driven by fear of missing out (Blackwell et al., 2017) and need for validation (Lin et al., 2011; Monacis et al., 2017a, 2017b; Kim & Kim, 2015; Macía et al., 2023; Maierová, 2015).

Risk behavior also extends to sexual activity. Securely attached adolescents, with positive self-image and low anxiety, are less prone to risky sex as they possess a positive self-image, internal self-validation, and low attachment anxiety (Mikulincer & Shaver, 2012). Strong parental attachment reduces sexual risk-taking, whereas avoidant attachment predicts greater involvement (Owino et al., 2021).

1.3 Additional risk factors

In the family environment, several additional risk factors contribute to personality development and to the emergence of risk behavior. These include parental conflicts and involving children in these disputes, non-intact families, parents with deviant traits, and substance abuse within the family.

Parental conflict increases psychological distress and undermines emotional regulation (Fosco & Grych, 2008) with girls tending to internalize stress, manifesting as depression, psychosomatic disorders, or anxiety, while boys are more likely to externalize through aggression, rule-breaking, and substance use (Davies & Lindsay, 2004). Adolescents exposed to conflict are more prone to delinquency (Davies et al., 2016; van Dijk et al., 2020), partly due to reduced supervision (Martin et al., 2019) and negative expectations for future relationships (Steinberg et al., 2006).

Divorce or parental separation is a painful and destabilizing experience for children, with effects shaped by a child's age, temperament, and parental handling. In the Czech Republic, until 2006 about 90% of custody decisions favored the mother; by 2018 alternating custody rose to 13%, yet over 70% of children remained in the mother's sole care (Kuchařová et al., 2020). Father absence is linked to higher delinquency in boys (Matoušek & Matoušková, 2011), who may lack male role models (Kraus, 2013) and difficulties forming healthy partner models in girls (Matoušek, 2003). Non-intact families are often less stable and emotionally warm (Dávidová, 2018). Children raised by a single parent show poorer academic outcomes (Anderson, 2014; Jain & Mahmoodi, 2022), more psychological problems and higher delinquency (Kraus, 2013; Chavda & Nisarga, 2023). Families of juvenile delinquents are typically less cohesive and more conflict-prone than those of non-delinquent adolescents (Matoušek, 2003).

Parental deviance – such as substance abuse, unemployment or social maladjustment – correlates with weaker boundaries, less supervision, and greater adolescent delinquency (Matoušek & Matoušková, 2011). Reduced parental control is linked to early cannabis use (Creemers et al., 2015) and higher risk of pathological gambling (Nešpor & Csémy, 2011).

These findings suggest that a positive parent–child relationship is a key protective factor against risky behavior, with emotional support, warmth, and quality time linked to lower rates of smoking, alcohol use, and substance abuse (Brown & Rinelli, 2010).

2 THE CURRENT STUDY

The current study builds on the presented theoretical background by examining how specific aspects of the family environment – the quality of attachment to mother and father, the structure of the family (intact versus non-intact) and the presence of interparental conflict – relate to adolescents' engagement in risky behavior. By focusing on both structural and relational dimensions of the family, the research aims to identify which features most strongly predict risk taking and whether strong parent-child bonds can mitigate the elevated risk often observed in non-intact families. We hypothesize that a subjectively perceived strong relationship with a parent can reduce the likelihood of engaging in risky behavior during adolescence, thereby helping young people navigate this challenging period more successfully.

Presenting results of our research we aim to underscore the importance of family and its "good enough" functioning, particularly in terms of emotional involvement, parental support and empathy, during the challenging transition into adulthood. Just as childhood influences adult life, early adulthood plays a crucial role in shaping how an individual integrates into society. A well-adjusted adolescent is more likely to thrive in their productive years, benefiting both their future family and society. A better understanding of these relationships can inform family-based interventions and support programmes aimed at reducing unhealthy risk behavior during adolescence.

Research Questions

Based on these objectives, the study addresses the following research questions:

1. Is there a relationship between family structure and adolescent risk behavior?

2. Are adolescents from non-intact families – those raised by a single parent – who nonetheless have a strong bond with their parents more resilient to risky behavior?

3. Are adolescents whose parents regularly consume alcohol or smoke cigarettes more likely to engage in these behaviors compared to those whose parents do not have substance dependencies?

4. Does one gender experience a greater influence from the family environment? For instance, do boys from dysfunctional families exhibit more or less risk behavior compared to girls from similar backgrounds?

3 METHODS

3.1 Participants

The research sample consists of 614 adolescent students, including 348 girls (M = 16.70 years, SD = ±1.24) and 266 boys (M = 17.03 years, SD = ±1.34). The largest age cohorts in the sample are 16-year-olds (26.06%) and 17-year-olds (25.73%). A significant proportion of participants are 18 years olds (24.27%), while 15-year-olds account for 16.45% of the sample. The remaining 7.49% are students aged 19 years and older (aged 19 to 21 years). A graphical representation of the sample distribution is provided in Figure 1.

In terms of educational background, 91.4% of the participants attend a secondary vocational school with a school-leaving exam, while the remaining 8.6% are enrolled in a secondary vocational school offering an apprenticeship certificate.

3.2 Procedure

Data collection was conducted at 11 secondary schools across 10 regions of the Czech Republic between November 2022 and mid-June 2023. The administration took place in person at the schools, under the supervision of the researchers.

Data were collected using the paper-and-pencil method, as personal contact was considered more appropriate given the sensitive topic and target group. The face-to-face approach fostered trust and encouraged honest responses. Administration took one 45-minute session per class. Of the 621 students tested, seven questionnaires were excluded due to excessive missing data, resulting in a final sample of 614 respondents.

3.3 Measures

Inventories

To meet the research objectives and operationalize the studied phenomena, we used the following psychodiagnostic methods.

Self-Constructed Questionnaire

This instrument covered: A) socio-demographic data (gender, age, school type, year), B) family background (siblings, parental education, parental substance use), C) relationship with parents (reactions to successes/failures, frequency of conflicts), D) hobbies and school conflicts, and E) self-reflection (life satisfaction, body image, academic performance, overall well-being).

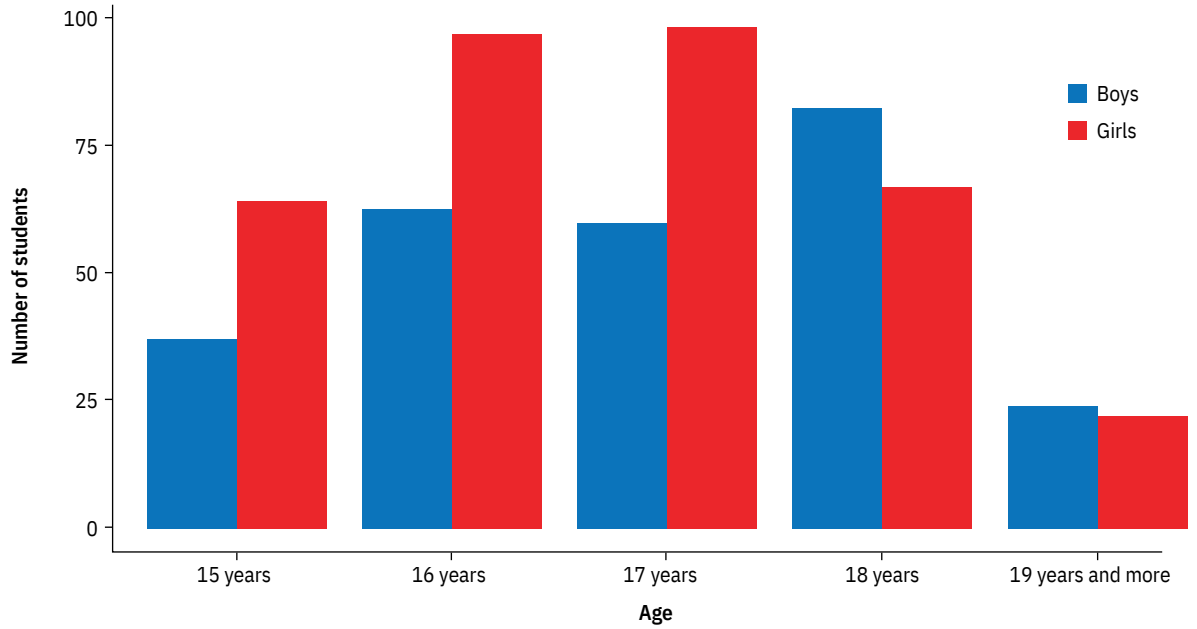
The Scale of Risk Behavior in Adolescents (SRBA or VRCHA)

Developed by Dolejš and Skopal, VRCHA assesses adolescent engagement in alcohol and cigarette use, theft, truancy, vandalism, and bullying. The 18 yes/no items form three subscales – Abuse, Delinquency, and Bullying – and classify respondents into four risk levels (Dolejš & Skopal, 2015).

Inventory of Parent and Peer Attachment (IPPA)

Created by Armsden and Greenberg (1987), the IPPA evaluates adolescents' attachment to parents and peers across Trust, Communication, and Alienation. For the purposes of the present study, the original version of the IPPA was used with several modifications. Parental attachment items were administered separately for mother and father, resulting in two parallel item sets, which enabled a differentiated assessment of relationships with each parent. One item not referring to a specific person

Figure 1 | Number of respondents by age and gender



was excluded, and the peer attachment scale was omitted, as the focus of the study was exclusively on family context. In line with previous adaptations (e.g., Gullone & Robinson, 2005), the original five-point response scale was reduced to a three-point scale (always true – sometimes true – never true), with adjusted scoring for positively and negatively worded items.

Measures

From the aforementioned inventories, we developed the following set of measures:

- Risk Behavior Score – Sum of positive VRCHA responses (Abuse, Delinquency, Bullying),
- Attachment Strength – Parental attachment (mother/father) rated on a three-point Likert scale, categorized as weak, moderate, or strong,
- Family Structure – Two items on parental status and current household were assessed. From these, "family completeness" (intact vs. non-intact) and a combined "family attachment" variable were created,
- Parental Substance Use – Questions on smoking and alcohol consumption and
- Conflicts – Frequency of conflicts with mother/father and frequency of interparental conflicts.

3.4 STATISTICAL ANALYSES

Data were collected using the paper-and-pencil method and manually entered into Microsoft Excel for Mac (version 16.77), where preliminary cleaning was performed. Further data preparation and statistical analyses were conducted in R (version 4.2.1) within RStudio (version 2023.09.0+463). Data handling combined base R functions with specialized packages, including knitr (Xie, 2022), kableExtra (Zhu, 2021), dplyr (Wickham et al., 2023), ggplot2 (Wickham, 2016), and ggpubr (Kassambara, 2023). Missing data were imputed using mice (van Buuren & Groothuis-Oudshoorn, 2011). Internal reliability (Cronbach's alpha) was computed with psych (Revelle, 2023).

For statistical testing, we applied ANOVA, Kruskal-Wallis ANOVA, Spearman's test, Mann-Whitney U test, linear regression, and correlation analysis. Correlations were tested with the cor.test function, while group differences were examined using the wilcox.test function, both from the base stats package (R Core Team, 2022). To model relationships, linear regression from stats was combined with emmeans (Lenth, 2023) to describe mean values across categories. For descriptive statistics, we used Rmisc (Hope, 2022), and for regression visualization, car (Fox & Weisberg, 2019).

4 RESULTS

(1) Is there an association between family structure and adolescent risk behavior?

To examine the link between family structure and adolescent risk behavior, we conducted a Kruskal-Wallis ANOVA comparing responses on parental marital status and current household composition with the total VRCHA risk score (N=612; see Table 1).

Results show that family structure significantly affects risk behavior ($p < 0.001$). Adolescents whose biological parents live together had the lowest median score (5), identical to those currently living with both parents. Higher median scores were observed in all other groups: divorced parents (6), parents never living together (7.5). The highest risk was found among adolescents who lost or did not know a parent.

Parental divorce was linked to elevated risk behavior. Regardless of whether their parents divorced before or after the student turned six, 50% scored above 6 (Dunn post hoc: Z = −3.803, $p < 0.001$; Z = − 2.697, $p < 0.007$), though the difference between the two divorce timings was nonsignificant (median = 6; $p < 0.380$).

Household composition also correlated with risk behavior ($p < 0.001$). The lowest median was again among adolescents living with both parents (5). Those living with one parent showed significantly higher scores (with mother: $p < 0.001$; with father: $p < 0.006$). No differences in median were found between subgroups of single-parent households, nor between joint custody (6) and intact families (5; $p < 0.129$).

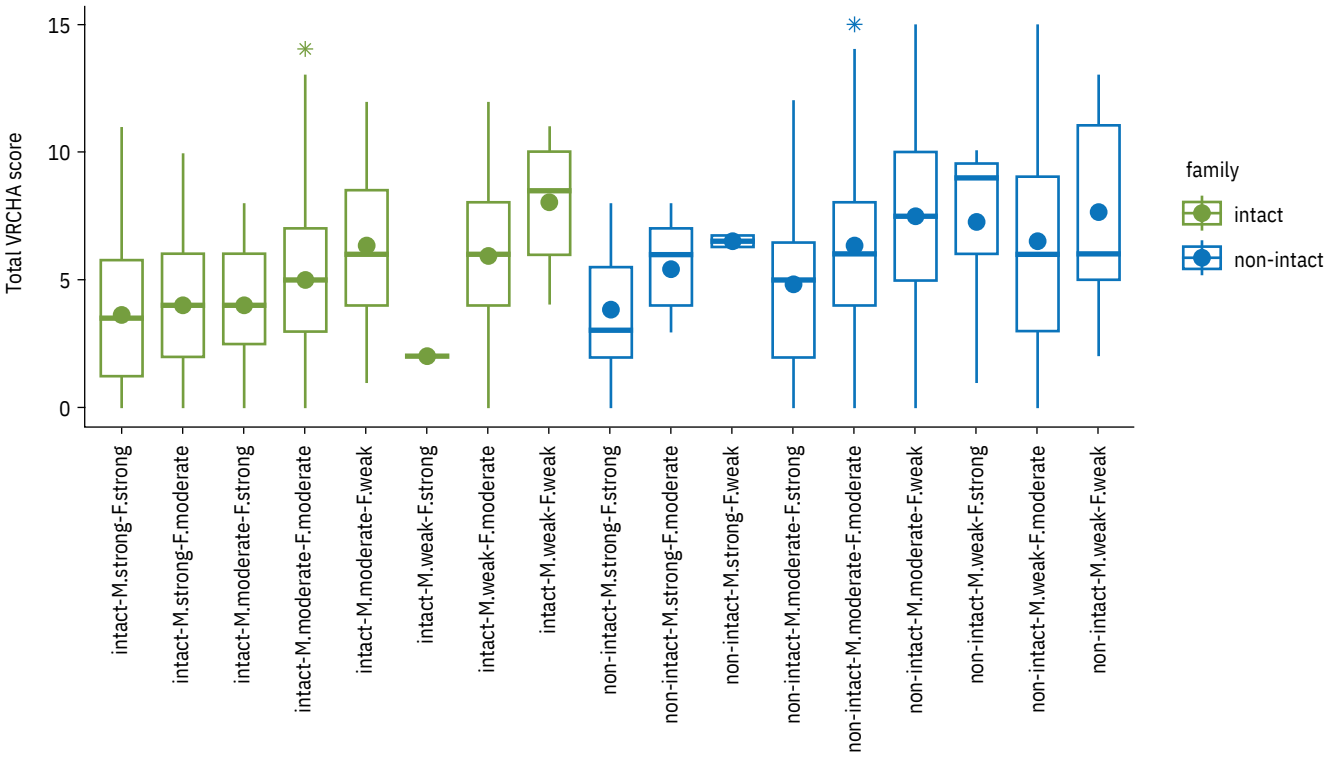
Table 1 | Is there a correlation between family structure and risk score?

	median values of overall risk scores ARQ						Kruskal-Wallis ANOVA	
My biological parents...	Live together	Divorced before I was 6	Divorced after I was 6	Never lived together	I don't know both parents	One of my parents died	H (df)	p
	5	6	6	7.5	8.5	8	23,650 (5)	<0,001
Currently I live in one household...	With both biological parents	With my biological mother	With my biological father	Without parents	Alternating custory	-	H (df)	p
	5	6	7	7	6	-	25,521 (4)	<0,001

Table 2 | Are adolescents from broken families, or those living with only one parent but having a good relationship with their parents, more resilient to risky behavior?

	median score		Mann-Whitney test			
	intact	non-intact	U	Z	p	AUC
Overall score	5	6	36413	-4.441	<0,001	0.40
Substance abuse	2	3	36062	-4.641	<0,001	0.39
Deliquency	2	2	39843	-2.889	0.004	0.43
Bullying	0	1	42341	-1.850	0.064	0.46

Figure 2 | Overall VRCHA score by family intactness and parental bond



(2) Are adolescents from non-intact families, or those living with only one parent but maintaining a strong relationship with them, more resilient to risk behavior?

Out of 582 respondents, 60.5% came from intact families, where the most common pattern was moderately strong attachment to both parents (56.3%). A similar trend appeared in non-intact families (39.5%), with 49.1% reporting moderately strong attachment.

Statistical tests showed significant differences between intact and non-intact families in total risk behavior and in the substance abuse and delinquency subscales, while bullying differed at the 10% level. Across all scales, adolescents from non-intact families reported higher scores. In the substance abuse subscale, for instance, 39% of intact-family adolescents scored above their non-intact peers (U = 36,062; Z = –4.641; Z = –3.803; $p < 0.001$; Z = – 2.697, $p < 0.001$; AUC = 0.39; see Table 2).

Risk behavior was further analyzed using the combined factor of family completeness and attachment strength. The Kruskal-Wallis ANOVA confirmed significant differences (H = 73.281 (16); $p < 0.001$). The lowest median risk scores were among adolescents with strong attachment to both parents, regardless of family type (intact: 3.5; non-intact: 3.0). By contrast, weak attachment to both parents yielded the highest medians (intact: 8.5; non-intact: 6.0), though the difference between these groups was nonsignificant (Z=0.737; $p < 0.129$). The strongest contrast appeared within intact families: adolescents strongly attached to both parents scored significantly lower than those weakly attached (median difference = 5; Z = – 4.930; $p < 0.001$; Figure 2).

(3) Is there a relationship between parental substance use and adolescent substance use? Do adolescents whose parents regularly consume alcohol or smoke engage in these behaviors more frequently than those whose parents do not have addictive tendencies?

Table 3 | Is there a relationship between parents' substance use and their children's substance use during adolescence?

	median ARQ Abuse score				Kruskal - Wallis ANOVA	
Smoking	Only mother smokes	Only father smokes	Both parents smoke	Neither of them smokes	H (df)	p
	3	3	4	2	31,091 (3)	<0,001
Alcohol use at home	almost never	when visitors come	only on weekends	almost daily	H (df)	p
	2	2	3	3	4,161 (3)	0.245

Table 4 | Is one gender more susceptible to the influence of the family environment?

	model statistics			ANOVA					
	p	R2	Radj	Res Df.	RSS	Df	SS	F	p
Model 1	<0,001***	0.168	0.145	546.000	5113.580				
Model 2	<0,001***	0.168	0.146	545.000	5113.559	1	0.021	0.002	0.962

Two Kruskal–Wallis ANOVA tests were conducted on data from 558 respondents, examining parental smoking and alcohol consumption (Table 3). Parental smoking showed a significant effect: adolescents whose parents did not smoke had median substance use scores twice as low as those whose parents both smoked. Parental alcohol consumption however did not reach statistical significance. Still, adolescents from households with almost daily alcohol use showed higher median scores compared to those where alcohol was never consumed, with the difference approaching significance ($Z = -1.849$; $p = 0.065$).

(4) Does one gender exhibit greater susceptibility to the influence of family environment? That is, do boys from dysfunctional families exhibit higher or lower risk behavior compared to girls from similar family backgrounds?

A linear regression model was constructed with the total VRCHA risk score as the dependent variable and family-related factors (attachment to mother and father, family completeness, conflicts, gender) as predictors (Model 1). To test whether gender had an independent effect, a second model excluded gender (Model 2). Both models were compared using ANOVA on data from 573 respondents (Table 4). The results showed no difference between models ($p = 0.962$); R^2 and R^2_{adj} values were nearly identical. Thus, gender does not independently affect adolescent risk behaviour. Under comparable family conditions, boys and girls display the same levels of risk behaviour.

5 DISCUSSION

The primary aim of this study was to examine the impact of family background on the development of risk behavior during adolescence. Family background was defined using with the strength of attachment to parents and additional family-related factors such as family structure, parental nicotine and alcohol use, and the presence of conflicts within the household.

A total of 621 students completed the questionnaire; seven with excessive missing data were excluded, leaving 614 respondents. Among these, a small number of non-intact questionnaires remained, yet they contained only minor missing data, which were addressed using statistical imputation techniques. Although students were instructed to answer all questions, some items were left blank. Immediate checking of responses was impractical due to the length of the 16-page battery and the large number of simultaneous submissions, and it might have compromised participant trust.

The first research question confirmed that family structure significantly influences adolescent risk behavior. Median scores were higher among respondents whose parents were divorced or never lived together compared with intact families. Most adolescents from divorced families lived with their mother, fewer in shared custody, and the least with their father, with comparable risk scores across these groups. A clear difference emerged between adolescents living with one versus both parents, while no difference was found between shared custody and intact families. The highest risk was observed among adolescents who had lost or never known a parent, though numbers were too small for firm conclusions.

These findings align with Brown and Rinelli (2010), who showed that adolescents in two-parent married families had the lowest rates of smoking (24%) and drinking (43%), while stepfamilies and single-mother households reported higher levels. Hasan (2012) similarly found that children from non-intact families were more likely to engage in theft, gambling, and cannabis use. Wallerstein and Lewis (2004) noted increased early sexual activity among girls from divorced families, often linked to alcohol or drug use. Amato (2005) demonstrates that children raised by two married parents are less likely to experience a wide range of cognitive, emotional, and social problems, both in childhood and adulthood. Ryan et al. (2010), however, show that consistent parental control and support are associated with lower adolescent alcohol use, regardless of family structure.

Unexpectedly, Mihić et al. (2022) reported no link between family communication and adolescent risk behavior, and even a positive correlation between family satisfaction and gambling among boys – possibly reflecting the influence of permissive parenting styles.

The second research question examined whether adolescents from non-intact families are automatically more prone to risk behavior or whether attachment quality plays a decisive role. Significant differences were found between intact and non-intact families in total risk, substance abuse, and delinquency, with bullying significant only at a lower level. The protective effect of intact families was strongest in substance abuse, where only 39% scored above peers from non-intact families (see Table 2).

When family completeness was combined with parental attachment, the relationship became even clearer (see Figure 2). The lowest median scores were recorded among adolescents strongly attached to both parents, regardless of family type. Weak attachment produced much higher risk scores, especially within intact families, where the gap between strong and weak attachment reached five points. These findings indicate that family dissolution does not necessarily lead to risk behavior; rather, strong parental attachment is the key protective factor. Attachment to both parents plays a crucial role, as all other combinations are linked to higher tendencies towards risk behavior.

Ledoux et al. (2002) found that adolescents from non-intact families were more likely to use alcohol, tobacco, or drugs, but parental divorce had little impact if supportive parent-child relationships were maintained. Similarly, Hasan (2012) reported that weak parental attachment increases risk behavior, while strong attachment protects against it. In contrast, Harris (1995) argued that parental influence is often overestimated and that peer groups play a stronger role in adolescent risk-taking.

Our results from third research question align with Novotný and Okrajek (2012), who also reported that parental smoking significantly increases adolescent risk behavior, whereas parental alcohol consumption was less influential. By contrast, Kandel et al. (2015) reported associations with both smoking and drinking. Our finding of a strong effect of parental smoking is also consistent with multiple recent studies: a large cross-sectional survey in Brazil found that adolescents whose mothers or fathers smoked were about 2.0 and 2.5 times more likely to smoke themselves (Andrade et al., 2017); an analysis of Global Youth Tobacco Survey data from eight European countries reported that paternal smoking predicted higher smoking frequency among boys, while maternal smoking increased smoking frequency among girls (Dadras & Abio, 2025); and a Chinese study showed that mother smoking predicted adolescent smoking for both sexes, father smoking influenced boys (Liu et al., 2025). Our non-significant findings regarding alcohol correspond with a U.S. survey that showed adolescents whose parents drank frequently (≥ 5 days/month) or binge-drank had significantly higher odds of drinking than those whose parents did not drink or binge-drink (Bohm & Esser, 2023).

Taken together, the evidence suggests that parental smoking is a robust predictor of adolescent substance use, while parental drinking effects may depend on consumption patterns and cultural context. Our results contribute to this literature by highlighting that parental smoking remains a potent risk factor even after accounting for family structure and other variables, whereas the influence of parental alcohol use appears weaker unless consumption is frequent or heavy.

In the fourth research question, we aimed to determine whether one gender is more resistant to dysfunctional family conditions during upbringing. Our findings indicate that a dysfunctional family environment affects both girls and boys equally, leading to comparable levels of risk behavior (Table 4). A large HBSC analysis across 36 countries showed that difficulty in talking to parents and low family support were associated with alcohol, tobacco, e-cigarette and cannabis use in both boys and girls, with effects somewhat stronger for girls (Dimitrova & Zaborskis, 2025).

One of the most positive findings of our study is that even in families affected by separation or divorce, it is possible to establish and maintain a strong parent-child bond. This bond serves as a powerful protective factor against the development of risk behavior during adolescence. Fortunately, parental separation does not necessarily result in the loss of parental involvement. Many parents, despite separation, make concerted efforts to continue providing their children with the most essential elements for their well-being—love and understanding.

5.1 LIMITATIONS AND FUTURE DIRECTIONS

Despite its contributions, our study has several limitations. Although our research plan aimed to gather data from secondary schools across all regions of the Czech Republic, logistical challenges and the sensitive nature of the study topics meant we were unable to recruit schools in several regions. As a result, our sample is not perfectly representative of the national student population, although it does meet our planned minimum size. The data came from 11 schools across 10 regions, with no coverage of south-eastern regions and based on a convenience sample. Also, the sample was uneven, with 91.4% of respondents from vocational secondary schools, limiting generalizability to apprenticeship and grammar schools. Some subgroups,

Conflict of interest: The authors declare no competing interests.

Ethical approval: The study followed the EFPA Meta-Code of Ethics (2005), with special attention to the age of respondents and topic sensitivity. Data were collected anonymously, without personal identifiers, and participation was voluntary. Researchers contact details were provided to allow withdrawal even after data collection.

Informed consent: As participants were underage, schools were offered parental consent forms. Two schools distributed them, while others considered anonymity sufficient protection.

such as adolescents who did not know their biological parents, were too small for firm conclusions. Socioeconomic status was not assessed, though it may strongly influence family relations and risk behavior. Finally, the cross-sectional design precludes causal conclusions; for example, whether conflicts cause or result from risk behavior cannot be determined. Future research should aim to recruit comparable numbers of students from grammar schools, secondary technical schools and vocational programmes across all regions and to employ stratified random sampling to enhance generalizability.

An additional methodological consideration concerns the modifications applied to the IPPA questionnaire, which were guided by both theoretical and practical considerations. Distinguishing between attachment to mother and father allowed a more nuanced analysis of parental relationships, which is consistent with contemporary attachment research and the logic of the revised IPPA-R. The simplified three-point scale was intended to reduce cognitive load and increase response reliability in adolescent respondents, particularly given the overall length of the questionnaire battery. Nevertheless, these adaptations limit direct numerical comparability with studies using the original IPPA, and the results should therefore be interpreted primarily in terms of relative patterns and associations rather than absolute score equivalence.

Future research should address these issues through more balanced samples and inclusion of socioeconomic factors, as well as by examining protective influences among adolescents from disadvantaged backgrounds. Broader perspectives, including those of parents and siblings, could enrich understanding of family dynamics. In addition to quantitative surveys, qualitative methods such as in-depth interviews and observational studies could provide valuable insights into family communication, conflict management, and resilience-building strategies.

6 CONCLUSIONS

This study confirmed the crucial role of parent-adolescent relationship quality in preventing risk behavior, demonstrating that this factor is more significant than family structure itself. Adolescents from non-intact families who maintained a strong bond with both parents exhibited comparably low levels of risk behavior to their peers from intact families. The lowest levels of risk behavior were observed among adolescents with strong parental attachment, regardless of family structure, underscoring the importance of family relationships over the formal structure of the family.

An intriguing finding was that while parental smoking significantly increased the likelihood of substance abuse among adolescents, the effect of parental alcohol consumption was not confirmed. Surprisingly, gender did not play a role in the extent of risk behavior in relation to family conditions, suggesting that a dysfunctional family environment has equally detrimental effects on both boys and girls.

These findings have important practical implications for parents, educators, and professionals working with families. They suggest that maintaining a high-quality relationship with an adolescent serves as a key protective factor, even in cases where the family is not intact. From a practical perspective, interventions should focus on strengthening parent-child bonds (ideally from early childhood), minimizing family conflicts, and supporting non-intact families in maintaining strong and meaningful relationships between children and their parents.

REFERENCES

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation.* Lawrence Erlbaum.

Allen, J. J., & Tan, J. S. (2016). The multiple facets of attachment in adolescence. In Cassidy, J., & Shaver, P. R. (Eds), *Handbook of attachment: theory, research, and clinical applications.* 3rd ed. (399–415). New York, NY: Guilford Press.

Amato P. R. (2005). The impact of family formation change on the cognitive, social, and emotional well-being of the next generation. *The Future of children, 15*(2), 75–96. https://doi.org/10.1353/foc.2005.0012

Anderson, J. E. (2014). *The impact of family structure on the health of children: Effects of divorce.* Maney Publishing.

Andrade, R. C. C., Ferreira, A. D., Ramos, D., Ramos, E. M. C., Scarabottolo, C. C., Saraiva, B. T. C., Gobbo, L. A., & Christofaro, D. G. D. (2017). Smoking among adolescents is associated with their own characteristics and with parental smoking: cross-sectional study. *Sao Paulo medical journal = Revista paulista de medicina, 135*(6), 561–567. https://doi.org/10.1590/1516-3180.2017.0154220717

Andretta, J. R., McKay, M. T., Harvey, S. A., & Perry, J. L. (2017). Inventory of Parent and Peer Attachment—Revised Scores in Adolescents: A Psychometric and Person-Oriented Study. *Family Relations, 66*(3), 527–540.

Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16*(5), 427-454–454. https://doi.org/10.1007/BF02202939

Bassani, C. (2012). *Adolescent Behavior*. Nova Science Publishers, Inc.

Blackwell, D., Leaman, C., Tramposch, R., Osborne, C., & Liss, M. (2017). Extraversion, neuroticism, attachment style and fear of missing out as predictors of social media use and addiction. *Personality and Individual Differences, 116*, 69–72. https://doi.org/10.1016/j.paid.2017.04.039

Bohm, M. K., & Esser, M. B. (2023). Associations Between Parental Drinking and Alcohol Use Among Their Adolescent Children: Findings From a National Survey of United States Parent-Child Dyads. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine, 73*(5), 961–964. https://doi.org/10.1016/j.jadohealth.2023.05.028

Bowlby, J. (2010). *Vazba: teorie kvality raných vztahů mezi matkou a dítětem*. Portál.

Branje, S. J. T., van Doorn, M., van der Valk, I., & Meeus, W. (2009). Parent–adolescent conflicts, conflict resolution types, and adolescent adjustment. *Journal of Applied Developmental Psychology, 30*(2), 195–204. https://doi.org/10.1016/j.appdev.2008.12.004

Brown, S. L., & Rinelli, L. N. (2010). Family Structure, Family Processes, and Adolescent Smoking and Drinking. *Journal of Research on Adolescence, 20*(2), 259–552. https://doi.org/10.1111/j.1532-7795.2010.00636.x

Creemers, H. E., Buil, J. M., van Lier, P. A. C., Keijsers, L., Meeus, W., Koot, H. M., & Huizink, A. C. (2015). Early onset of cannabis use: Does personality modify the relation with changes in perceived parental involvement? *Drug and Alcohol Dependence, 146*, 61–67. https://doi.org/10.1016/j.drugalcdep.2014.11.004

Crosnoe, R., Erickson, K. G., & Dornbusch, S. M. (2002). Protective Functions of Family Relationships and School Factors on the Deviant Behavior of Adolescent Boys and Girls: Reducing the Impact of Risky Friendships. *Youth and Society, 33*(4), 515–544.

Čerešník, M. (2019). Quality of Close Relations and Risk Behavior of Adolescents in the System of Lower Secondary Education in Slovakia. *Ad Alta: Journal of Interdisciplinary Research*, *9*(1), 29–33.

Dadras, O., & Abio, A. (2025). Predictors of cigarette smoking frequency among European adolescents aged 13-15: the critical role of parental smoking and age of initiation. *European child & adolescent psychiatry, 34*(11), 3577–3586. https://doi.org/10.1007/s00787-025-02772-z

Dávidová, M. (2018, Jan 17). *Vzťahová väzba medzi adolescentmi a rodičmi z pohľadu úplnosti rodiny v Žilinskom kraji*. Prohuman. https://www.prohuman.sk/psychologia/vztahova-vazba-medzi-adolescentmi-a-rodicmi-z-pohladu-uplnosti-rodiny-v-zilinskom-kraji

Davies, P. T., & Lindsay, L. L. (2004). Interparental Conflict and Adolescent Adjustment: Why Does Gender Moderate Early Adolescent Vulnerability?. *Journal of Family Psychology, 18*(1), 160–161.

Davies, P. T., Hentges, R. F., Coe, J. L., Martin, M. J., Sturge-Apple, M. L., & Cummings, E. M. (2016). The multiple faces of interparental conflict: Implications for cascades of children's insecurity and externalizing problems. *Journal of Abnormal Psychology*, *125*(5), 664–678. https://doi.org/10.1037/abn0000170

Dimitrova, E., & Zaborskis, A. (2025). Family Support, Communication with Parents, and Adolescent Health Risk Behaviour: A Case of HBSC Study from Bulgaria and Lithuania. *Children, 12*(5), 654. https://doi.org/10.3390/children12050654

Dolejš, M. (2010). *Efektivní včasná diagnostika rizikového chování u adolescentů.* Olomouc: Univerzita Palackého v Olomouci.

Dolejš, M., & Orel, M. (2017). *Rizikové chování u adolescentů a impulzivita jako prediktor tohto chování*. Olomouc: Univerzita Palackého v Olomouci.

Dolejš, M., & Skopal, O. (2015). *Výskyt rizikového chování u adolescentů (VRCHA). Příručka pro praxi. Verze 1.0.* Univerzita Palackého v Olomouci.

Eaton, L., Flisher, A. J., & Aarø, L. E. (2003). Unsafe sexual behaviour in South African youth. *Social Science & Medicine, 56*(1), 149–165. https://doi.org/10.1016/S0277-9536(02)00017-5

Erikson, E. H. (1956). The problem of ego identity. *Journal of the American Psychoanalytic Association, 4*(1), 56–121. https://doi.org/10.1177/000306515600400104

Fairbairn, C. E., Briley, D. A., Kang, D., Fraley, R. C., Hankin, B. L., & Ariss, T. (2018). A meta-analysis of longitudinal associations between substance use and interpersonal attachment security. *Psychological Bulletin*, *144*(5), 532–555. https://doi.org/10.1037/bul0000141

Fetene, N., & Mekonnen, W. (2018). The prevalence of risky sexual behaviors among youth center reproductive health clinics users and non-users in Addis Ababa, Ethiopia: A comparative cross-sectional study. *PLoS ONE, 13*(6). https://doi.org/10.1371/journal.pone.0198657

Fosco, G. M., & Grych, J. H. (2008). Emotional, Cognitive, and Family Systems Mediators of Children ' s Adjustment to Interparental Conflict. *Journal of Family Psychology, 22*(6), 843–854. https://doi.org/10.1037/a0013809

Fox, J., & Weisberg, S. (2019). *_An R Companion to Applied Regression_, Third edition.* Sage, Thousand Oaks CA. https://socialsciences.mcmaster.ca/jfox/Books/Companion/

Greenberg, M. T. (2017). *Inventory of Parent and Peer Attachment (IPPA) Manual*. The Edna Bennett Pierce Prevention Research Center. Získané 24. 9. 2021 z https://prevention.psu.edu/wp-content/uploads/2022/05/IPPA-Manual-May-2017.pdf

Gullone, E., & Robinson, K. (2005). The Inventory of Parent and Peer Attachment - Revised (IPPA-R) for children: A psychometric investigation. *Clinical Psychology and Psychotherapy, 12*(1), 67–79. https://doi.org/10.1002/cpp.433

Harris, J. R. (1995). Where is the child's environment? A group socialization theory of development. *Psychological Review, 102*(3), 458-489.

Hasan, P. (2012). *Rizikové správanie adolescenta v neúplnej rodine z perspektívy teórie pripútania*. Fakulta Sociálních Studií MU. https://www.fss.muni.cz/vyzkum/publikace/prehled/1086412

Hope, R. M. (2022). *_Rmisc: Ryan Miscellaneous_. R package version 1.5.1*, https://CRAN.R-project.org/package=Rmisc

Chavda, K., & Nisarga, V. (2023). Single Parenting: Impact on Child's Development. *Journal of Indian Association for Child and Adolescent Mental Health*. *19*(1). 14–20. https://doi.org/10.1177/09731342231179017

Chomynová, P., Csémy, L., & Mravčík, V. (2020). *05/20 Evropská školní studie o alkoholu a jiných drogách (ESPAD) 2019*. Národný inštitút vzdelávania a mládeže. https://www.drogy-info.cz/data/obj_files/33292/1057/Zaostreno%202020-05_ESPAD%202019.pdf

Jain, M., & Mahmoodi, V. (2022). Being One in a World of Twos: Experiences and Consequences of Single Parenting'. *Graduate Student Journal of Psychology*, *18*.

Jessor, R. (1991). Risk behavior in adolescence: A psychosocial framework for understanding and action. *Journal of Adolescent Health, 12*(8), 597–605. https://doi.org/10.1016/1054-139X(91)90007-K

Jessor, R. and Jessor, S. (1977) *Problem Behavior and Psychological Development: A Longitudinal Study of Youth*. Academic Press, New York.

Jessor, R., & Turbin, M. S. (2014). Parsing protection and risk for problem behavior versus pro-social behavior among US and Chinese adolescents. *Journal of Youth and Adolescence, 43*(7), 1037–1051. https://doi.org/10.1007/s10964-014-0130-y

Kandel, D. B., Griesler, P. C., & Hu, M. C. (2015). Intergenerational patterns of smoking and nicotine dependence among US adolescents. *American Journal of Public Health, 105*(11), e63-e72. https://doi.org/10.2105/AJPH.2015.302775

Kassambara, A. (2023). _ggpubr: 'ggplot2' Based Publication Ready Plots_. R package version 0.6.0, h ttps://CRAN.R-project.org/package=ggpubr

Kassel, J. D., Wardle, M., & Roberts, J. E. (2007). Adult attachment security and college student substance use. *Addictive Behaviors, 32* (6), 1164–1176.

Kidwell, J. S., & Dunham, R. M. (1995). Adolescent identity exploration: A test of Erikson's theory of transitional crisis. *Adolescence, 30*(120), 785–793.

Kim, K., & Kim, K. (2015). Internet Game Addiction, Parental Attachment, and Parenting of Adolescents in South Korea. *Journal of Child & Adolescent Substance Abuse*, *24*(6), 366–371. https://doi.org/10.1080/1067828X.2013.872063

Kirby, D. B., Laris, B. A., & Rolleri, L. A. (2007). Sex and HIV Education Programs: Their Impact on Sexual Behaviors of Young People Throughout the World. *Journal of Adolescent Health, 40*(3), 206–217. https://doi.org/10.1016/j.jadohealth.2006.11.143

Kraus, B. (2013). Rodina v procesech transformace společnosti. *Kontakt, 15*(4), 422–430. https://doi.org/10.32725/kont.2013.050

Kuchařová, V., Barvíková, J., Höhne, S., Nešporová, O., Paloncyová, J., & Vidovićová, L. (2020). *Zpráva o rodině 2020*. VÚPSV, v. v. i.

Ledoux, S., Miller, P., Choquet, M., & Plant, M. (2002). Family structure, parent-child relationships, and alcohol and other drug use among teenagers in France and the United Kingdom. *Alcohol and Alcoholism (Oxford, Oxfordshire), 37*(1), 52–60. https://doi.org/10.1093/alcalc/37.1.52

Lenth, R. (2023). *_emmeans: Estimated Marginal Means, aka Least-Squares Means_. R package version 1.8.8*, https://CRAN.R-project.org/package=emmeans

Lin, M.-P., Ko, H.-C., & Wu, J. Y.-W. (2011). Prevalence and psychosocial risk factors associated with internet addiction in a nationally representative sample of college students in taiwan. *Cyberpsychology, Behavior, and Social Networking*, *14*(12), 741–746. https://doi.org/10.1089/cyber.2010.0574

Liu, M., Tang, X., Xia, Q., Wu, X., Yang, Y., Xiang, H., & Hu, J. (2025). Patterns of health-risk behaviors among Chinese adolescents during the COVID-19 pandemic: a latent class analysis. *BMC public health, 25*(1), 1141. https://doi.org/10.1186/s12889-025-22089-5

Macek, P. (2003). *Adolescence*. Portál.

Macía, L., Estévez, A., & Jáuregui, P. (2023). Gambling: Exploring the Role of Gambling Motives, Attachment and Addictive Behaviours Among Adolescents and Young Women. *Journal of Gambling Studies, 39*(1), 183–201. https://doi.org/10.1007/s10899-022-10124-8

Maierová, E. (2015). *Poruchy osobnosti a vztahová vazba u patologických hráčů*. Univerzita Palackého v Olomouci.

Martin, M. J., Conger, R. D., & Robins, R. W. (2019). Family stress processes and drug and alcohol use by Mexican American adolescents. *Developmental Psychology, 55*(1), 170–183. https://doi.org/10.1037/dev0000629

Matoušek, O. (2003). *Rodina jako instituce a vztahová síť.* SLON.

Matoušek, O., & Matoušková, A. (2011). *Mládež a delikvence.* Portál.

Mayra, M., Rajak, R., Sarkar, N., & Deogharia, M. (2023). Parent-adolescent Conflicts on Self-esteem, Achievement Motivation, Risk-taking Attitude and Behavior of Adolescents. *Indian Journal of Health & Wellbeing*, *14*(3), 288–293.

Mihić, J., Skinner, M., Novak, M., Ferić, M., & Kranželić, V. (2022). The Importance of Family and School Protective Factors in Preventing the Risk Behaviors of Youth. *International Journal of Environmental Research and Public Health, 19*(3), 1630. https://doi.org/10.3390/ijerph19031630

Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood*. New York: Guilford Press.

Mikulincer, M., & Shaver, P. R. (2012). An attachment perspective on psychopathology. *World Psychiatry, 11*(1), 11–15. https://doi.org/10.1016/j.wpsyc.2012.01.003

Ministerstvo vnitra České republiky. (2022). *Zpráva o situaci v oblasti vnitřní bezpečnosti a veřejného pořádku na území České republiky v roce 2021*. Získané 23. 8. 2022 z https://www.mvcr.cz/soubor/zprava-o-situaci-v-oblasti-verejneho-poradku-a-vnitrni-bezpecnosti-na-uzemi-ceske-republiky-v-roce-2021.aspx

Miovský, M., Adámková, T., Barták, M., Čablová, L., Čech, T., Doležalová, P., Reichelová, L., Gabrhelík, R., Charvát, M., Jurystová, L., Macková, L., Martanová, V., Nejedlá, M., Nevoralová, M., Novák, P., Orosová, O., Skácelová, L., Šťastná, L., Širůčková, M., et al. (2015). *Výkladový slovník základních pojmů školské prevence rizikového chování.* Klinika adiktologie 1. LF UK v Praze a VFN v Praze.

Monacis, L., De Palo, V., Griffiths, M. D., & Sinatra, M. (2017a). Exploring individual differences in online addictions: The role of identity and attachment. *International Journal of Mental Health and Addiction*, *15*(4), 853–868. https://doi.org/10.1007/s11469-017-9768-5

Monacis, L., De Palo, V., Griffiths, M. D., & Sinatra, M. (2017b). Social networking addiction, attachment style, and validation of the Italian version of the Bergen Social Media Addiction Scale. *Journal of Behavioral Addictions*, *6*(2), 178–186.

Nešpor, K., & Csémy, L. (2011). Hazard u dětí a dospívajících. *General Practitioner / Praktický Lékař*, *91*(3), 158–161.

Nielsen Sobotková, V. (2014). *Rizikové a antisociální chování v adolescenci*. Grada.

Novotný, J. S., & Okrajek, P. (2012). Vliv vybraných charakteristik rodinného prostředí na rizikové chování 15tiletých adolescentů. *E-Psychologie*, *6*(2), 9–21.

OECD (2017), "Bullying", in *PISA 2015 Results (Volume III): Students' Well-Being,* OECD Publishing, Paris, https://doi.org/10.1787/9789264273856-12-en

Owino, W. O., Asakhulu, N. M., Mwania, J. M., & Mwanza, R. (2021). Attachment Styles and Risky Sexual Behaviors in Adolescents. *Problems of Education in the 21st Century, 79*(6), 928–941.

Petrík, Š. (2021). Špecifiká rizikového sexuálneho správania dospievajúcich a možnosti jeho prevencie. (Czech). *Pediatrie pro Praxi, 22*(1), 49–53.

R Core Team (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna. https://www.R-project.org/

Revelle, W. (2023). *_psych: Procedures for Psychological, Psychometric, and Personality Research_. Northwestern University, Evanston, Illinois. R package version 2.3.9*, https://CRAN.R-project.org/package=psych

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 and New Zealand Journal of Psychiatry, 44*(9), 774–783.

Říčan, P., & Janošová, P. (2010). *Jak na šikanu.* Grada.

Salmivalli, C., Sainio, M., & Hodges, E. V. E. (2013). Electronic victimization: correlates, antecedents, and consequences among elementary and middle school students. *Journal of Clinical Child and Adolescent Psychology : The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53, 42*(4), 442–453. https://doi.org/10.1080/15374416.2012.759228

Sinaiko, H. W., & Brislin, R. W. (1973). Evaluating language translations: Experiments on three assessment methods. *Journal of Applied Psychology, 57*(3), 328–334. https://doi.org/10.1037/h0034677

Steinberg, S. J., Davila, J., & Fincham, F. (2006). Adolescent Marital Expectations and Romantic Experiences: Associations With Perceptions About Parental Conflict and Adolescent Attachment Security. *Journal of Youth and Adolescence: A Multidisciplinary Research Publication, 35*(3), 314–329. https://doi.org/10.1007/s10964-006-9042-9

van Buuren, S., & Groothuis-Oudshoorn, K. (2011). *mice: Multivariate Imputation by Chained Equations in R. Journal of Statistical Software, 45*(3), 1–67. DOI 10.18637/jss.v045.i03

van Dijk, R., van der Valk, I. E., Deković, M., & Branje, S. (2020). A meta-analysis on interparental conflict, parenting, and child adjustment in divorced families: Examining mediation using meta-analytic structural equation models. *Clinical Psychology Review, 79*. https://doi.org/10.1016/j.cpr.2020.101861

Wallerstein, J. S., & Lewis, J. M. (2004). The Unexpected Legacy of Divorce: Report of a 25-Year Study. *Psychoanalytic Psychology, 21*(3), 353–370. https://doi.org/10.1037/0736-9735.21.3.353

Wickham, H. (2016). *ggplot2: Elegant Graphics for Data Analysis*. Springer-Verlag New York.

Wickham, H., François, R., Henry, L., Müller, K., & Vaughan, D. (2023). *_dplyr: A Grammar of Data Manipulation_. R package version 1.1.2*. https://CRAN.R-project.org/package=dplyr

Xie, Y. (2022). *knitr: A General-Purpose Package for Dynamic Report Generation in R. R package version 1.40.* https://yihui.org/knitr/

Zhu, H. (2021). *_kableExtra: Construct Complex Table with 'kable' and Pipe Syntax_. R package version 1.3.4*. https://CRAN.R-project.org/package=kableExtra