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Parental divorce and adolescent excessive drinking

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**Parental divorce and adolescent excessive drinking:
Role of parent - adolescent relationship and other social and psychosocial factors**

Zuzana Tomčíková

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in Slovak and Dutch

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Introduction

This thesis focuses on the role of the family environment in adolescents' excessive drinking, one of the most common adolescent risk behaviours. The main aim is to contribute to the understanding of how different factors of family life might act as risk or protective factors with regard to this particular risk behaviour. This chapter provides general information about excessive drinking in the adolescent population and the main dimensions of the family environment and describes the aim of the study and its research questions, as well as the structure of this thesis.

1.1. Excessive drinking in adolescents

Excessive drinking is a relatively common behaviour during adolescence and has therefore become a major public health concern. In Slovak society, alcohol is a highly tolerated psychoactive substance, relatively speaking, that is quite embedded in the culture. Slovak children have their first experiences with alcohol rather early in life. According to the most recent Health Behaviour in School-aged Children (HBSC) study (Currie et al., 2008), 9% of girls and 14% of boys reported drinking alcohol at least once a week at age 11, and this proportion increases with the age. For reference only, the average prevalence in 11-year olds across all HBSC countries was 3% of girls and 7% of boys. The average age of the first experience with drunkenness among Slovak adolescents is comparable with all other HBSC countries – at 15-years old 31% of girls and 39% of boys have already had the experience of being drunk, while the HBSC average was 30% for girls and 37% for boys. The overall prevalence of alcohol consumption among Slovak adolescents has been increasing in recent years in both genders, but the increase is larger in females (Pitel et al., 2010). Restrictions on selling alcohol to minors (under 18 years old) are insufficiently monitored, so it is not very difficult for adolescents to buy alcohol. Furthermore, pricing policies do not help in this context either, as in most bars it is cheaper to buy a beer than any soft drink, for example.

Alcohol use in general is considered to be one of the main global risk factors for diseases (Rehm et al., 2003). It contributes to every fourth death among Slovak males and every fifth death among Slovak females in productive age (Rosicova et al., 2010). It is often an important factor in fatal injuries, car crashes and suicides (Cherpitel et al., 2009; Connor et al., 2004; Miller et al., 1991; Rosicova et al., 2010). There is also a strong

association between excessive drinking and a range of other health-endangering behaviours and conditions such as smoking (Sayette et al., 2005), the use of illegal drugs (Kandel & Yamaguchi, 1993), risky sexual behaviour (Cooper, 2002; Kalina et al., 2009), violent behaviour (Blistein et al., 2005), eating disorders and obesity (Breslow & Smothers, 2005) and depressive disorders (Rohde et al., 1995). In addition to these negative consequences of alcohol use in general, there are also some that are particular for adolescents. For example, some studies have demonstrated that brain development continues well into early adulthood and that alcohol consumption can harm this development (Chambers et al., 2003; Giedd, 2008).

To study alcohol related behaviour among adolescents is important, as adolescence is a period of life during which substantial lifestyle patterns are established. Excessive alcohol use in adolescence is an important predictor of alcohol problems in adulthood, leading not only to alcohol dependence, but also to chronic physical and mental health problems in later life (Jefferis et al., 2005; Schmid et al., 2005). The heavier the use of the seemingly harmless substance in adolescence, the more likely that multiple substance use will occur later – alcohol use together with tobacco use are characterised as gateway drugs, as they often lead to more serious substance abuse (Perkins & Borden, 2003). Despite the well-known negative consequences of alcohol use, the positive effects prevail for a great proportion of adolescents; that is, experimenting with alcohol satisfies their curiosity and facilitates their socialisation (Schmid et al., 2005). Even experts agree that risk behaviour in adolescence can fulfil important social functions and can be understood as a manifestation of developmentally appropriate experimentation (Engels & Bogt, 2001; Hurrelmann & Richter, 2006).

In this study drunkenness is used as an indicator of excessive drinking. Drunkenness (i.e. drinking to intoxication) is a pattern of alcohol use that is particularly important in adolescence, and it seems to be correlated to other aspects of alcohol use such as frequency of drinking and the preference for spirits (Schmid et al., 2003). To measure excessive drinking in adolescents is rather difficult for several reasons; one is socially desirable answering in studies based on self-reports, which leads to either under-reporting or over-reporting. On one hand, the use of alcohol is illegal for adolescents, and thus it very often is a subject of social disapproval and the fear of reprisal might cause under-reporting (Brener et al., 2003). On the other hand, adolescents' reporting of alcohol use is likely to be influenced by peers, and in this context the use of alcohol might not be so embarrassing or undesirable; the norm might be even "pro-use" answering (Lintonen & Konu, 2004; Lintonen et al., 2004), which is likely to lead to over-reporting.

1.2. Factors influencing excessive drinking in adolescence

Several models have been used to schematise the various factors influencing risk behaviour (including alcohol consumption) among adolescents. Two of them are cited relatively often, and we have also used them as a framework for this thesis. The Problem behaviour theory (Jessor 1991) assumes that different kinds of problem behaviour can be explained by similar mechanisms. Some findings indeed indicate the clustering of several kinds of risky behaviour (Van Nieuwenhuijzen et al. 2009). The Problem behaviour theory distinguishes five categories of factors: (1) biological/genetic factors; (2) factors from the social environment; (3) factors from the perceived environment (e.g. patterns of risk behaviour); (4) personality factors; and (5) behavioural factors (e.g. involvement in school).

The work of Petraitis et al. (1995) is an attempt to perform a synthesis between several theoretical approaches. They distinguish three groups of factors: (1) social/interpersonal factors (influences of family and peers); (2) cultural/attitudinal factors (aspects of immediate surroundings and culture, general values); and (3) intrapersonal factors (personality traits, affective states and behavioural skills). Moreover, ultimate, distal and proximal factors are distinguished within each category. In this thesis we focus in particular on factors related to family, but to produce a more comprehensive picture of what is behind adolescent excessive drinking, some other factors (personality, well-being and peer influence) are taken into account as well.

1.3. Family environment in the context of adolescent excessive drinking

Family environment is a very important context for adolescent development, as the most important basic values, attitudes and patterns of behaviour are formed here. In adolescence, despite the growing influence of peers, family remains a strong factor affecting the behaviour and shaping the lifestyle of young people. The influence of the family is essential also in regards to adolescent excessive drinking for several reasons. First, in most cases the introduction to alcohol consumption takes place in the family in the form of small occasional toasts at family events (Setttertobulte et al., 2001). Second, the continuation of alcohol consumption and further excessive drinking is dependent on the range of family-based risk factors (Setttertobulte et al., 2001; Kuntsche & Kuending, 2006). Various family-related factors which might be risky for excessive drinking have been identified in research, such as structural characteristics of the family or the characteristics of family relationships. The following sections provide

a brief description of some of the family factors that will be explored in this thesis.

1.3.1. Family structure – parental divorce

An incomplete family structure may lead to developmental disturbances among those children affected by it, including risk behaviour (Currie et al., 2004). Many studies (e.g. Kuntsche & Kuending, 2006; Fisher et al., 2007) have found that living in a single-parent family increases the risk of adolescent alcohol use. Several pathways that might explain this fact, such as decreased parental control in one-parent families, fewer financial resources or the immediate consequences of divorce on adolescents (e.g. increased levels of depression and anxiety), might be applied. The increasing divorce rate in Slovakia (in 2003 more than 41% of marriages ended in divorce in Slovakia compared with 32% in 1995) emphasises the great public health implications of this issue (Mladek et al., 2006).

1.3.2. Socioeconomic position of the family

The socioeconomic position of the family seems to play a role in adolescent alcohol use as well, although findings about the direction of this association are contradictory. Several studies have confirmed the association between lower socioeconomic position and higher probability of risk behaviour in general (Williams & Debaeky, 1992; Romelsjo & Lundberg, 1996; Geckova et al., 2002; Andersen et al., 2008). However, the results regarding alcohol use are inconsistent. On one hand, the more financial resources are available to adolescents, the higher the rates of excessive drinking (Littlejohn, 2001); but on the other hand, low levels of parental education (Arvantidou et al., 2007) or low levels of family affluence (Zambon et al., 2006) are also associated with more excessive drinking. Differences regarding the pattern of alcohol use can be found as well – while excessive drinking is associated with lower socioeconomic group, regular, but moderate drinking is more common in higher socioeconomic groups (Romelsjo & Lundberg, 1996). Inconsistent findings were also seen across genders – the traditional socioeconomic gradient (the lower the socioeconomic position, the higher the prevalence of potentially harmful health-related behaviour) was found among males, while a reverse gradient was found among females (Salonna et al., 2008).

1.3.3. Social support from family

Social support from the family is an important buffer against stressful life events and plays a considerable role in coping with demanding life situations (Geckova et al., 2003; Murberg & Bru, 2004). Regarding adolescent excessive drinking, several studies have found that less parental

support (support from family) is associated with greater risk of alcohol use in adolescents (Shucksmith et al., 1997; Windle & Miller-Tutzauer, 1997), though not all studies have confirmed this association (Lifrak et al., 1997).

1.3.4. Parental monitoring

Parental monitoring is one of the processes through which the family facilitates the adjustment of adolescents, by providing them with necessary supervision and guidance (Smetana & Daddis, 2002). It is conceptualised as the parents' knowledge of their child's whereabouts, activities and friends (Jacobson & Crockett, 2000). Even if an adolescent is exposed to risk factors outside the family (peer influences, going out with friends, etc.), adequate parental control can act as protective factor (Nash et al., 2005). During adolescence, monitoring is more a matter of mutual communication between parents and adolescents than a matter of direct observation (Clark et al., 2008). Therefore, the effectiveness of parental monitoring is dependent on the quality of parent-adolescent communication. A second issue that makes parental monitoring in adolescence rather specific is adolescents' increasing need for autonomy and independence and the fact that they spend more time outside their parental home in comparison to previous years (Loukas & Prelow, 2004). Several studies have confirmed that the less an adolescent has been monitored by his/her parents, the more likely he/she is to be involved in alcohol use (Griffin et al., 2000; Beck et al., 2004).

1.3.5. Communication between parents and adolescents

One of the crucial elements of family functioning is adequate communication between parents and their children, which has been shown to be an important protective factor (Currie et al., 2008). On one hand, good quality communication with parents is an indicator of social support from parents and of family connectedness (Laursen, 1995). On the other hand, poor parent-child communication was found to be associated with a higher risk of youth substance use (Currie et al., 2008; Griffin et al., 2000). Adolescence is a unique period with regard to communication with parents – children speak less often with their parents about themselves, and communication becomes generally more difficult (Barnes & Olson, 1985). In evaluating the quality of parent-adolescent communication, adolescents usually perceive it to be less open and more problematic than their parents do, and mothers perceive communication with adolescent children more positively than fathers (Rosnati et al., 2007). Typically, communication with the mother is easier than with the father for both adolescent boys and girls (Noller & Callan, 1990; Rosnati et al., 2007). However, a study by Ackard et al. (2006) demonstrated that girls more

than boys felt unable to talk to their father about problems, whereas boys and girls felt equally comfortable talking to their mother about problems. Based on these findings it has been hypothesised that communication with the father and with the mother may play different roles in substance use of among adolescents (Chocquet et al., 2008; Luk et al., 2010). And, indeed, the association between the quality of mutual communication and substance use outcomes seems to be stronger in females (Chocquet et al., 2008).

1.3.6. Adolescents' feelings toward parents

Some theories (e.g. the attachment theory, parenting styles theories) have emphasised the central role of the relationship between parent and adolescent regarding risk behaviour (Canetti et al., 1997; Kerr et al., 2003; Newman et al., 2008). For example, adolescents raised in authoritative households are less likely to behave risky than adolescents from non-authoritative families (Newman et al., 2008). However, the quality of a parent-adolescent relationship is very likely to be influenced *inter alia* by parental divorce. This is why it is preferable to measure the adolescent's feelings toward a parent that is no longer present as well (Phares & Renk, 1998). A positive relationship (affect) in this context is defined as the experience of warmth, support and acceptance, and it also involves the communication of positive feelings between two persons. A negative relationship (affect) on the other hand is the experience of hostility, stress and rejection (Duhig & Phares, 2009). A positive relationship with parents has been shown to be a protective factor against adolescent risk behaviours, including alcohol use, in several studies (Simons-Morton et al., 1999; Suris et al., 2005). Additionally, a negative relationship with parents also has an indirect impact on adolescent risk behaviour, as it is related to problematic peers (Ary et al., 1999).

1.4. Personality factors and adolescent excessive drinking

Although many studies have confirmed the dominant impact of social and environmental factors on alcohol use in adolescents, there is also evidence that personality determines someone's vulnerability to excessive drinking (Merenakk et al., 2003). Several personality traits have been found to be associated with excessive alcohol use in adolescents (Petraitis et al., 1995; George et al., 2010). In this thesis three personality factors are explored with regard to excessive drinking: (1) extraversion, (2) aggressiveness, and (3) self-esteem.

Extraversion, which is defined as gregariousness and sociability (Kuntsche et al., 2006), was found to be related with more frequent or more hazardous drinking and also with more tolerant attitudes toward

alcohol use in several studies (Francis, 1996; Merenakk et al., 2003). *Aggressiveness*, and more specifically aggressive behaviour, is on one hand a common result of problematic drinking, but on the other, aggressive tendencies in behaviour also predict excessive alcohol use (Gerra et al., 2004). *Self-esteem* is typically defined as one's overall sense of worthiness as a person (Rosenberg, 1979). The role of self-esteem in alcohol use among adolescents is not clear. On one hand, it is known that positive self-esteem may function as a buffer against deviant behaviour by facilitating better psychological adjustment (Schweitzer, 1992). On the other hand, there are some inconsistent results from studies showing both abstainers and excessive users having higher levels of positive self-esteem (Fisher et al., 2007). The role of negative self-esteem was partially confirmed in other types of risk behaviour as well (Veselska et al., 2009).

1.5. Well-being and adolescent excessive drinking

Well-being in general is a construct describing a subjective state in which positive feelings predominate. Basically, it refers to contentment, satisfaction, or happiness derived from optimal functioning, or conversely, to the absence of negative feelings (McDowell, 2010). It is known from literature that problem drinking is associated with lower states of psychological well-being (Pitkanen, 1999), meaning that in some cases, drinking alcohol (and particularly excessive drinking) might function as a coping mechanism, as an example of an avoidance strategy, especially among women (Pitkanen, 1999). On the other hand, health-related risk behaviour, and in particular alcohol consumption, might contribute to lower well-being (Geckova et al., 2000).

1.6. Peer influence and adolescent excessive drinking

Adolescence is a period when peers are becoming a more significant factor when compared to previous years. Peer context is considered to be a prime instigator of new behaviours and lifestyle (Kerr et al., 2003). While health-related risk behaviours established in earlier stages are likely to be influenced by the family context, behaviours which initiate in adolescence might be more embedded in a peer context (Hurrelmann & Richter, 2006). A range of studies has confirmed that one of the most powerful predictors of adolescent alcohol use is the behaviour of a youth's best friends (e.g. Borden et al., 2001; Bot et al., 2005). In this thesis two aspects of peer context are explored: (1) perceived social support from peers and (2) risky leisure time activities with peers.

Social support in general has a considerable impact on health, including health-related risk behaviour (Geckova et al., 2003). One of

the most significant sources of social support, even in this period of life, is family, but a network of peer relationships also provides necessary support for young people (Kerr et al., 2003). Findings from the literature suggest that in contrast to social support from family, higher perceived social support from peers seems to be associated with greater alcohol use (Engels & ter Bogt, 2001).

The most pursued *leisure time activities* of adolescents are social activities, which are also the most important from developmental perspective (Kerr et al., 2003). Besides the undeniable positive role of these activities, they also carry certain risks, because they often involve an adolescent in behaviours that might be developmentally maladaptive (e.g. alcohol drinking) (Caldwell & Darling, 1999). Moreover, these activities usually take place outside the parental home, and therefore they become more difficult to be monitored by parents during adolescence (Loukas & Prelow, 2004).

1.7. Aim of the study and research questions

The main aim of the present study is to explore the relationship between adolescent excessive drinking and several characteristics of family life, as well as some other contributing variables (personality, well-being, leisure time activities, social support from peers). Regarding family characteristics, both more distal, structural characteristics (family structure, socioeconomic position), and more proximal, psychosocial characteristics (social support, parental monitoring, parent-adolescent communication, adolescents' feelings toward parents) will be explored.

Based on the literature as described, the following research questions (RQ) have been formulated:

(RQ1) Do adolescents with different patterns of alcohol use differ in family characteristics (family structure, socioeconomic position), perceived social support, personality characteristics (extraversion, self-esteem, aggression), and well-being? (*Chapter 3*)

(RQ2) Is there an association of parental divorce with adolescent drunkenness? How do socioeconomic position, family structure, social support from family and well-being contribute to this association? (*Chapter 4*)

(RQ3) Is there an association between participation in risky leisure time activities, parental monitoring and adolescent drunkenness? Do adolescents who participate in risky leisure time activities and report having been drunk differ in the level of parental monitoring from those who participate without having been drunk? (*Chapter 5*)

(RQ4) Is there an association between family structure, quality of communication with both parents and adolescent drunkenness? Is there

an association between family structure, quality of communication with both parents and adolescent frequent alcohol drinking? Do age and gender contribute to these associations? (Chapter 6)

(RQ5) Is there an association between parental divorce and adolescent drunkenness? How do adolescents' feelings toward their parents contribute to this association? (Chapter 7)

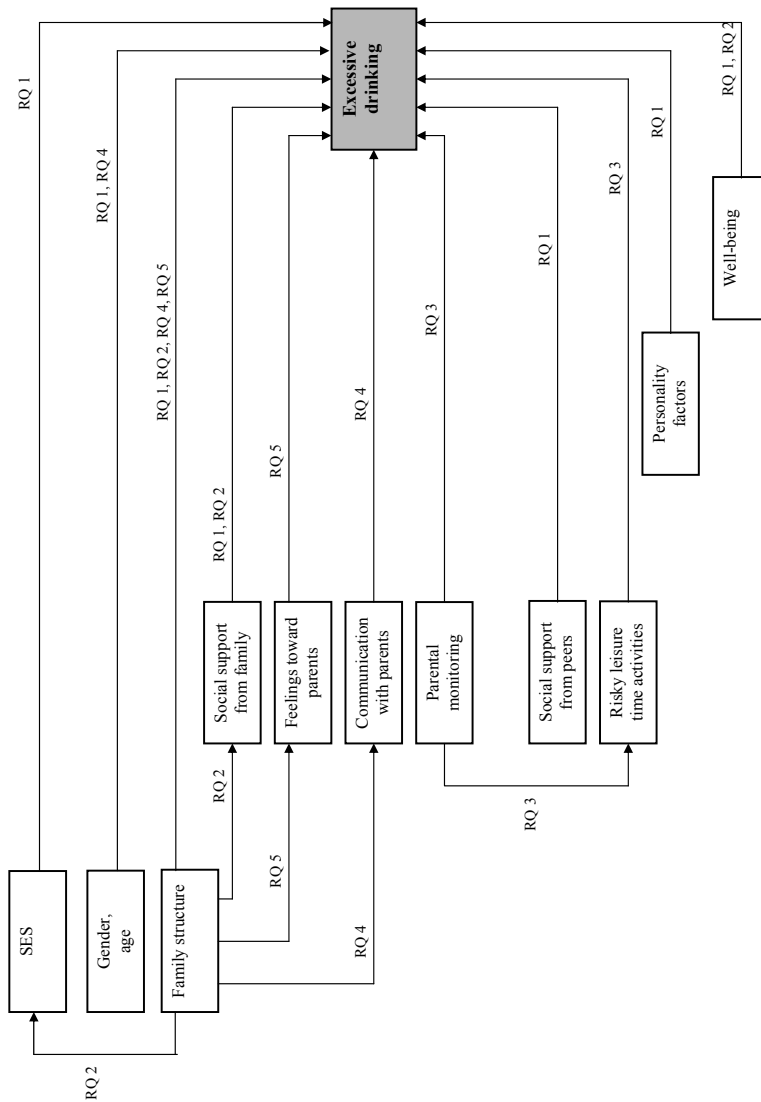


Figure 1 shows the relationships examined within this thesis.

1.8. Structure of the thesis

This thesis is divided into 8 chapters.

Chapter 1 provides general information about excessive drinking in the adolescent population and the main dimensions of the family environment. The aims of the study and the research questions are formulated in this chapter as well.

Chapter 2 provides information about the design of the study – it briefly describes the two research samples used in this thesis, as well as measures and statistical analyses.

Chapter 3 compares three groups of adolescents concerning the pattern of alcohol use (abstainer, consumer, and excessive drinker) in selected personality factors, family factors, social support and well being.

Chapter 4 focuses on family factors, exploring the associations between parental divorce and adolescent drunkenness and the contribution of socioeconomic position, family structure, social support from family and well-being.

Chapter 5 deals with the issue of leisure time activities of adolescents and parental monitoring of them and associations with adolescent excessive drinking.

Chapter 6 explores the role of family structure and the quality of communication between parents and their adolescent children in two patterns of alcohol use – frequent alcohol drinking and lifetime drunkenness.

Chapter 7 deals with the association between parental divorce and adolescent drunkenness again. Furthermore, the contribution of adolescents' feelings toward parents to this association is explored.

In *chapter 8* the main findings of the previous chapters are discussed, as are their strengths and limitations. Furthermore, implications for further research and recommendations for public health practice are proposed.

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Data sources

This chapter provides a general overview of the study samples (2.1), measures (2.2) and statistical analysis (2.3) used in this thesis.

2.1. Study samples and procedures

Two study samples were used in this thesis.

The first study sample consisted of 3,725 elementary school students in the 8th and 9th grades from three cities – Bratislava (600,000 inhabitants; Western Slovakia), Zilina (156,000 inhabitants; Northern Slovakia) and Kosice (240,000 inhabitants; Eastern Slovakia) – and several smaller towns (10,000 to 40,000 inhabitants) in the Kosice region. The sample was made up of 49% males, with a mean age of 14.3 years (SD 0.65; range 11-17 years). Respondents younger than 13 and older than 16 years old were excluded in all chapters in which this sample was used in order to make the sample more homogeneous and to avoid age extremes which could have an impact on the findings. After this exclusion, the final study sample consisted of 3,694 adolescents (mean age 14.3 years, SD 0.62), with 24.6% coming from Bratislava, 21.3% from Zilina, 32.1% from Kosice and 22.0% from other towns in the Kosice region. The local Ethics Committee approved the study.

The schools and classes were selected randomly in each region. School directors were asked for participation. After their approval and the approval of parents, data were collected by a team of trained researchers and research assistants in October, November and December 2006. Respondents filled in a questionnaire on a voluntary and anonymous basis without the presence of the teacher during two regular 45-minute lessons. The overall response rate was 93.0%. Non-response was primarily due to illness or another type of absence. This sample was used in Chapters 3, 4, 5 and 7.

A second study sample was obtained from the Slovak part of the 2005/06 Health Behaviour in School-aged Children (HBSC) study, a multinational study conducted in collaboration with the World Health Organization (Currie et al., 2008). The total Slovak sample consisted of 3,882 students (46.3% males) aged 10 to 16 (mean age 13.3; SD 1.60). Respondents were divided into three age categories – 11, 13 and 15-year olds.

The data were collected in a way similar to the previously described sample. Trained researchers and research assistants collected the data

during one regular 45-minute lesson. Respondents completed the questionnaire on a voluntary and anonymous basis without the presence of the teacher in their classroom, according to the methodology of the HBSC-study. This sample was used in Chapter 6.

2.2. Measures

This section provides an overview of the variables and measures used in this thesis. Brief information about the origin of the measures and short descriptions of each of them are presented in Table 2.1.

The central dependent variables were indicators of excessive drinking – drunkenness in the last four weeks (Chapters 3, 4, 5 and 7) and lifetime drunkenness (Chapter 6). The following questions were used to assess these indicators: (1) ‘In the last 4 weeks have you been drunk?’ with the possible answers ‘no / 1–2 times / 3 and more times’; and (2) ‘Have you ever had so much alcohol that you were really drunk?’ with the possible answers ‘no, never / yes, once / yes, 2–3 times / yes, 4–10 times / yes, more than 10 times’.

The frequency of alcohol drinking in the last four weeks was used as an additional dependent variable in Chapters 1 and 6. The following questions were used to assess the frequency of alcohol drinking: (1) ‘How many times in the last 4 weeks have you drunk alcohol?’ with the possible answers ‘not even once / 1–2 times / 3 and more times’; and (2) ‘How often have you drunk any of these types of alcohol (beer, wine, spirits, alcopops, and other) in the past month?’ with the possible answers ‘never / rarely / every month / every week / every day’.

The independent variables used in this thesis concerned indicators of socioeconomic status (*Family affluence scale EAS, Parents’ education level*), indicators of family structure (*Parental divorce, Composition of the household*), indicators of family functioning (*Perceived Social Support Scale, PSSS; Perception of Parents Scale, POP; Communication with parents; Adolescent Family Process Measure, AFPM*), other interpersonal factors (*Leisure time activities with peers*) and intrapersonal factors (*Ten-Item Personality Inventory, TIPI; Rosenberg self-esteem scale, RSE; Aggression Questionnaire, AQ; 12-item General Health Questionnaire, GHQ-12*).

2.3. Statistical analysis

Several statistical methods were used to analyse the data. They were performed using the statistical software package SPSS, versions 14.0 and 16.0; and MLwiN 2.02. More detailed information about the statistical analyses performed can be found in the “statistical analysis” section of each chapter. Standard descriptive analyses regarding the studied variables

were performed in Chapters 3 – 7. Chi-square tests, F-tests or t-tests were used in Chapters 3, 5 and 7 to explore differences in the studied variables. Logistic regression was performed in Chapters 3 – 7.

Table 2.1 Brief summary of variables and measures used in this thesis

Measure	Source	Type of variable (Chapters)	Description
Drunkenness in the last four weeks	derived from Currie et al., 2004	Dependent (3,4,5,7)	Indicator of excessive drinking
Lifetime drunkenness	Currie et al., 2004	Dependent (6)	Indicator of excessive drinking
Frequent alcohol drinking	derived from Currie et al., 2004	Dependent (3, 6)	Indicator of excessive drinking
FAS	Currie et al., 2004	Independent (3,4)	Indicator of socioeconomic status
Parents' education	Currie et al., 2004	Independent (3,4)	Indicator of socioeconomic status
Parental divorce	derived from Currie et al., 2004	Independent (3,4,7)	Indicator of family structure
Composition of the household	derived from Currie et al., 2004	Independent (4)	Indicator of family structure
PSSS	Currie et al., 2004	Independent (6)	Measure of perceived social support from family, friends and significant others
	Blumenthal, 1987	Independent (3,4)	
POP	Phares & Renk, 1998	Independent (7)	Measure of positive and negative affect to parents
Communication with parents	Currie et al., 2004	Independent (6)	Indicator of the quality of parent-adolescent communication
AFPM	Vazsonyi et al., 2003	Independent (5)	Measure of six dimensions of family processes including parental monitoring
Leisure time activities	derived from Currie et al., 2004	Independent (5)	Indicator of leisure activities spent with peers
TIP1	Gostling et al., 2003	Independent (3)	Brief measure of the Big-Five personality domains
RSE	Rosenberg, 1965	Independent (3)	Measure of a person's evaluation of his/her worthiness
AQ	Nakano, 2001	Independent (3)	Measure of four dimension of aggression
GHD-12	Goldberg, 1988	Independent (3, 4)	Measure of two dimensions of psychological well-being

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Characteristics of adolescent excessive drinkers compared with consumers and abstainers

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Abstract

This study aimed at comparing adolescent abstainers, consumers and excessive drinkers in terms of family characteristics (structure of family, socioeconomic factors), perceived social support, personality characteristics (extraversion, self-esteem, aggression) and well-being. Cross-sectional data were obtained from 3694 elementary school students in the 8th and 9th grades from several cities in Slovakia (mean age 14.5, 49.0% men; response rate 93%). Respondents completed questions on the use of alcohol and on family structure (parental divorce), the socioeconomic position of the family (parents' education and family affluence), perceived social support, extraversion, self-esteem, aggression and psychological well-being. They were split into three groups based on the pattern of alcohol use – abstainers, consumers and excessive drinkers (i.e. being drunk at least once during the past 4 weeks). The results showed significant differences between abstainers, consumers and excessive drinkers in almost every characteristic explored. A risky pattern of alcohol consumption occurs more frequently among adolescents who have divorced parents, higher socioeconomic position, higher scores for perceived social support from friends, extraversion, negative self-esteem and aggression, and lower scores for social support from family and for well-being. A risky pattern of alcohol consumption is more likely among relatively easily identifiable groups of adolescents from high socioeconomic position and divorced families. Their personalities and social networks have characteristics that could be accommodated in preventive interventions as well.

Introduction

Excessive drinking is a relatively common behaviour, particularly among adolescents, and also has become a major public health concern. The results of the European school survey on alcohol and other drugs (ESPAD) (Hibbel, 2004) indicate that more than half of all students have consumed alcohol at the age of 13 years or younger. The proportion of students who reported having been drunk at the age of 13 or younger varies greatly across countries (Hibbel, 2004). Slovak participants in this study placed approximately in the middle: 27% of boys and 17% of girls reported having been drunk at this age. A wide variety of factors that may play a role as possible risk factors of hazardous alcohol drinking in adolescence could be divided into three groups: (1) factors related to family and social background of the adolescent—within this group we distinguish structural characteristics (e.g. structure of family) and psychosocial characteristics (e.g. social support); (2) individual personality factors; and (3) factors proximal to behaviour, such as immediate intentions, reasons or expectations related to alcohol drinking, but also one's immediate condition (e.g. well-being) (Petraitis et al., 1995). Besides these groups of factors genetic and biological factors play an important role as well (Jessor, 1991).

Family factors

Undoubtedly, family is one of the most significant contexts that determine the development of children and adolescents. Basic patterns of behaviour are formed in the family, as well as values, norms and attitudes. When a family is not complete, this may lead to developmental disturbances, including risk behaviour (Eickhoff, 2001; Currie et al., 2004). Many studies (Miller, 1997; Blum et al., 2000; Ledoux et al., 2002; Kuntsche & Kuendig, 2006; Fisher et al., 2007) have found that living in a single-parent family increases the risk of adolescent alcohol use. This may be explained by the decreased parental control in one-parent families (Freeman & Newland, 2002; Marsden et al., 2005), by the fact that single parents tend to have fewer financial resources and to suffer from greater social isolation (Griffin et al., 2000) or through the immediate consequences of the disruption of the family structure (divorce) on adolescents (e.g. lowered self-esteem, increased levels of depression and anxiety) (Storksens et al., 2005). The socioeconomic position (SEP) of the family seems to play a role in adolescent alcohol use as well, although contradictory results about this association could be found. On one hand, the more financial resources are available to adolescents, the higher the rates of excessive drinking; but on the other hand, low levels of education are associated with more excessive drinking (Kuntsche et al., 2004).

Social support

Besides the above-mentioned effects of the family environment, social support from the family is an important buffer against stressful life events and plays a considerable role in coping with demanding life situations (Bal et al., 2003; Geckova et al., 2003; Murberg & Bru, 2004). This also holds true, to a lesser degree, for social support from other sources. Concerning excessive drinking, several studies have found that less parental support (support from family) is associated with greater alcohol use in adolescents (Stice et al., 1993; Shucksmith et al., 1997; Windle & Miller-Tutzauer, 1997), although not all studies have confirmed this association (Lifrak et al., 1997). Besides the social support gained from the family, adolescents can receive support from peers (friends) and significant others as well (Blumenthal et al., 1987). Higher perceived social support from peer friends seems to be associated with greater alcohol use (Engels & Ter Bogt, 2001).

Personality factors

Although many studies have confirmed the impact of social and environmental factors on alcohol use in adolescents, there is a growing body of evidence that personality highly determines someone's vulnerability to excessive drinking (Merenakk et al., 2003). One personality trait that is of great importance in explaining hazardous drinking is extraversion, which is defined as gregariousness and sociability (Kutsche et al., 2006). Some studies have found that people scoring higher in extraversion are at higher risk to drink more frequently or more hazardously (Martsh & Miller, 1997; Merenakk et al., 2003) and to have more tolerant attitudes towards alcohol use (Francis, 1996). Another important personality factor regarding excessive drinking is self-esteem, typically defined as one's overall sense of worthiness as a person (Rosenberg, 1979). The role of self-esteem in alcohol use among adolescents is not clear. On one hand, it is known that positive self-esteem may function as a buffer against deviant behaviour by facilitating better psychological adjustment (Schweitzer et al., 1992). On the other hand, here are some inconsistent results from studies showing both abstainers and high/ excessive users having higher levels of self-esteem (Pandina & Schuele, 1983; Lifrak et al., 1997; Freeman & Newland, 2002). A final personality trait that plays a role in excessive drinking is aggressiveness. Aggressive behaviour is, on one hand, a common result of problematic drinking (Swahn & Donovan, 2004), but on the other hand, aggressive tendencies in behaviour also predict excessive alcohol use (Gerra et al., 2004).

Well-being

It is well-known that problem drinking is associated with lower states of psychological well-being (Pitkanen, 1999), meaning that in some cases,

drinking alcohol (and particularly hazardous drinking) might function as a coping mechanism, as an example of an avoidance strategy (Unger et al., 2001; Catanzaro & Laurent, 2004; Marsden et al., 2005), especially among women (Pitkanen, 1999). Research indicates that each pattern or stage of drinking may have its own predictors (Power et al., 2005). The movement from abstaining to 'non-risk' drinking may thus be influenced by different factors from the movement from 'non-risk' to 'risk' drinking. Therefore, we decided to examine three patterns of alcohol use in adolescence – abstainers, consumers ('non-risk') and excessive drinkers ('risk').

The aim of our study was to compare adolescent abstainers, consumers and excessive drinkers with regard to family characteristics (socioeconomic factors, structure of family), perceived social support, personality characteristics (extraversion, self-esteem, aggression) and well-being.

Methods

Sample and procedure

The total sample of our study consisted of 3694 elementary school students from 8th and 9th grades from three cities in Slovakia Bratislava (600 000 inhabitants, Western Slovakia), Zilina (156 000 inhabitants, Northern Slovakia) and Kosice (240 000 inhabitants, Eastern Slovakia), and several smaller towns in the Kosice region (10 000–40 000 inhabitants). The age range was from 13 to 16; mean age was 14.5 (SD=0.5). The sample was randomly selected after stratification by region and gender (49.0% men, 51.0% women). The representation of the regions was as follows: 24.6% of the participants lived in Bratislava, 21.3% in Zilina, 32.1% in Kosice and 22.0% in several smaller towns in the Kosice region. This reflects the distribution of these types of areas across Slovakia, so that the sample can be considered to be representative for this country. Data were collected in autumn 2006 by a team of trained researchers and their assistants. The schools and classes were selected in every mentioned region or city randomly. We asked the directors of the schools for participation, and after their approval and approval from parents, we performed the data collection. Respondents filled in the questionnaire during two regular school lessons (45 min each) on a voluntary and anonymous basis, without the presence of the teacher. Response rate was 93.0%, with non-response due mainly to illness.

Measures

Questions concerning alcohol drinking: Drinking alcohol: 'How many times in the last 4 weeks have you drunk alcohol?' – I haven't drunk during the last 4 weeks/1–2 times/3 and more times. Being drunk: 'In the last 4 weeks have you been drunk?' – no/1–2 times/3 and more times. Both

questions were dichotomised, and based on the results; we divided the respondents into three groups: (1) total abstainers (had neither drunk alcohol nor been drunk); (2) consumers (had drunk alcohol without being drunk during last 4 weeks); and (3) excessive drinkers (had been drunk at least once during the last 4 weeks).

As we already mentioned in the Introduction, three main groups of factors that may play a role as possible risk factors of hazardous alcohol drinking in adolescence can be found in literature – social/family factors, personality factors and factors related to immediate condition of adolescents. In our study we explore following factors representing each of these groups:

Family structure: Respondents were asked to answer a question about whether their parents are divorced (legally), with the responses: no/yes, less than 12 months ago/yes, more than 12 months ago, but less than 3 years ago/yes, more than 3 years ago. A dichotomised variable was then constructed for the analysis – no/yes (any period since divorce).

SEP of the family: Two indicators of family SEP were used: the parents' education level and the family affluence. Parents' education level was defined as the highest level of education attained by the parents of the respondents: as high (university), medium (secondary school) or low (apprenticeship or primary school only). Family affluence was measured using the Family Affluence Scale (Currie et al., 2004), which consists of four questions concerning possession of a car and computer in the family, the family going on holiday (longer than 5 days) during the past year and respondents having their own room. Possible answers were: no/yes, one/yes, two or more for the question about the car; none/one/two/three or more for the question about the computer; no/once/ twice/three or more times for the question about the holiday and yes/no for the question about their own room. The score ranges from 0 to 7; the sum score was computed, and for the analysis we used a 3-point ordinal scale: low affluence (score = 0–3), middle affluence (score = 4–5) and high affluence (score = 6–7).

Perceived social support: Social support was measured using the Perceived Social Support Scale (Blumenthal et al., 1987), which is a 12-item self-reported questionnaire assessing perceived social support in three dimensions (from the family, friends and significant others). A 7-point Likert-type format was used ranging from totally disagree (1) to totally agree (7). The score for each of the 4-item subscales ranges from 4 to 28, with a higher score indicating a higher level of perceived social support. Internal reliability was satisfactory; Cronbach's alpha coefficient for the social support from family dimension was 0.91, for the social support from friends dimension 0.91 and for the social support from significant others dimension 0.85.

Extraversion: Extraversion was assessed with the Ten Item Personality Inventory (Gosling, 2003), a brief measure of the Big-Five personality

dimensions. For the purposes of this study, we used the extraversion dimension saturated by two items. A 7-point Likert-type format was used, ranging from strongly disagree (1) to strongly agree (7). The score ranges from 2 to 14, with a higher score indicating a higher level of extraversion. Cronbach's alpha coefficient was 0.31, and the mean inter-item correlation was 0.19. According to the guidelines of Briggs and Cheek (Clark & Watson, 1995; Parker et al., 2003), the mean inter-item correlation should range around 0.20, but not be less than 0.15 (Clark & Watson, 1995; Parker et al., 2003).

Self-esteem: Self-esteem was measured with the Rosenberg Self-Esteem Scale (Rosenberg, 1965), a widely used measure of global self-esteem in adolescents. The scale consists of 10 items rated on a 4-point scale, with responses ranging from strongly agree (4) to strongly disagree (1). The Rosenberg Self-Esteem Scale could be divided into an equal number of positively and negatively worded items measuring positive and negative self-esteem (Sarkova et al., 2006). Items were standardised and summed for the two subscales (positive and negative self-esteem), with the range of the sum score from 5 to 20 for each subscale. A higher score indicates higher positive or negative self-esteem. Cronbach's alpha coefficient for the positive self-esteem subscale was 0.73 and for the negative self-esteem subscale 0.64.

Aggression: Aggression was measured with the Aggression Questionnaire (Nakano, 2001), which is a 29-item self reported measure of four dimensions of aggression— physical aggression (nine items), verbal aggression (five items), anger (seven items) and hostility (eight items). We used a 5-point Likert-type score ranging from extremely uncharacteristic of me (1) to extremely characteristic of me (7), with a higher score indicating a higher level of aggression. The internal reliability coefficient for the physical aggression dimension was 0.80, for verbal aggression 0.64, for anger 0.64 and for hostility 0.75.

Psychological well-being: Psychological well-being was measured using the 12-item version of General Health Questionnaire (Goldberg & Williams, 1988). The General Health Questionnaire-12 is a widely used self-reported questionnaire assessing psychological illness. It has been divided into two subscales: social dysfunction and depression/anxiety. The factor 'depression/anxiety' consists of items about loss of sleep, being under strain, overcoming difficulties, feelings of unhappiness and a loss of self-confidence. Items about concentration, playing a useful part, making decisions, enjoying activities, facing up to problems and feeling happy are components of the 'social dysfunction' factor (Sarkova et al., 2006). We used a 4-point Likert score to score the items, which were then summed for the two subscales (depression/anxiety and social dysfunction), with the range of the sum score from 6 to 24 for each subscale. A higher score indicates higher levels of depression/anxiety and social dysfunction, thus

worse well-being. Cronbach's alpha coefficient for depression/anxiety was 0.82 and for social dysfunction 0.65.

Statistical analysis

Data were analysed using SPSS, version 14. We first assessed the characteristics of the sample. To compare adolescent abstainers, consumers and excessive drinkers regarding family characteristics, social support, personality traits and well-being we compared means and proportions, depending on the measurement scale. Differences were then tested using *F*-tests and χ^2 -tests, respectively. Additionally, post-hoc tests were computed to determine which means differ significantly. In the next step we compared the two most extreme groups—abstainers and excessive drinkers ($n = 2565$)—regarding consumption pattern, leaving out the consumers group. We analysed, using logistic regression, the degree to which excessive drinking was more likely among specific groups of adolescents. We only included characteristics that showed statistically significant differences in the bivariate analyses. Five models were constructed, all adjusted for gender. In the first model we analysed the effect of family characteristics that were significant in previous analyses (affluence and divorce). In the second step we analysed the effect of perceived social support from family and friends. In the third model we analysed the effect of the personality characteristics (extraversion, self-esteem and aggression) and in the fourth we analysed the effect of well-being. In the last model we analysed the effect of all characteristics that were significant in previous steps, simultaneously. To acquire the information on the group of consumers as well, we repeated the analyses comparing them with abstainers, constructing the same five models. Because the data were collected in entire school classes, a clustering of the students' outcomes per class might affect our findings. To account for this clustering, we performed all binary logistic analyses using MIWin 2.02 (Rasbash et al., 2005).

Results

Table 3.1 shows the differences between the three groups in social support, extraversion, self-esteem, aggression and psychological well-being. The higher the score in aggression, extraversion, perceived social support from friends and negative self-esteem, and the lower the scoring in social support from family and well-being, the more risky the pattern of alcohol consumption. Furthermore, Table 3.1 shows the proportion of highest family education, family affluence and family structure in the three explored groups. Adolescents from divorced families and those from families with higher affluence are significantly more likely to be excessive drinkers.

The results of multilevel logistic regression comparing the groups of abstainers and excessive drinkers are shown in Table 3.2. In the first four models we analysed separately the effect of four groups of factors (family characteristics, social support, personality characteristics, and well-being) on excessive drinking. Low family affluence, parental divorce, social support from family, social support from friends, extraversion, negative self-esteem, physical aggression, anger, hostility, depression/anxiety and social dysfunction all showed to have an effect on the probability of excessive drinking. In the final model we analysed the effect of all these significant characteristics together. All of them except negative self-esteem, anger and depression/anxiety remained significant. In general, the multilevel analyses showed a significant clustering of the students' outcomes per class, as shown by the random variances that are indicated in the bottom row of Table 3.2. This clustering hardly affected the estimates concerned, however. For instance, the odds ratio (95% confidence interval) for the effect of social support from family in the final model 5 in Table 3.2 was 0.93 (0.90–0.96), compared with 0.93 (0.91–0.96) for the ordinary logistic regression. The additional analyses comparing the group of abstainers with the group of consumers showed that most of the variables that were associated with excessive drinking were associated with consuming, although associations were mostly slightly weaker. One important exception was parental divorce, however. This had hardly any association with consuming, whereas it had with excessive drinking (both compared with abstaining).

Table 3.1 Family factors, social support, personality factors and well-being of adolescents, split by drinking behaviour

	Descriptive ^{a)}			Chi square / F-value	Differences Post hoc ^{b)}
	1 abstainers	2 consumers	3 excessive drinkers		
Highest educ. of parents ^{a)}					
low	362 (20)	235 (21)	101 (16)	12.0 ^{ns}	
medium	984 (53)	579 (51)	347 (53)		
high	462 (25)	296 (26)	193(30)		
Family affluence ^{a)}					
low	787 (43)	406 (36)	230 (36)	21.3 ^{***}	
medium	740 (41)	485 (44)	277 (43)		
high	292 (16)	218 (20)	135 (21)		
Family structure ^{a)}					
Divorced	335 (18)	209 (19)	180 (28)	30.3 ^{***}	
Not divorced	1483 (82)	906 (81)	458 (72)		
Social support family ^{b)}	22.1 (5.3)	21.5 (5.3)	20.9 (6.1)	11.1 ^{***}	1-2*, 1-3 ^{***}
Social support friends ^{b)}	21.5 (5.4)	21.5 (5.4)	22.4 (5.7)	6.0 *	1-3 ^{**} , 2-3*
Social support others ^{b)}	22.1 (5.2)	22.0 (5.2)	22.2 (5.7)	0.3 ^{ns}	ns
Extraversion ^{b)}	9.1 (2.8)	9.6 (2.8)	9.7 (2.9)	13.5 ^{***}	1-2 ^{***} , 1-3 ^{***}
Positive self-esteem ^{b)}	15.1 (2.3)	15.0 (2.4)	15.1 (2.6)	0.1 ^{ns}	ns
Negative self-esteem ^{b)}	11.8 (2.8)	12.0 (2.8)	12.4 (2.9)	11.5 ^{***}	1-3 ^{***} , 2-3*
Physical aggression ^{b)}	22.2 (6.6)	24.4 (7.18)	28.1 (7.7)	156.7 ^{***}	1-2 ^{***} , 1-3 ^{***} , 2-3 ^{***}
Verbal aggression ^{b)}	14.7 (3.8)	15.4 (3.9)	16.2 (4.2)	36.7 ^{***}	1-2 ^{***} , 1-3 ^{***} , 2-3 ^{***}
Anger ^{b)}	17.1 (4.8)	18.1 (4.9)	19.7 (5.1)	61.4 ^{***}	1-2 ^{***} , 1-3 ^{***} , 2-3 ^{***}
Hostility ^{b)}	21.1 (6.1)	22.0 (6.0)	22.8 (6.6)	18.2 ^{***}	1-2 ^{**} , 1-3 ^{***} , 2-3*
Depression/anxiety ^{b)}	11.5 (4.2)	11.8 (4.1)	12.6 (4.6)	16.9 ^{***}	1-3 ^{***} , 2-3 ^{***}
Social dysfunction ^{b)}	11.6 (2.5)	11.7 (2.5)	12.0 (3.0)	5.2	1-3 ^{**} , 2-3*

^{a)} descriptives in column 1, 2 and 3 concern the number of respondents (percentage of the sample), ^{b)} post hoc; 1 = abstainers, 2 = consumers, 3 = excessive drinkers, *** p < 0.001; ** p < 0.01, * p < 0.05; ns=not significant

Table 3.2 Associations of family factors, perceived social support, personality factors and psychological well-being with excessive drinking

	Excessive drinking OR (95% CI)				
	Model 1	Model 2	Model 3	Model 4	Model 5
	Family factors	Social support	Personality traits	Well-being	Final model
Family affluence					
high	1 (Ref)				1 (Ref)
medium	0.89 (0.64 – 1.24)				0.87 (0.60 – 1.25)
low	0.66 (0.47 – 0.94)***				0.66 (0.45 – 0.97)**
Family structure					
intact	1 (Ref)				1 (Ref)
divorced	1.95 (1.47 – 2.58)***				1.65 (1.21 – 2.26)***
Social support from family		0.91 (0.88 – 0.93)***			0.93 (0.90 – 0.96)***
Social support from friends		1.10 (1.07 – 1.13)***			1.10 (1.06 – 1.13)***
Extraversion			1.08 (1.03 – 1.13)***		1.06 (1.01 – 1.11)***
Negative self-esteem			1.08 (1.03 – 1.13)**		1.02 (0.96 – 1.08)
Physical aggression			1.11 (1.09 – 1.13)***		1.12 (1.09 – 1.14)***
Verbal aggression			1.00 (0.96 – 1.04)		
Anger			1.04 (1.01 – 1.08)**		
Hostility			0.97 (0.94 – 0.99)**		1.03 (0.988 – 1.07)
Depression / anxiety				1.05 (1.02 – 1.08)***	0.97 (0.94 – 0.99)**
Social dysfunction				1.06 (1.003 – 1.12)***	1.03 (0.99 – 1.07)
Random variation at class level (standard error) #	0.427 (0.124)	0.423 (0.297)	0.404 (0.129)	0.395 (0.119)	1.06 (1.003 – 1.13)*** 0.400 (0.132)

** p < 0.01, *** p < 0.001; Ref=reference category; OR/CI values are based on multilevel logistic regression

For the empty model, this was 0.415 (0.121)

Discussion

The current study explored the differences between adolescent abstainers, consumers and excessive drinkers in regards to their family characteristics, social support, personality characteristics and well-being. We found differences between all three explored groups. Adolescent abstainers and excessive drinkers differed in every explored characteristic except for positive self-esteem and social support from others. Moreover, we found differences between consumers and abstainers in extraversion, aggression and social support from family; and between consumers and excessive drinkers in negative self-esteem, aggression, well-being and social support from friends. After mutual adjustment, eight differences remained statistically significant between excessive drinkers and abstainers, the former being more likely to have divorced parents, to be from families with higher affluence, to perceive less social support from family but more social support from friends, to report higher levels of extraversion, physical aggression, hostility and social dysfunction. Our finding regarding family structure confirms the findings of several other studies that explored this issue (Miller, 1997; Blum et al., 2000; Kuntsche & Kuendig, 2006; Paxton et al., 2007) – adolescents living in divorced families are at higher risk of excessive drinking. One of the explanations for this fact might be an often decreased parental control after divorce, but this hypothesis needs to be proved by further research. Findings in the literature about the association between SEP and hazardous drinking among adolescents are contradictory (Osler et al., 2001; Littlejohn, 2006; Zambon et al., 2006; Arvanitidou et al., 2007). In our study we assumed that lower SEP would be associated with a higher probability of excessive drinking. However, our results do not support this assumption: excessive drinking respondents were those with higher family affluence; parents' education did not show a significant association with excessive drinking. A speculation might be that the roots of the association between higher SEP and the higher probability of excessive drinking might be found in the particular youth subculture related to high SEP (particularly the attitude to drinking alcohol) rather than in the possession of more financial resources available for buying alcohol. In Slovakia, alcohol is very cheap, much cheaper than soft drinks [e.g. typical price of a beer (0.3 L) is €0.50 and of a soft drink (0.3 L) is €1 in a pub], making it rather cheap to get drunk. However, we cannot fully exclude that financial means plays a role. Our results concerning perceived social support from family are in line with studies that have found an association between low support from family and alcohol use in adolescents (Stice et al., 1993; Shucksmith et al., 1997; Windle & Miller-Tutzauer, 1997). We also confirmed the association between high perceived support from friends and excessive drinking (Engels & Ter Bogt, 2001). However, this does not necessarily mean that

the relationships among peers themselves are risky; such relationships are an essential part of healthy socialisation during adolescence (Kerr et al., 2003). Places where alcohol is sold (bars, pubs, discos, etc.) are where these relationships with peers take place, so maintaining a social network in adolescence is strongly connected with places or situations in which alcohol is easily obtainable. Extraversion as personality trait is often found to be associated with risk behaviours, including hazardous alcohol drinking (Martsh & Miller, 1997; Merenakk et al., 2003). Our results supported this assumption only partly – extraversion makes one more likely to be a consumer, but not an excessive drinker. This means that extraversion stimulates the participation in social activities, but as we stated above, the real risk of excessive drinking is more related to the context in which these activities are taking place. Drunkenness was found to cluster per class, but it has hardly an effect on model outcomes. This may be interpreted as meaning that classroom-bound factors do not affect drunkenness in an important way, but children in a given class share common background characteristics like family support and divorce background to some degree. The present study has several strengths and limitations. Its main strengths are the size of the study sample, the high response rate and the proportional representation from several different regions of Slovakia. A main limitation of our study is that it relies on the self-report of our respondents. However, the answers were filled out anonymously, which has been shown to lead to rather valid self-reports (Del Boca & Noll, 2000). Another limitation that has to be taken into account is that although parents are not legally divorced, it does not necessarily mean they still live together and this might have the same impact on their children as divorce. And, finally, cross-sectional data may not provide us with sufficient information about the causal mechanisms. As the design of this study was cross-sectional, the implication for further research might be to examine longitudinal data to confirm the hypothesised causal mechanisms with regard to hazardous drinking. Two main targets for practice could be tackled in this study. Our results show that particular groups (children of divorced parents, adolescents from families with higher affluence, those with lower social support from family but higher from friends, those with higher levels of physical aggression and hostility and those with lower well-being) run a higher risk of becoming excessive drinkers and thus need particular attention in prevention. The second implication arises from the results on peer support. We have already mentioned above that peers usually meet in an environment that is not alcohol-free. The prevention strategy might be to support alcohol-free, safe environments for these peer interactions on one hand and to limit the availability of alcoholic drinks in environments that are frequented by young adolescents (e.g. to increase the age limit for selling alcohol to adolescents in public places) on the other.

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Parental divorce and adolescent drunkenness: Role of socioeconomic position, psychological well-being and social support

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Abstract

The aim of this cross-sectional study was to explore the association between parental divorce and adolescent drunkenness in the last 4 weeks and the contribution of socioeconomic position, family structure, social support from family, and well-being to this association. We obtained data on 3,694 elementary school students from several cities in Slovakia (mean age 14.3, 49.0% males; response rate 93%). Respondents completed questionnaires on how often they had been drunk in the last 4 weeks, whether their parents were divorced, their socioeconomic position (education of parents, family affluence), the composition of the household (one or two parents/step-parents), social support from the family and their own well-being. Parental divorce was found to have an effect on adolescent drunkenness in the last 4 weeks, as well as high socioeconomic position, low social support from the family and high depression/anxiety. The effect of divorce on drunkenness decreased only slightly after adding social support into the model. Our findings indicate that parental divorce has a persistent influence on risk behaviour independent of the influence of socioeconomic position and well-being. Parental divorce may increase the likelihood of drunkenness more than other factors such as low parental support and poor socioeconomic position.

Introduction

Excessive alcohol use is a relatively common problem in adolescence and is also a major public health issue. According to the European school survey on alcohol and other drugs (ESPAD) (Hibbel, 2004), more than half of all students have consumed alcohol by the age of 13 years or younger. The proportion of students who reported having been drunk by the age of 13 or younger varies considerably across countries (Hibbel, 2004). Slovak participants in this study are located approximately in the middle: 27% of boys and 17% of girls reported having been drunk by this age.

The family is one of the most significant contexts associated with the development of children and adolescents. It is the setting in which important values, norms, attitudes and patterns of behaviour are formed, but it can also be a space where different developmental disturbances have their roots (Eickhoff, 2001; Currie et al., 2004). An important protective factor is the network of social relationships and social support that a family provides, that is, the social capital of the family. Social support in general, and in particular social support from the family, is considered to be an important buffer against stressful life events and to play an important role in coping with demanding life situations (Bal et al., 2003; Geckova et al., 2003; Murberg & Bru, 2004). In addition to the protective factors a family might provide to adolescents, some dimensions of family life may also have a negative impact on the health of adolescents and might lead to various emotional and behavioural problems. In this context, Sweeting and West (1995) distinguished three dimensions in family life which might play a role not only as protective factors, but also as risk factors: family structure, family culture (includes parenting style, family cohesiveness, parental support, etc.) and family conflicts (parent-child conflicts). Many studies found an association between these dimensions (impaired structure of the family, improper parenting style, insufficient support or family conflict) and different negative outcomes, like poor well-being (Hetherington et al., 1992) and behavioural problems (Ruschena et al., 2005). A change in family structure, especially parental divorce, might influence family life considerably in all three of these dimensions (family structure, family culture and family conflict) (Spruijt & De Goede, 1997; Unger et al., 2001). The divorce rates in Slovakia are increasing: in 2003 more than 41% of marriages ended in divorce in Slovakia compared with 32% in 1995 (Mladek et al., 2006). Many recent studies confirm that divorce increases the risk of problems in children and adolescents (Amato, 2000; Harland et al., 2002; Rodgers & Rose, 2002; Kelly, 2003; Ruschena et al., 2005). Children and adolescents in divorced families exhibit more externalizing (e.g. antisocial and aggressive behaviour, substance use) and internalizing (e.g. anxiety, depression) problems compared with those in intact families

(Doherty & Needle, 1991; Harland et al, 2002; Hoffmann, 2006; Paxton et al., 2007). Moreover, problems occurring in adolescence, although many years after a divorce, can have their roots in earlier ages (Amato & Keith, 1991; Storksens et al., 2006). So in exploring risk behaviour in adolescents, the understanding of their family background may be necessary.

As we already mentioned, adolescents from divorced families are at higher risk of hazardous alcohol use. Several pathways can explain these effects in children and adolescents. One of the possible explanations is lowered parental control after divorce – a lack of monitoring of free time activities and peer relationships is one of the risk factors for early and hazardous alcohol use (Marsden et al., 2005). Another possible way is to view the socioeconomic position of the family as an important determinant to health-related behaviour (Rodgers & Rose, 2002; Currie et al., 2004). Socioeconomic position, via the different availability of economic, social and cultural resources, contributes significantly to health and the establishment of a lifestyle (Abel, 2007). A family after divorce (a single-parent family) is at a higher risk of living in poverty (one income instead of two, frequent moving, etc.), and this economic disadvantage can also intensify the effect of divorce on externalizing and internalizing problems in adolescents (Amato & Keith, 1991; Spruijt & De Goede, 1997). Several studies have confirmed the association between lower socioeconomic position and higher probability of risk behaviour in general (Williams & Debaek, 1992; Romelsjo & Lundberg, 1996). Nevertheless, the results regarding alcohol use are inconsistent – some studies have confirmed that alcohol drinking in adolescents is associated with a low level of parental education (Arvanitidou et al., 2007) or a low level of family affluence (Zambon et al., 2006), but there are also some findings showing a positive association between the high socioeconomic position of a family and excessive drinking in adolescence (Osler et al., 2001; Littlejohn, 2006). Another way in which divorce may affect adolescents, leading to frequent drunkenness, is via psychological discomfort as a common result of this negative life event. Adolescents from broken families score lowest on different aspects of psychological well-being compared with their peers (Demo & Acock, 1988; Spruijt & De Goede, 1997; Elmaci, 2006). Parental divorce is usually a stressful experience, and each person uses a different coping strategy to handle stressful life events. Although some studies (Armistead et al., 1990) have reported that adolescents most often use the active-cognitive style to cope with parental divorce, in some cases, drinking alcohol (and particularly drunkenness) might also function as a coping mechanism, as an example of avoidance style (Unger et al., 2001; Catanzaro & Laurent, 2004; Marsden et al., 2005), especially among females (Pitkanen, 1999).

According to the latest HBSC study (Currie et al., 2008), Slovak children start drinking alcohol at a relatively early age compared with

children in other countries, and the age of their first experience with drunkenness is also relatively low: 31% of girls and 39% of boys have already experienced drunkenness at 15 years of age. We assume that most of these first experiences with alcohol take place at home, as it is quite common in Slovakia to offer small alcoholic toasts to children and adolescents, for example at family gatherings or parties. Slovakia is a combination of two alcohol-related cultures, since it has many viniculture areas, where alcohol (wine) is, as in Mediterranean countries or France, integrated into daily life, but at the same time the consumption rates of spirits are quite high (often resulting in intoxication). In summary, the family has an important impact on an adolescent's tendency to use alcohol hazardously. In particular, family structure disruption due to parental divorce may be a risk factor in this context.

The aim of this study was, therefore, to explore the association between parental divorce and adolescent drunkenness in the last 4 weeks and the influence of socioeconomic position, family structure, perceived social support from family and psychological well-being as possible confounders or mediating factors.

Methods

Sample

The study sample consisted of 3,694 elementary school students (8th and 9th grades) from three cities in Slovakia: Bratislava (600,000 inhabitants, Western Slovakia), Zilina (156,000 inhabitants, Northern Slovakia) and Kosice (240,000 inhabitants, Eastern Slovakia), and several smaller towns (10,000–40,000 inhabitants) in the Kosice region. Adolescents from rural areas generally go to schools in small towns in Slovakia, because villages do not have their own schools. The schools and classes were selected randomly in each mentioned region. The age range was from 13 to 16 years, with a mean age of 14.38 ± 0.6 years. The sample was stratified by gender (49.0% males, 51.0% females), and 24.6% of the participants lived in Bratislava, 21.3% in Zilina, 32.1% in Kosice and 22.0% in several smaller towns in the Kosice region. The response rate was 93.0%. Nonresponse was primarily due to illness.

Procedure

Data were collected in October, November and December 2006 by a team of trained researchers and their assistants. We asked the directors of the schools for participation, and after their approval and the approval of parents, data were collected. Respondents filled in a questionnaire on a voluntary and anonymous basis without the presence of the teacher during two regular school lessons (45 min each).

Measures

Parental Divorce: Respondents were asked to answer the question of whether their parents are divorced, with the responses: *no/yes, less than 12 months ago/yes, more than 12 months ago, but less than 3 years ago/yes, more than 3 years ago*. A dichotomized variable was constructed for the analysis – *no / yes* (any period since divorce).

Socioeconomic Position of the Family: Two indicators were used to determine family socioeconomic position: parents' education level and family affluence. Parents' education level, defined as the highest level of education attained by each parent of the respondents, was classified as: high (university), medium (secondary school) or low (apprenticeship or primary school only). Family affluence was measured using the Family Affluence Scale (Currie et al., 2004), which consists of four questions concerning the possession of a car and computer in the family, the family going on holiday (longer than 5 days) in the past year and the respondents having their own room. Possible answers were: *no/yes, one/yes, two or more* for the question about car; *none/one/two/three or more* for the question about computer; *no/once/twice/three or more times* for the question about holiday and *yes/no* for the question about the own room. The sum score was computed, and a three-point ordinal scale was used in the analysis: low affluence (score = 0–3), middle affluence (score = 4–5) and high affluence (score = 6–7).

Composition of the Family (Household): This question concerned whether the child lives in a household with one or two parents or step-parents.

Social Support from the Family: Social support from family was measured using the Perceived Social Support Scale (Blumenthal et al., 1987), which is a 12-item self-reported questionnaire assessing perceived social support in three dimensions (from the family, friends and significant others). We only used the family dimension, which consists of four items: about general perceived help (*My family really tries to help me*), help with decision-making (*My family helps me in decision-making*), perceived emotional support from the family (*My family gives me the emotional support and help I need*) and talking about problems with the family (*I can talk about my problems with my family*). A 7-point Likert-type format was used ranging from totally disagree (1) to totally agree (7). The range of sum scores was 4–28, with a higher score indicating a higher level of perceived social support from the family. The internal reliability of social support from the family dimension was high; Cronbach's alpha coefficient was 0.91.

Psychological Well-Being: Psychological well-being was measured using the 12-item version of the General Health Questionnaire (GHQ12) (Goldberg & Williams, 1988). The GHQ-12 is a widely used self-reported questionnaire assessing psychological illness. It is divided into two

subscales: social dysfunction and depression/anxiety. The questions concern the degree to which the respondents' present state differs from their usual state. The factor 'depression/anxiety' consists of the following items: (1) *Have you recently lost much sleep over worry?* (2) *Have you recently felt constantly under strain?* (3) *Have you recently felt that you couldn't overcome your difficulties?* (4) *Have you recently been feeling unhappy and depressed?* (5)

Have you recently been losing confidence in yourself? (6) *Have you recently been thinking of yourself as a worthless person?* The factor 'social dysfunction' consists of following items: (1) *Have you recently been able to concentrate on whatever you are doing?* (2) *Have you recently felt that you were playing a useful part in things?* (3) *Have you recently felt capable of making decisions about things?* (4) *Have you recently been able to enjoy your normal day-to-day activities?* (5) *Have you recently been able to face up to your problems?* (6) *Have you recently been feeling reasonably happy, all things considered?* (Sarkova et al., 2006). We used a 4-point Likert scale for scoring (1–4) and a different way for scoring the items of each subscale, so there was no need to recode the items. Items were summed for the two subscales (depression/anxiety and social dysfunction), with the sum scores ranging from 6 to 24 for each subscale, a higher score indicating higher levels of depression/anxiety and social dysfunction, thus poor well-being. Cronbach's alpha coefficient was 0.82 for depression/anxiety and 0.65 for social dysfunction.

Risk Behaviour – Drunkenness in the Last 4 Weeks: Drunkenness in the last 4 weeks was assessed based on the self-evaluation of respondents. They were asked whether they had been drunk during the last 4 weeks, with the responses: *no/1 to 2 times / 3 or more times*. Before analysis we dichotomized this question into: *no / yes* (at least 1 time).

Statistical Analyses

We first assessed the characteristics of the sample. Next, a binary logistic regression (enter method) was performed to analyze the association between adolescent drunkenness in the last 4 weeks and parental divorce, leading to an odds ratios with associated 95% confidence intervals. Four models were constructed and adjusted for gender. In the first model we analyzed the effect of divorce as an independent variable. In the second step we added socioeconomic factors into the model (educational levels of parents, family affluence and completeness of the household). The third model included all previous variables and perceived social support from family as well. We then added the two dimensions of psychological well-being to the last model. We checked possible gender differences (interaction as well as models separately for males and females), but the differences were not statistically significant, so we decided to calculate the models adjusted for gender. The study sample was relatively homogenous

regarding age. Inclusion of age in the models did not improve their model fit; therefore, we did not include age. All regression analyses were limited to respondents with no missing values on any variable in the full model 4. In general, estimates barely differed between this limited set and estimates based on the extended set. Because the data were collected during entire school classes, a clustering of the students' outcomes per class might affect our findings. To account for this clustering, we performed all logistic regression analyses using MLwiN 2.02 (www.cmm.bristol.ac.uk/MLwiN/index.shtml). The other analyses were done using SPSS v14.

Results

A description of the sample and its characteristics can be found in Table 4.1.

Table 4.1 Frequencies of the study variables

		Males		females	
		N = 1765		N = 1834	
		N	%	N	%
drunkenness in last 4 weeks	yes	324	19.3	308	17.2
	no	1353	80.7	1479	82.8
parental divorce	yes	342	19.8	381	21.2
	no	1388	80.2	1427	78.9
father's education	low	577	34.4	489	28.9
	medium	744	44.4	794	46.9
	high	356	21.2	409	24.2
mother's education	low	555	32.5	471	26.5
	medium	936	54.9	968	54.4
family affluence	high	215	12.6	341	19.2
	low	622	36.0	795	43.8
	medium	728	42.2	764	42.1
	high	377	21.8	256	14.1
family composition	single-parent	281	16.0	310	17.0
	complete	1470	84.0	1516	83.0
		Mean (SD)		Mean (SD)	
family social support		21.3 (5.5)		22.1 (5.4)	
depression/anxiety		10.7 (3.9)		12.9 (4.4)	
social dysfunction		11.4 (2.5)		12.1 (2.7)	

Table 4.2 shows the results of multilevel logistic regression analysis for the effect of parental divorce, gender, socioeconomic factors, social support from family, and psychological well-being on drunkenness in the last 4 weeks among adolescents. The first model assessed the effects of parental divorce (regardless of time since the divorce) and gender. Divorce was found to have had a significant effect: parental divorce increases the probability of drunkenness among adolescents. In the next model, we included socioeconomic factors (educational levels of parents, family affluence and completeness of the household). The effect of parental divorce hardly changed, and a significant effect was found based on the father's education level and family affluence: low paternal education level, low family affluence and parental divorce increased the probability of drunkenness among adolescents. In the third model, we added perceived social support from the family to the previously mentioned variables. The significant effect of parental divorce persisted in this model. A significant effect was found based on a medium and low level of paternal education, a low level of family affluence and a low level of social support from family. The last model contains all of the previous variables together with the two dimensions of psychological well-being. The effect of parental divorce again remained significant, as it had in the previous models. Gender was also found to have had a significant effect in this model, together with the significant effect of paternal education level, family affluence, social support from the family and the depression/anxiety dimension of well-being. In general, the multilevel analyses showed a significant clustering of the students' outcomes per class, as shown by the random variances that are indicated in the bottom row of Table 4.2. However, this clustering hardly affected the estimates concerned. For instance, the odds ratio for the effect of parental divorce in the final model 4 in Table 4.2 was 1.46 (1.08–1.96), compared with 1.50 (1.12–2.02) for the ordinary logistic regression.

Table 4.2 Binary logistic regression estimates for the effect of parental divorce, gender, socioeconomic factors, perceived social support from family and psychological well-being on the drunkenness in the last four weeks.

		% of drunk	drunkenness in the last four weeks OR (95% CI)			
			Model 1	Model 2	Model 3	Model 4
Divorce	Intact	15.8%	Ref	Ref	Ref	Ref
	divorced	24.4%	1.60 (1.25 - 2.04)***	1.51 (1.13 - 2.03)***	1.49 (1.12 - 2.00)**	1.46 (1.08 - 1.96)**
Gender	Male	19.3%	Ref	Ref	Ref	Ref
	Female	17.2%	0.89 (0.73 - 1.09)	0.91 (0.74 - 1.10)	0.92 (0.76 - 1.13)	0.80 (0.65 - 0.99)*
Father's education	High	20.2%		Ref	Ref	Ref
	Medium	18.3%		0.69 (0.53 - 0.91)*	0.69 (0.53 - 0.90)*	0.70 (0.53 - 0.93)*
	Low	15.0%		0.56 (0.41 - 0.78)***	0.56 (0.41 - 0.77)***	0.56 (0.40 - 0.78)***
Mother's education	High	19.3%		Ref	Ref	Ref
	Medium	17.9%		0.97 (0.72 - 1.32)	0.98 (0.72 - 1.33)	0.97 (0.71 - 1.32)
	Low	16.5%		1.03 (0.72 - 1.49)	1.05 (0.73 - 1.51)	1.04 (0.72 - 1.52)
Family affluence	High	20.6%		Ref	Ref	Ref
	Medium	18.2%		0.86 (0.66 - 1.12)	0.85 (0.65 - 1.11)	0.82 (0.62 - 1.08)
	Low	15.9%		0.60 (0.44 - 0.80)***	0.58 (0.43 - 0.78)***	0.55 (0.40 - 0.75)***
Family composition	Complete	16.8%		Ref	Ref	Ref
	Single	20.8%		1.13 (0.81 - 1.58)	1.13 (0.81 - 1.58)	1.15 (0.82 - 1.61)
Social support from family					0.97 (0.96 - 0.99)*	0.98 (0.96 - 1.00)*
Depression/anxiety						1.05 (1.02 - 1.08)***
Social dysfunction						1.03 (0.98 - 1.08)
Random variation at class level (standard error) #			0.265 (0.083)	0.265 (0.083)	0.247 (0.081)	0.232 (0.080)

* p < 0.05, ** p < 0.01, *** p < 0.001; Ref=reference category

For the empty model, this was 0.282 (0.085)

Discussion

This study explored the association between parental divorce and adolescent drunkenness in the last 4 weeks and the contribution of socioeconomic and psychological (well-being, perceived social support) factors to this association. We found that parental divorce had an effect on adolescent drunkenness in the last 4 weeks. That is, adolescents who experienced the divorce of parents are more likely to report being drunk recently. Secondly, socioeconomic position, family structure, perceived social support from the family and psychological well-being accounted for a rather limited part of this association, even though several of these factors were themselves associated with recent drunkenness. This was true in particular for poor well-being (especially high depression/anxiety), high socioeconomic status of the family and low social support from the family.

Our finding regarding the association of parental divorce with recent drunkenness in adolescents is in line with the findings of several other studies which explored the effect of divorce or family structure on substance use (Doherty & Needle, 1991; Rodgers & Rose, 2002; Paxton et al., 2007). Adolescents living in broken families are at a higher risk of trying alcohol earlier and drinking more hazardously (Kirby, 2006). This fact might have several explanations. First, it might be related to lower parental control after divorce. The majority of adolescents of divorced parents live in a single-parent family, that is with one parent only (nearly 60% in our sample), and this parent often has to perform the functions of both parents. This could lead to a decrease in the control of adolescent behaviour, thus opening up more opportunities for risk behaviour in general and for experimentation with alcohol in particular. One of the risk factors for early and hazardous alcohol use is undeniably the lack of monitoring of free time activities and peer relationships of adolescents (Marsden et al., 2005).

Another explanation for the fact that adolescent children of divorced parents are more likely to report drunkenness in the last four weeks might be poor well-being. In this study we found that depression/anxiety (as a part of well-being) has an effect on adolescent drunkenness. Parental divorce might represent a stressful experience in an adolescent's life (e.g. inter-parental conflict, moving, less nurturing) (Armistead et al., 1990) and therefore might cause a worse sense of well-being (Spruijt & De Goede, 1997; Storksen et al., 2006). Also, in our sample respondents with higher levels of depression/anxiety were those with divorced parents, and those who had experienced parental divorce recently (in the last 12 months) reported even more elevated levels of depression/anxiety. Thus, poor well-being may be one route for the negative impact of parental divorce on alcohol-related behaviour among adolescents.

Another main finding of our study is the result concerning socioeconomic position. First of all, socioeconomic position does not contribute very much to the association between parental divorce and drunkenness among adolescents. In accordance with other studies (Williams & Debaquey, 1992; Romelsjo & Lundberg, 1996), we assumed that a lower socioeconomic position would be connected with a higher probability of drunkenness. Our results do not support this assumption: on the contrary, in our sample, higher socioeconomic position (higher education of the father and higher levels of family affluence) was related to an increased probability of drunkenness. Our explanation for this finding is twofold. First, adolescents from families with a higher socioeconomic position have more financial resources (e.g. more pocket money from parents), so they can more easily buy alcohol. But this explanation is not sufficient, because buying enough alcohol to get drunk is neither particularly expensive nor is alcohol inaccessible in Slovakia. Therefore, a possible second explanation for why adolescents with higher socioeconomic position are at a higher probability of being drunk is that the attitude towards drinking alcohol, and particularly towards drunkenness, is a part of the particular youth subculture related to high socioeconomic position.

The last finding of this study is that social support from the family is a protective factor for adolescent alcohol use and that it lessens the effect of parental divorce on drunkenness. This means that social support, as part of the social capital of a family, appears to function as a risk buffer against the impact of divorce on drunkenness: even if parents are divorced, an adolescent might be less likely to exhibit risk behaviour if he/she experiences emotional support from family members. This finding is in line with the work of Catanzaro and Laurent (2004), who found that perceiving high levels of family support reduced the risk of alcohol use associated with the avoidance of problems as a coping strategy.

The fact that drunkenness clusters per class, but that this has hardly an effect on model outcomes, may be interpreted as meaning that classroom-bound factors do not affect drunkenness in an important way, but that children in a given class to some degree share common background characteristics like family support and divorce background. In Slovak society, alcohol is a relatively highly tolerated psychoactive substance that is quite embedded in the culture. As we already mentioned, children have their first experiences with alcohol rather early in life and usually do so at home in the form of small occasional toasts. Although Slovakia has wine-producing areas, the consumption rates of spirits are quite high. In addition, restrictions on the selling of alcohol to those under age are insufficiently monitored, so it is not very difficult for adolescents to buy alcohol. Furthermore, the price policy also does not help in this context, as in most bars it is cheaper to buy a beer than any soft drink, for example. It seems that the findings of our study can be generalized to adolescents

in other countries with a similar drinking culture, such as the Czech Republic or Hungary. The same holds true even more for countries in which drunkenness is far less accepted.

Strengths and Limitations

The present study has several strengths and limitations. The first strength is the size of the study sample and the representation of several different regions in Slovakia. The second is that a wide set of possible confounders was explored in the models, including sociological as well as psychological variables. We also should mention that selection bias was unlikely due to the way the sample was drawn and the satisfactory response rate (93%). A main limitation of our study is that it relied on the self-report of respondents. The questionnaires were filled out anonymously, which has been shown to lead to valid self-reports (Del Boca & Noll, 2000). However, we cannot exclude interpersonal differences in the assessment of drunkenness, although its rather higher prevalence will probably decrease the size of the differences. Moreover, adolescents from small towns and rural areas were underrepresented in our sample compared with the Slovak population. However, prevalence rates of drunkenness were similar among the adolescents concerned and the remainder of our sample, which makes it rather unlikely that this would affect our findings.

Conclusion

The present study contributes to the understanding of adolescent drunkenness in the light of parental divorce. In the contemporary society, where the number of marriages ending in divorce and rates of binge drinking are increasing, this issue requires research attention. Our results imply that adolescent children of divorced parents are at higher risk of drunkenness and should thus be a particular target group in prevention.

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Leisure time activities, parental monitoring and drunkenness in adolescents

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Pending Revision

Abstract

Alcohol use, and in particular drunkenness is a relatively common behaviour among adolescents, and has become a major public health concern. The aim of this cross-sectional study was to explore the association between adolescent drunkenness and participation in risky leisure time activities and parental monitoring. A questionnaire survey was conducted and 3694 Slovak elementary school students (mean age 14.5 years; 49.0% males; response 93.0%) were assessed for drunkenness in previous month, participation in risky leisure activities and parental monitoring. Participation in risky leisure time activities increased the probability of drunkenness among adolescents, while parental monitoring decreased this probability. The effect of participation in risky leisure time activities did not change after adding the mother's and father's monitoring into the models. In contrast, adolescents who participated in at least one risky leisure time activity and reported to have been drunk in the previous month were significantly less monitored by their mothers, but not their fathers in comparison with those who participated in the mentioned activities but who did not report having been drunk. Our results imply that adolescents involved in going out with friends (bars, pubs, etc), having parties with friends and/or visiting sporting events every day or several times a week are at a higher risk of drunkenness, as are those less monitored by their parents. These less monitored adolescents and their parents should thus become a particular target group in prevention.

Introduction

According to the most recent Health Behaviour in School-aged Children (HBSC) study (Currie et al., 2008). Slovak children start drinking alcohol at a relatively early age: 9% of girls and 14% of boys at age 11 reported drinking alcohol at least once a week, and this proportion increases with age. The age of the first experience with drunkenness is also relatively low – at 15 years old, 31% of girls and 39% of boys have already experienced being drunk. This can be expected to have rather severe consequences for public health.

The family environment, being the most important developmental context, has a large influence on the harmful effects of drinking alcohol, including drunkenness, an influence even larger than a wide range of other social factors. That is, the family environment and positive parenting practices can lead to both a direct and indirect reduction of adolescent alcohol use (Nash et al, 2005). Even if an adolescent is exposed to risk factors outside the family (peer influences, going out with friends, etc), positive relationships within the family and adequate parental control can act as protective factors (Nash et al., 2005). Family interactions, processes and parenting have been found to be associated with diverse aspects of adolescent behaviour (Bray et al., 2001; Nash et al., 2005). Presumably, adolescents who are emotionally detached from their parents are at risk for a variety of deviant behaviours, including alcohol use (Crawford & Novak, 2008), and the provision of warmth and support by parents is associated with less adolescent alcohol use (Cleveland et al., 2005).

Parental monitoring is one of the processes through which the family facilitates the adjustment of adolescents, by providing them with necessary supervision and guidance (Smetana & Daddis, 2002). It is conceptualized as the parents' knowledge of their child's whereabouts, activities and friends (Jacobson & Crockett, 2000). Adolescence is a specific period in terms of parental monitoring for two reasons. First, the monitoring is less about direct observation and more about communication between parents and the adolescent (about their whereabouts, peers, schedule to return home, etc.) when compared to earlier years (Clark et al., 2008). Second, adolescents' need for autonomy and independence increases, and they spend more time outside their parental home when compared to the previous years (Loukas & Prelow, 2004). Therefore, leisure time activities outside the home are the most critical domains for parental monitoring.

In adolescence, social activities are the most pursued leisure time activities and are also the most important from a developmental perspective (Caldwell & Darling, 1999; Kerr et al., 1999). Besides the undeniable positive role of these activities, they also bring along certain risks, because they often involve the adolescent in behaviours that might

be developmentally maladaptive (e.g. alcohol drinking) (Caldwell & Darling, 1999). Several studies have shown that parental monitoring is associated with less adolescent involvement with alcohol (Fors et al., 1999; Griffin et al., 2000; Beck et al., 2004). Monitoring has been shown to have both a direct and indirect (through affecting associations with peers who drink) impact on adolescent behaviour regarding alcohol use (Freisthler et al., 2009).

The aim of our study was to explore the associations between adolescent drunkenness and participation in risky leisure time activities and parental monitoring.

Methods

Sample

The study sample consisted of 3694 elementary school students from the 8th and 9th grades from three cities in Slovakia—Bratislava (600,000 inhabitants, Western Slovakia), Zilina (156,000 inhabitants, Northern Slovakia) and Kosice (240,000 inhabitants, Eastern Slovakia)—as well as several smaller towns in the Kosice region (10,000 to 40,000 inhabitants). The age range was from 13 to 16, with a mean age of 14.5 (\pm 0.5). The sample was stratified by gender (49.0% males, 51.0% females) and the representation of the regions was as follows: 24.6% of the participants lived in Bratislava, 21.3% in Zilina, 32.1% in Kosice and 22.0% in several smaller towns in the Kosice region. Data were collected in autumn 2006 by a team of trained researchers and their assistants. Schools and classes were selected randomly in every mentioned region or city. We asked school directors for participation, and after their approval and approval from parents, we performed the data collection. Respondents filled in the questionnaire during two regular school lessons (45 minutes each) on a voluntary and anonymous basis, without the presence of the teacher. Response rate was 93.0%, with non-response due mainly to illness.

Measures

Excessive drinking – drunkenness in the last four weeks: Drunkenness in the last four weeks was assessed based on the self-evaluation of respondents. They were asked whether they had been drunk during the last four weeks, with the responses: *no / 1 to 2 times / 3 or more times*. Before analysis we dichotomized this question into: *no / yes* (at least 1 time).

Leisure activities outside the home: Respondents were asked to answer how often they devote themselves to eleven different leisure time activities, with possible answers as: *every day; several times a week; several times a month; never*. For the purpose of this study, we chose three activities with the greatest expected risk concerning excessive drinking: going out with

friends (to bars, pubs, etc); having parties with friends; and visiting sport matches. The answers were then dichotomized as following: (1) *every day + several times a week*; (2) *several times a month + never*.

Parental monitoring: Parental monitoring was measured using the Adolescent Family Process Measure (Vazsonyi, 2003), which is a 25-item self-reported questionnaire assessing six dimensions of family processes (closeness, support, monitoring, communication, conflict and approval), for both the mother and father, respectively. For the purposes of this study we used only the parental monitoring dimension saturated by four items (mother's and father's respectively). A five-point Likert-type format was used ranging from strongly disagree (1) to strongly agree (5). Scores ranges from 4 to 20, with higher scores indicating a higher level of monitoring from each parent. Cronbach's alpha was .73 for mother's monitoring and .78 for father's monitoring.

Statistical analysis

We first assessed the characteristics of the sample. Next, we performed a binary logistic regression to analyze the association between adolescent drunkenness in the previous month and participation in at least one of the three risky activities (daily or several times a week) and parental monitoring, leading to odds ratios (OR) with associated 95%-confidence intervals (CI). Two models were constructed and adjusted for gender. In the first model we analyzed the effect of participation on risky activities as an independent variable. In the second model we added father's monitoring and mother's monitoring. We checked possible interactions by gender, but these were not statistically significant, so we decided to calculate the models adjusted for gender. In the next step, we excluded from the sample those respondents who did not participate in any of the three risky activities. Within this sample of "risk participants" (those who reported participation in at least one of the three risky activities daily or several times a week), respondents who reported having been drunk in the previous month were compared with those who did not in the levels of parental monitoring. For this purpose, t-tests were performed. All data were analysed using SPSS, version 16.

Results

A description of the sample and its characteristics can be found in Table 5.1.

Table 5.1 Frequencies of the study variables

		Males		Females	
		N = 1765		N = 1834	
		N	%	N	%
Drunkenness in last 4 weeks	yes	324	19.3	308	17.2
	no	1353	80.7	1479	82.8
Leisure activity outside home	every day + several	890	53.4	672	37.6
	times a week	776	46.6	1115	62.4
	several times a month + never				
		Mean	SD	Mean	SD
Father's monitoring		11.7	4.0	12.1	4.1
Mother's monitoring		12.9	3.8	14.2	3.5

Table 5.2 shows the results of logistic regression analysis for the effect of participation in risky activity and parental monitoring on drunkenness in the previous month among adolescents. Participation in risky activities increased the probability of drunkenness among adolescents (model 1). In the second model we added father's monitoring and mother's monitoring. The effect of participation in risky activities remained significant and mother's monitoring was found to have a significant effect – a low level of mother's monitoring increased the probability of drunkenness among adolescents. The effect of gender was not significant in any of the models.

Table 5.2 Binary logistic regression estimates for the effect of participation in risky activities and parental monitoring on drunkenness in the last four weeks.

		Drunkenness in the last four weeks	
		OR (95% CI)	
		Model 1	Model 2
Gender	Female	1 (Ref)	1 (Ref)
	Male	0.95 (0.79 - 1.13)	0.87 (0.71 - 1.08)
Participation in risky activity	No	1 (Ref)	1 (Ref)
	Yes	3.21 (2.65 - 3.88)***	3.02 (2.44 - 3.74)***
Monitoring father			0.99 (0.96 - 1.03)
Monitoring mother			0.93 (0.89 - 0.96)***

*** p < 0.001; Ref=reference category

Table 5.3 shows the differences in the levels of parental monitoring between “risky participants” (adolescents who reported participation in at least one of the three risky activities daily or several times a week) who reported having been drunk in the previous month and those who did not. Significant differences were found in levels of mother’s monitoring both among male and female adolescents. Those who reported having been drunk in the previous month scored significantly lower in monitoring from the mother.

Table 5.3 Differences in parental monitoring among “risk participants” between those who did and did not report having been drunk; a higher score on monitoring signifies more monitoring

		drunk		non-drunk		p-value
		mean	SD	mean	SD	
Male	Monitoring father	11.4	4.1	12.0	3.9	ns*
	Monitoring mother	12.0	3.9	13.1	3.8	p<0.001*
Female	Monitoring father	11.8	4.1	12.3	4.0	ns*
	Monitoring mother	13.5	3.7	14.3	3.6	p<0.01*

* t-tests

Table 5.4 shows the differences in levels of parental monitoring between “non-participants” (adolescents who reported not participating in any of the risky activities) who reported having been drunk in the previous month and those who did not. Significant differences were found in levels of mother’s and father’s monitoring among female adolescents. Those who reported having been drunk in the previous month scored significantly lower in monitoring both from the mother and the father.

Table 5.4 Differences in parental monitoring among “non-participants” between those who did and did not report having been drunk; a higher score on monitoring signifies more monitoring

		drunk		non-drunk		p-value
		mean	SD	mean	SD	
Male	Monitoring father	11.2	4.1	11.6	4.0	ns [†]
	Monitoring mother	12.6	4.0	13.2	3.6	ns [†]
Female	Monitoring father	10.7	4.2	12.2	4.1	p<0.001 [*]
	Monitoring mother	13.4	3.5	14.5	3.5	p<0.01 [*]

* t-tests

Discussion

The current study explored the association between adolescent drunkenness, participation in leisure time activities and parental monitoring. We found that participation in risky leisure time activities increased the probability of adolescent drunkenness in the previous month. That is, adolescents who reported participating in at least one of three risky leisure activities (going out with friends, having parties, going to sport matches) were more likely to report having recently drunk.

This effect remained even after adding a father’s and mother’s monitoring into the models. All three leisure time activities explored are quite common for adolescents of this age – almost half of our sample reported having participated in at least one of the three risky activities daily or several times a week. Furthermore, these activities involve contacts and relationships with peers, which are an essential part of development in this age (Kerr et al., 1999). Unfortunately, these relationships take place mostly in places where alcohol is sold, so maintaining a social network in adolescence is strongly connected with places or situations in which alcohol is easily obtained.

Secondly, mother’s monitoring was found to have an affect on adolescent drunkenness in the previous month—adolescents who are less monitored by their mothers are more likely to report having recently been drunk. This is partly in line with other researchers who found that the less an adolescent has been monitored by his/her parents the more likely he/

she is to be involved in alcohol (Fors et al., 1999; Griffin et al., 2000; Beck et al., 2004). Because through adequate monitoring parents became aware of situations or peer friends that may lead to exposure to alcohol and such knowledge enables them to divert their children from potentially risky situations and friends (Bahr et al., 1998).

The fact that mother's monitoring is a stronger protective factor than father's monitoring might have several explanations. One might be that a mother is usually the person to whom adolescents turn to with their daily problems, while a father is rather the person to talk about more serious decisions and the future (Geckova et al., 2000). This, together with the fact that fathers tend to be home with the family less often than mothers might imply that it is more up to the mother to acquire daily information about the whereabouts of an adolescent to enable her to monitor properly. Some studies have identified these gender differences in a variety of parenting behaviours and attitudes (Cottrell et al., 2007)]. Mothers usually know more about their adolescent children's lives; they spend more time with them in joint activities and they converse more about personal topics (Crouter et al., 1990; Bumpus et al., 2001; Waizenhofer et al., 2004). Furthermore, mothers receive information about their children in a more direct way, whereas fathers receive it mostly indirectly from their wives (Waizenhofer et al., 2004).

Another finding of this study is the different pattern of the monitoring – drunkenness association among those who participate in risky activities and those who don't. Among risk participants, those who reported having been drunk scored significantly lower in mother's monitoring than those who hadn't been drunk. Among non-participants, a protective effect of mother's and father's monitoring was found, but only for girls. This finding basically fits with what has been previously stated. To have social contacts via the studied leisure time activities is healthy for adolescents. And despite the fact that these activities are often connected with places where alcohol is sold, as we can see from this finding, they are not risky themselves, and parents are able to help prevent unwanted side-effects. Unsupervised time spent with peers is becoming problematic either when peers themselves are involved in alcohol or when the parent-adolescent relationship, including monitoring, is poor (Aizer, 2004; Han & Waldfogel, 2007). This means that although family is becoming a less significant factor in the present age compared to previous years, parents still can protect their adolescent children *inter alia* by monitoring their whereabouts, activities and friends. This protective effect of parents' knowledge of adolescents' activities has been found in a number of studies (Chassin et al., 1993; Fors et al., 1999; Griffin et al., 2000; Beck et al., 2004; Martins et al., 2008).

Strengths and limitations

The present study has several strengths and limitations. A first strength is the size of study sample and its representativeness for the regions of Slovakia. Selection bias was unlikely due to the way the sample was drawn and the response rate (93%) was satisfactory. A main limitation of our study is that it relied on the self-report of respondents. However, the questionnaires were filled out anonymously, which has been shown to lead to rather valid self-reports (Del Boca & Noll, 2000). Moreover, adolescents from small towns and rural areas were somewhat underrepresented in our sample. However, prevalence rates of drunkenness were similar among the adolescents concerned and the remainder of our sample, which makes it rather unlikely that this factor would affect our findings.

Conclusion

Our findings show the importance of parental monitoring to prevent unwanted side-effects of social leisure time activities among adolescents. In contemporary society, when the rates of excessive drinking in the European Union are increasing, this issue requires research attention. Our results imply that adolescents involved in going out with friends (bars, pubs, etc), having parties with friends and/or visiting sporting events every day or several times a week are at a higher risk of drunkenness, as are those less monitored by their parents. These less monitored adolescents and their parents should thus become a particular target group in prevention. One prevention strategy might be to support safe, alcohol-free environments for these peer interactions on one hand and to limit the availability of alcoholic drinks in environments that are frequented by young adolescents (e.g. to increase the age limit for selling alcohol to adolescents in public places) on the other. Since the design of this study was cross-sectional, the implication for further research might be to examine longitudinal data to confirm the causal mechanisms with regard to hazardous drinking

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Adolescents' drinking and drunkenness more likely in one-parent families and if communication with the mother is poor

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Pending Revision

Abstract

Alcohol use, is a relatively common behaviour, particularly among adolescents, and has become a major public health concern. Family environment is one of the most significant factors that influence risky alcohol consumption in adolescents. This study explores the associations between family composition, the quality of adolescents' communication with parents and adolescents' recent frequent alcohol drinking and lifetime drunkenness. Data were obtained from the Slovak part of the 2005/06 Health Behaviour in School-aged Children (HBSC) study. The sample consisted of 3882 students (46.3% males; mean age 13.3; ± 1.6). Data on drinking alcohol in the past week, lifetime drunkenness, communication and family composition were collected via anonymous questionnaires, stratified for ages 11, 13 and 15 years and following the methodology of the HBSC study. The results showed that living in an incomplete family increased the risk of frequent drinking and drunkenness among adolescents as well as a low quality of communication between mothers and their children. Risks were higher for drunkenness than for frequent alcohol use and strongly increased by age, with the communication with parents worsening at increasing age. Our findings show the importance of the quality of communication between parents and adolescents in preventing the hazardous alcohol use among adolescents. Preventive interventions to reduce adolescents' use of alcohol should therefore also target the quality of communication in the family.

Introduction

Alcohol use, specifically drunkenness, is a relatively common behaviour, particularly among adolescents, and has become a major public health concern. According to the most recent Health Behaviour in School-aged Children (HBSC) study Slovak children start drinking alcohol at a relatively early age: 9% of girls and 14 % of boys at age 11 years reported drinking alcohol at least once a week, and this proportion increases with age (Currie et al., 2008). The age of the first experience with drunkenness is also relatively low – at 15-years old 31% girls and 39% boys have already had the experience of being drunk. Most of these first experiences with alcohol take place at home; as it is a common part of any party to offer small alcoholic toasts to the children and adolescents.

Among the wide range of factors that influence risky alcohol consumption, the family environment is one of the most significant (Weinberg et al., 1998; Kuntsche & Kuendig, 2006). It is the developmental context in which the most important basic values, attitudes and patterns of behaviour are formed. One of the crucial parts of family functioning is adequate communication between parents and their children, which has been shown to be an important protective factor (Currie et al., 2008). Good communication with parents is an indicator of social support from parents and of family connectedness (Laursen, 1995). Poor parent-child communication was found to be associated with a higher prevalence of youth substance use (Griffin et al., 2000; Currie et al., 2008). Adolescence is a unique period regarding communication with parents – children speak less often with their parents about themselves and communication becomes generally more difficult (Barnes & Olson, 1985). Typically, for both adolescent boys and girls communication with the mother is better than with the father (Noller & Callan, 1988).

Another important aspect of family life is family composition, which is defined in HBSC studies as a configuration of people living in one household. Basically, family composition consists of family members, their common relationships and their presence or absence. During the last decades, the family has undergone very important changes – inter alia, the number of one parent families and of families with step parents has increased. The former in particular represents a great risk regarding a child's development, as children and adolescents living in one-parent families are more often involved in risk behaviour, including alcohol use (Hoffmann 2006; Tomcikova et al., 2009). This might be due to reduced parental control (Marsden et al., 2005), a reduced socioeconomic position, both of which often occur in one-parent families (Rodgers & Rose, 2002), or due to different parenting (e.g. parental warmth) (Broman et al., 2008).

The aim of this study is to explore the association between family composition and the quality of the adolescent's communication

with parents with adolescent frequent alcohol drinking and lifetime drunkenness, and differences regarding this by age and gender.

Methods

Participants and procedure

Data were obtained from the Slovak part of the 2005/06 Health Behavior in School-aged Children (HBSC) study, a multinational study that was conducted in collaboration with the World Health Organization.¹ The total Slovak sample consisted of 3882 students (46.3% males) aged 10 to 16 (mean age 13.3; ± 1.6). Respondents were divided into three age categories – 11, 13, and 15 years old. The students completed the questionnaire on a voluntary and anonymous basis without the presence of the teacher in the classroom, according to the methodology of the HBSC-study.

Measures

Frequent alcohol drinking: Respondents were asked how often they had drunk five different types of alcoholic drinks (beer, wine, spirits, alcopops (low-alcohol flavoured drinks) and other) in the past month, with possible responses *never / rarely / every month / every week / every day*. A dichotomized variable was constructed for the analysis – *never, rarely or monthly/ every day or every week (=frequent alcohol drinking)*.

Lifetime drunkenness: Respondents were asked whether they had ever, during their lifetime, had so much alcohol that they were “really drunk”. Possible responses ranged from *never* to *yes, more than 10 times*. A dichotomized variable was constructed for the analysis - *never / at least once*.

Communication with parents: Respondents were asked how easy it is for them to talk to their mother and father, respectively, about “things that really bother you,” with possible responses: *very easy / easy / difficult / very difficult*. A dichotomized variable was constructed for the analysis - *easy / difficult*.

Family composition: To assess family composition the following indicator was used: “*All families are different and we would like to know yours. Here is a list of some of the people that can make up a family. Please tick one box for each line to show if you live with the person or, if you don't live with them, how often you see them.*” In this particular study only the information on parents was used. Respondents were divided into two groups – a complete family (living with two parents or step parents) and a single-parent family. _

Statistical analysis

All data were analyzed using SPSS, version 16. We first assessed the characteristics of the sample across the three age categories. Next, a binary logistic regression (enter method) was performed leading to odds

ratios (OR) with associated 95%-confidence intervals (CI). First, three models were constructed analyzing the associations with frequent alcohol drinking, and then the same analyses were performed for the associations with lifetime drunkenness. In the first model we assessed the crude effects of family composition, communication with father/mother, gender and age. In the second model we analyzed the association of the family composition, the quality of communication with each parent and gender with frequent alcohol drinking/drunkenness. In the last model, age was added to the previous variables.

Results

A description of the sample and its characteristics can be found in Table 6.1.

Table 6.2 shows the results of the logistic regression analysis for the association of family composition, communication with father, communication with mother, gender and age with frequent alcohol drinking among adolescents. The first model assessed the crude effects of all the mentioned variables. All of them were found to be associated with frequent alcohol drinking: living in an incomplete family, difficult communication with parents, male gender and higher age increase the probability of frequent alcohol drinking among adolescents. In the next model we assessed the joint effects of family composition, communication with mother/father, and gender. Family composition and communication with mother continued to show a statistically significant association, but the communication with father did not. A significant effect of gender was found in this model: male gender increases the probability of frequent alcohol use. In the last step, age was added to the model. Family composition and gender were found to be significantly associated with alcohol drinking, but communication with parents was not. A significant effect of age was found in this model: the risk of frequent drinking increased with the age.

Table 6.1 Characteristics of the study sample by age and gender

		11 years		13 years		15 years	
		Male	Female	Male	Female	Male	Female
		N=608	N=690	N=595	N=732	N=591	N=661
Frequent alcohol drinking	yes	13.8%	9.1%	16.3%	12.2%	33.5%	21.7%
Lifetime drunkenness	at least once	11.6%	9.2 %	30.7%	26.3 %	58.3%	48.1 %
Family composition	incomplete	7.4 %	9.6 %	10.6%	12.4 %	14.2%	14.2 %
Communication father	very easy	42.4%	28.5 %	33.5%	13.8 %	24.3%	11.7 %
	easy	39.4%	43.9 %	43.7%	41.9 %	42.9%	37.8 %
	difficult	14.0%	18.5 %	16.9%	31.4 %	22.3%	30.9 %
	very difficult	4.2 %	9.2 %	5.9 %	12.9 %	10.5%	19.6 %
Communication mother	very easy	53.5%	55.1 %	46.4%	40.0 %	35.2%	33.0 %
	easy	36.8%	33.7 %	10.4%	46.5 %	45.2%	47.7 %
	difficult	7.6 %	10.0 %	10.5%	11.5 %	16.4%	15.3 %
	very difficult	2.1 %	1.3 %	2.7 %	2.0 %	3.1 %	4.0 %

Table 6.2 Binary logistic regression estimates for the effect of family composition, communication with mother, communication with father, gender and age on frequent alcohol drinking

		Frequent alcohol drinking		
		Odds ratio (95% confidence interval)		
		Model 1	Model 2	Model 3
		crude effects	adjusted effects#	adjusted effects#
Family composition	complete	1 (Reference) **	1 (Reference) **	1 (Reference) *
	incomplete	1.43 (1.11-1.84)	1.56 (1.12-2.18)	1.44 (1.02-2.01)
Communication father	easy	1 (Reference) *	1 (Reference) ns	1 (Reference) ns
	difficult	1.24 (1.02-1.50)	1.19 (0.95-1.48)	1.05 (0.83-1.32)
Communication mother	easy	1 (Reference) ***	1 (Reference) *	1 (Reference) ns
	difficult	1.50 (1.18-1.91)	1.39 (1.06-1.83)	1.30 (0.98-1.72)
Gender	female	1 (Reference) ***	1 (Reference) ***	1 (Reference) ***
	male	1.61 (1.36-1.92)	1.64 (1.34-2.00)	1.63 (1.33-1.99)
Age category	11 years	1 (Reference) ***		1 (Reference) ***
	13 years	1.27 (0.99-1.63)		1.25 (0.94-1.67)
	15 years	2.93 (2.34-3.66)		3.00 (2.31-3.88)

** p < 0.01, *** p < 0.001; ns = not significant; Ref=reference category

The odds ratios for each variable have been adjusted for the effects of the other variables in the model

Table 6.3 shows the results of the logistic regression analysis for the association of family composition, communication with father, communication with mother, gender and age with lifetime drunkenness among adolescents. In the first model the crude effects of all mentioned variables were assessed. All of them were found to be associated with drunkenness: living in an incomplete family, difficult communication with parents, male gender and higher age increased the probability of drunkenness among adolescents. In the second model we assessed the joint effects of family composition and of communication with mother/father and gender. All of them continued to show a statistically significant association. In the last model, age was added to the model. Family composition, communication with mother and gender remained significantly associated with drunkenness, but communication with father did not. A significant effect of age was found in this model: the risk of drunkenness increases with the age.

Table 6.3 Binary logistic regression estimates for the effect of family composition, communication with mother, communication with father, gender and age on drunkenness

		Drunkenness		
		Odds ratio (95% confidence interval)		
		Model 1	Model 2	Model 3
		crude effects	adjusted effects#	adjusted effects#
Family composition	complete	1 (Reference) ***	1 (Reference) ***	1 (Reference) ***
	incomplete	1.88 (1.52-2.32)	2.34 (1.77-3.09)	2.17 (1.60-2.94)
Communication father	easy	1 (Reference) ***	1 (Reference) ***	1 (Reference) ns
	difficult	1.46 (1.25-1.71)	1.39 (1.16-1.67)	1.13 (0.93-1.37)
Communication mother	easy	1 (Reference) ***	1 (Reference) ***	1 (Reference) **
	difficult	1.67 (1.37-2.04)	1.46 (1.16-1.84)	1.38 (1.08-1.77)
Gender	female	1 (Reference) ***	1 (Reference) ***	1 (Reference) ***
	male	1.32 (1.14-1.51)	1.47 (1.25-1.73)	1.49 (1.25-1.78)
Age category	11 years	1 (Reference) ***		1 (Reference) ***
	13 years	3.43 (2.74-4.30)		3.48 (2.70-4.50)
	15 years	9.76 (7.84-12.16)		9.64 (7.51-12.37)

** p < 0.01, *** p < 0.001; ns = not significant; Ref=reference category

The odds ratios for each variable have been adjusted for the effects of the other variables in the model

Discussion

The current study explored the associations of family composition and communication with parents with frequent alcohol drinking (at least once a week) and lifetime drunkenness among adolescents. Living in a single-parent family increased the risk of both frequent alcohol drinking and drunkenness among adolescents, and this effect remained after adjustment for communication with parents, gender and age. Secondly, poor communication with parents increased the risk of frequent alcohol drinking and drunkenness among adolescents. Regarding frequent drinking, the association with communication with the father disappeared after adjustment for communication with the mother, family composition, gender and age. The association with communication with the mother decreased in strength. Regarding lifetime drunkenness, the same occurred but almost all associations are somewhat stronger. The associations as found were not significantly modified by gender or age.

Our findings regarding the association of living in a single-parent family with both frequent alcohol use and drunkenness in adolescents confirms the findings of several previous studies (Rodgers & Rose, 2002; Paxton et al., 2007; Tomcikova et al., 2093). Adolescents living in single-parent families are at a higher risk of trying alcohol earlier and drinking

more hazardously (Kirby, 2006). This might be inter alia related to lowered parental control (Marsden et al., 2005). When there is only one parent who has to perform the tasks of both parents, this could lead to decreased control of adolescent behaviour, thus opening up more opportunities for risk behaviour in general and for experimentation with alcohol in particular. Adequate parental control has been shown to have both a direct and indirect impact, through affecting associations with peers who drink, on adolescent behaviour regarding alcohol use (Freisthler et al., 2009).

Another main finding of our study is that when communication with parents is perceived as difficult, the risk of frequent drinking among adolescents and drunkenness increases, which is in line with certain other studies (Griffin et al., 2000; Eickhoff, 2001). Good quality communication has been shown to act as a protective factor with regard to youth substance use (Currie et al., 2008). One possible pathway for this effect might be again via parental control, which is changing in this period of life. It becomes less about direct observation and more about communication between parents and the adolescent when compared to earlier years. Good quality communication might thus lead to effective parental control, and thus to a decreased risk of substance use (Clark et al., 2008).

The fact that communication with parents was associated stronger with lifetime drunkenness than with frequent drinking might be explained by the outcome measures themselves. To drink alcohol is relatively highly tolerated in Slovak society, and as we have already mentioned, the first experiences with alcohol often take place at home in the presence of parents. On the other hand, getting drunk is not tolerated, particularly in this age. Communication with parents matters more from the perspective of being drunk, because drunkenness is considered to be more risky than only alcohol consumption. Another interesting aspect of our findings is the fact that communication with the mother is associated stronger with particular drunkenness than communication with the father and that age seems to play an important role in this aspect - with increasing age, communication with the father becomes less important regarding frequent alcohol drinking and drunkenness. The same holds true for communication with the mother, but only in the case of drunkenness.

The fact that age had a strong effect on both adolescent frequent drinking and adolescent drunkenness is not surprising; it is a well known fact from the literature (Currie et al., 2008). With increasing age adolescents have more opportunities to experiment with alcohol because of their growing independence from their parents, and they spend an increased amount of time unsupervised outside the home (Loukas & Prelow, 2004; Moreno et al., 2008). In addition the association between both outcome measures and communication with the father largely decreases if age is added to the model, so the age-effect might be explained also by poorer quality of communication of adolescents with the father in particular when they grow older.

Strengths and limitations

The present study has several strengths and limitations. A first strength is the size of the study sample and its representativeness for the regions of Slovakia. Selection bias was unlikely due to the way the sample was drawn. A main limitation of our study is that it relied on the self-reporting of respondents. However, the questionnaires were filled out anonymously, which has been shown to lead to rather valid self-reports (Del Boca & Noll, 2000).

Conclusion

Our findings show the importance of the quality of communication between parents and adolescents in preventing the hazardous alcohol use among adolescents. At higher adolescent ages, this communication tends to deteriorate, which is associated with higher risks. In contemporary society, when the rates of excessive drinking in the European Union are increasing, this issue requires research attention. Our results show that particular groups (in particular adolescents living in incomplete families) run a higher risk of both frequent alcohol use and drunkenness and thus need particular attention in prevention. Since the design of this study was cross-sectional, the implication for further research might be to study longitudinal data to confirm the hypothesized causal mechanisms with regard to frequent alcohol use and drunkenness.

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Parental divorce, adolescents' feelings toward parents and drunkenness in adolescents

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Abstract

The aim of this study was to explore the association between parental divorce and adolescent drunkenness and the contribution of adolescents' feelings toward their parents to this association. Cross-sectional data on 3694 elementary-school students from several cities in Slovakia (mean age 14.3, 49.0% males; response rate 93%) were obtained. Respondents completed questionnaires on how often they had been drunk in the previous four weeks, whether their parents were divorced and a measure of feelings toward their parents. Parental divorce was found to have an effect on adolescent drunkenness in the previous month, as were the high rates of negative and low rates of positive feelings toward both parents. The effect of divorce on drunkenness strongly decreased if adjusted for the affect of the adolescent toward the father, but not the mother. Our findings indicate that to keep the father positively involved after divorce might be a protective factor with regard to a higher probability of adolescent drunkenness in divorced families.

Introduction

Alcohol use, and in particular excessive drinking (usually resulting in drunkenness), is a relatively common behaviour among adolescents and has become a major public health concern. According to the most recent Health Behaviour in School-aged Children (HBSC) study (Currie et al. 2008), children from some countries start drinking alcohol at a relatively early age. Slovak children are an example of this: 9% of girls and 14 % of boys at age 11 years reported drinking alcohol at least once a week, and this proportion increases with age. Most of the first experiences with alcohol take place at home as children are often provided with alcohol for the purposes of toasts on occasions such as family parties. The age of the first experience with drunkenness is also relatively low – at 15-years old 31% of girls and 39% of boys have reported being drunk at least twice in their lives. In comparison, the average rates throughout all HBSC countries were 30% of girls and 37% of boys being drunk on at least two occasions. Slovakia also did not differ very much within the ‘Visegrad countries’, which are the nearest neighbours both geographically and culturally.

Drunkenness (i.e. drinking to intoxication) is a pattern of alcohol use that is particularly important in adolescence, and it seems to be correlated to other aspects of alcohol use such as frequency of drinking and the preference for spirits (Schmid et al., 2003). Among the wide range of factors that influence this risky pattern of alcohol consumption, the family environment is one of the most significant (Weinberg et al., 1998; Kuntsche & Kuendig, 2006). The most important basic values, attitudes and patterns of behaviour are formed in the family context. The most important basic values, attitudes and patterns of behavior are formed in the family context. Many studies (Miller, 1997; Blum et al., 2000; Kuntsche & Kuendig, 2006; Tomcikova et al., 2009; Tomcikova et al., 2010) have found that living in an ever-divorced family increases the risk of adolescent alcohol use. This may be explained by several factors such as lowered parental control (Freeman & Newland, 2002), worse socio-economic situation (Griffin et al., 2000) and lower well-being (Storksen et al., 2005). Some studies have emphasized that the quality of a parent-adolescent relationship is likely to be influenced by parental divorce as well (Ledoux et al., 2002). In particular the quality of the relationship with the non-present parent is often very low (Amato & Gilbreth, 1999), thus the greater risk of alcohol use in adolescents from ever-divorced families might also be partially explained through this dimension. The central role of the relationship between parent and adolescent regarding risk behavior has been emphasized in number of studies and theories (e.g. the attachment theory) (Canetti et al., 1997; Kerr et al., 2003).

There are several methods for measuring the relationships between parents and their adolescent children. Asking adolescents about the

feelings toward their parents is one of them. It is always preferable to measure feelings toward both parents, even if one of them is no longer present (for example after divorce) (Phares & Renk, 1998). A positive affect in this context is defined as the experience of warmth, support and acceptance and also involves the communication of positive feelings between the adolescent and the parent. A negative affect on the other hand is the experience of hostility, stress and rejection (Duhig & Phares, 2009).

Based on theoretical and empirical findings, the aim of this study is to explore the association between parental divorce and adolescent drunkenness and the possible influence (mediation or modification) of adolescents' feelings toward parents on this association. We hypothesize that besides the separate effects of parental divorce and adolescent feelings toward parents, these factors may also interact together with regard the adolescent drunkenness.

Methods

Study sample

The study sample consisted of 3694 elementary school students (8th and 9th grades) from three cities in Slovakia—Bratislava (600,000 inhabitants, Western Slovakia), Zilina (156,000 inhabitants, Northern Slovakia) and Kosice (240,000 inhabitants, Eastern Slovakia)—and several smaller towns (10,000 to 40,000 inhabitants) in the Kosice region. The schools and classes in each region were selected randomly from a database of schools from the *Slovak Institute of school information and prognosis* (81 schools in total; 2 classes per school; at average of 23 students per class). We asked the directors of the selected schools for participation, and after their approval and the approval of parents, data were collected.

The age of the participants ranged from 13 to 16, with a mean age of 14.3 (SD 0.6). The study sample was fairly evenly divided by gender (49.0% males, 51.0% females). The regions were represented as follows: 24.6% of the participants lived in Bratislava, 21.3% in Zilina, 32.1% in Kosice and 22.0% in several smaller towns in the Kosice region. This is a good reflection of the distribution of these types of areas across Slovakia, so that the sample can be considered to be representative for this country. However, adolescents from small towns and rural areas were a little underrepresented in our sample. To determine whether this underrepresentation would affect our results, we separately assessed differences in the occurrence of drunkenness between adolescents from small towns and the remainder of our sample: these differences proved to be small and without statistical significance.

The response rate at the school level was 70%; schools that refused the participation were replaced by others from the database of schools

from the *Slovak Institute of school information and prognosis*. The response rate within the participating classes was 93.0%, with non-response due primarily to illness or other type of absence.

Procedure and measures

Data were collected in October, November and December 2006 by a team of trained researchers and their assistants. Respondents filled in a questionnaire on a voluntary and anonymous basis without the presence of the teacher during two regular school lessons (45 minutes each).

The following measures were used:

Drunkenness in the last four weeks: Drunkenness in the last four weeks was assessed based on the self-evaluation of respondents (derived from HBSC surveys (Currie et al., 2008)). They were asked whether they had been drunk during the last four weeks, with the responses: *no / 1 to 2 times / 3 or more times*. Before analysis we dichotomized this question into: *no / yes* (at least 1 time).

Parental divorce: Parental divorce was used as an indicator of family structure. It is quite common to combine the parental divorce measure with other measures of family structure. In our previous work (Tomcikova et al., 2009) we also used an additional measure of family structure (family composition – whether the adolescent lives with one or two parents/step-parents), but it didn't show any significant association with adolescent drunkenness. Therefore, we decided to use only the parental divorce measure in this study. Respondents were asked to answer the question of whether their (biological) parents are legally divorced, with the responses: *no / yes, less than 12 months ago / yes, more than 12 months ago, but less than 3 years ago / yes, more than 3 years ago*. A dichotomized variable was constructed for the analysis - *no / yes* (any period since divorce).

Feelings toward parents: Adolescents' feelings toward their parents was assessed using the Perception of parents scale (Phares & Renk, 1998), a 15-item self-reported questionnaire measuring the adolescents' affectivity schema of their (biological) mother and father in two dimensions for each parent (positive and negative affect). The advantage of this measure is that an adolescent's feelings toward parents are an indicator of the relationship, even if respondents are not in contact with either parent. The dimension "positive affect" consists of questions on how often the respondent feels the following: respect toward the parent, happy when thinking about the parent, love toward the parent, grateful for the parent, proud of the parent, caring toward the parent, comforted when thinking about the parent, closeness toward the parent, appreciative (thankful) of the parent and positive feelings toward the parent. The dimension "negative affect" consists of questions on how often the respondent feels the following: anger toward the parent, confused or puzzled by the parent, disappointed or let down by the parent, anxious or nervous about the parent, upset

when thinking about the parent. A six-point Likert-type format was used ranging from not at all or never (1) to extremely or always (6). The range of sum scores was 10 to 60 for the positive affect dimensions and 5 to 30 for the negative affect dimensions, with a higher score indicating a higher level for each dimension. For the purpose of the analyses in this particular study all dimensions were Z-standardized. Cronbach's alpha coefficient was 0.89 for the positive affect to the mother dimension and 0.72 for the negative affect and was 0.92 for the positive affect to father dimension and 0.73 for the negative affect. The positive and the negative affect to each parent were significantly correlated (father: 0.29, mother: 0.18), and even strongest correlations were found between the positive affects toward the mother and toward the father (0.56) and between the negative affects toward the mother and toward the father (0.66)

All measures used in this study underwent the process of translation and back-translation from English to the Slovak language and reversely to ensure that language versions used in this study measure the same constructs as the original language versions.

Statistical analysis

All data were analyzed using SPSS, version 16. In the first step standard descriptive analyses were performed to assess the characteristics of the sample. Next, t-tests were used to compare adolescents from ever-divorced and not-divorced families in their feelings toward parents [Table 7.1]. Before performing the regression analyses, correlations between the subscales of the Perception of parents scale were explored.

We then performed a binary logistic regression to analyze the association between adolescent drunkenness in the previous month and parental divorce and feelings toward mother leading to odds ratios (OR) with associated 95%-confidence intervals (CI) [Table 7.2]. Running analyses separately for boys and girls did not change the strengths of the associations, only influenced the significance levels, due to the smaller sample sizes per gender; therefore gender was added only as a control variable, together with age. Three models controlled for age and gender were constructed: In the first model we analyzed the effect of parental divorce as an independent variable. In the second model, the dimensions of positive and negative affect towards the mother were added to assess whether this would lead to a decrease of the ORs for divorce on drunkenness. If present, this could be indicative of a mediating effect of the affect toward the parent on that association. To explore whether there is a modification effect of the affect toward the father on the association between divorce and drunkenness, the interactions between parental divorce and positive and negative affect toward the mother were added into the third model. In the last step we performed the same analyses for feelings toward the father [Table 7.3].

The share of missing values was approximately 20% and they were dealt with by using list-wise procedure in further analyses.

Results

A description of the sample and its characteristics can be found in Table 7.1. Adolescents from divorced families ($n=746$) differed in the level of positive and negative affects to parents from those from not-divorced ($n=2948$); except for the dimension of positive affect of mother, these differences are significant. Also, drunkenness is more likely among those from divorced families when compared to those from not-divorced. The correlation analyses shown that the positive and the negative affect to each parent were significantly correlated (father: 0.29, mother: 0.18), and even stronger correlations were found between the positive affects toward the mother and toward the father (0.56) and between the negative affects toward the mother and toward the father (0.66).

Table 7.1 Level of positive and negative affect of adolescents towards each parent by parental divorce

	Divorced ($n=746$)		Not-divorced ($n=2948$)		p-value
	mean	SD	mean	SD	
Positive affect to mother	46.0	11.2	46.3	9.6	ns*
Negative affect to mother	12.8	5.3	12.1	5.03	<0.001*
Positive affect to father	37.8	14.9	44.6	10.8	<0.001*
Negative affect to father	14.1	5.8	12.6	5.3	<0.01*
	%		%		
Drunk	25.1		16.5		<0.001 **

* t-tests; ** chi-square test

Table 7.2 shows the results of the logistic regression analysis for the association of parental divorce and positive/negative affect to the mother with drunkenness in the last four weeks, controlled for gender and age. The first model assessed the effect of parental divorce—it was found to be associated with drunkenness: Parental divorce increases the probability of drunkenness among adolescents. Moreover, a significant effect of age was found—higher age increases the probability of drunkenness. In the next model we assessed the joint effects of parental divorce and two dimensions of the affect toward the mother. Both positive and negative affect were associated with drunkenness but their introduction into the model hardly affected the association between parental divorce and drunkenness. A significant effect of age was found. In the last model we added the interactions between divorce and positive and negative affect

toward the mother. The significant effect of age, parental divorce and of positive and negative affects remained and no modification effect of the affect toward the mother was found (no significant interactions were found).

Table 7.2 Binary logistic regression estimates for the effect on drunkenness in the last four weeks of gender, age, parental divorce, positive and negative affects toward mother and interactions between affects toward mother with parental divorce

	Drunkenness in the last four weeks		
	OR (95% CI)		
	Model 1	Model 2	Model 3
Gender	1.18 (0.97-1.43) ^{ns}	1.15 (0.95-1.40) ^{ns}	1.15 (0.94-1.40) ^{ns}
Age	1.74 (1.49-2.04) ^{***}	1.71 (1.46-2.00) ^{***}	1.71 (1.46-2.00) ^{***}
Divorce #	1.81 (1.45-2.25) ^{***}	1.75 (1.40-2.19) ^{***}	1.81 (1.45-2.27) ^{***}
Positive affect toward mother		0.82 (0.75-0.91) ^{***}	0.79 (0.71-0.89) ^{***}
Negative affect toward mother		1.19 (1.08-1.31) ^{***}	1.24 (1.10-1.39) ^{***}
Divorce * positive affect toward mother			1.11 (0.91-1.37) ^{ns}
Divorce * negative affect toward mother			0.87 (0.70-1.09) ^{ns}

* p < 0.05, ** p < 0.01, *** p < 0.001; ns = not significant; # reference category: not divorced

Nagelkerkes` R2 ranged between .046 and .067 from Model 1 to Model 3

Table 7.3 shows the results of the logistic regression analyses for the associations of parental divorce and positive and negative affect toward the father with drunkenness in the last four weeks. The first model is identical with the one in Table 2—parental divorce and higher age increase the probability of drunkenness among adolescents. In the next model we assessed the joint effects of parental divorce and the two dimensions of affect to father. Both positive and negative affect were found to be associated with drunkenness. This led to a more than halving of the association of parental divorce with adolescents' drunkenness. The effect of age remained significant. In the last model the interactions were added—the significant effects of age, parental divorce and of positive and negative affects remained and no modification effect of the affect toward the mother was found (no significant interactions were found).

Table 7.3 Binary logistic regression estimates for the effect on drunkenness in the last four weeks of gender, age, parental divorce, positive and negative affects toward father and interactions between affects toward father with parental divorce

	Drunkenness in the last four weeks		
	OR (95% CI)		
	Model 1	Model 2	Model 3
Gender	1.16 (0.95-1.42) ^{ns}	1.20 (0.97-1.46) ^{ns}	1.18 (0.96-1.45) ^{ns}
Age	1.78 (1.51-2.10) ^{***}	1.72 (1.45-2.03) ^{***}	1.72 (1.45-2.03) ^{***}
Divorce #	1.53 (1.19-1.95) ^{***}	1.32 (1.02-1.70) [*]	1.34 (1.02-1.75) [*]
Positive affect toward father		0.85 (0.77-0.95) ^{**}	0.87 (0.77-0.99) [*]
Negative affect toward father		1.21 (1.09-1.34) ^{***}	1.26 (1.12-1.42) ^{***}
Divorce * positive affect toward father			0.94 (0.75-1.17) ^{ns}
Divorce * negative affect toward father			0.85 (0.67-1.09) ^{ns}

* p < 0.05, ** p < 0.01, *** p < 0.001; ns = not significant; # reference category: not divorced
Nagelkerkes` R2 ranged between .039 and .058 from Model 1 to Model 3

Discussion

The current study explored the associations of parental divorce and feelings toward parents with drunkenness in the last four weeks among adolescents. Living in ever-divorced family increased the risk of drunkenness among adolescents. The same holds for the high rates of negative and low rates of positive feelings toward both parents. Regarding affect toward the mother, both associations seem to be independent from one another, but the association of parental divorce with adolescents' drunkenness decreased if adjusted for the affect of the adolescent toward the father. Finally, parental divorce and affect toward each parent did not modify each other's effects. Adolescents' feelings toward their parents were strongly associated with the probability of drunkenness. However, feelings toward parents only affected the relationship between parental divorce and adolescent drunkenness in the case of the father, but not of the mother. And even when adjusted for the affect towards both the father and the mother, parental divorce still increased the probability of drunkenness among their adolescent children.

Our finding regarding the association of parental divorce with recent drunkenness in adolescents confirms those of several other studies which explored the effect of divorce or family structure on substance use (Rodgers & Rose, 2002; Paxton et al., 2007; Tomcikova et al., 2009; Tomcikova et al., 2010). This association might have several explanations. First, it might be related to lower parental control after divorce, as the majority of adolescents of divorced parents live with one parent only (nearly 60% in our sample; with various amount of time spent with the

other parent). This single parent then has to perform the functions of both parents, which may result in a decrease of the control over adolescent behaviour. Second, it might be explained by the poorer well-being of adolescents in such families, as parental divorce often represents a stressful experience in adolescent life (e.g. inter-parental conflict, moving, less nurturing) (Storksen et al., 2006). In both possible pathways, a positive relationship with parents might buffer against the undesirable consequences of divorce, but our results show that this only applies to the father. A third possible pathway of the association of parental divorce with adolescent drunkenness might be the socioeconomic position of the family after the divorce. However, although socioeconomic position of the family is associated with adolescent drunkenness, it has hardly weakened the association between parental divorce and adolescent drunkenness (Tomcikova et al., 2009).

Another possible explanation for the fact that adolescent children of divorced parents report drunkenness more often might be the worsened relationship with parents after divorce. Our results confirm this assumption only partially—we found that the association of drunkenness with parental divorce largely decreases if adjusted for affect toward the father, which can be interpreted as a mediating effect of the latter. An explanation could be that after divorce children more frequently live with their mother rather than with their father (Dunn, 2004). The quality of the relationship with the non-resident father is very often poor. It is influenced by several aspects, such as the frequency of contact with him or the quality of the post-divorce relationship between the parents, but also economic support from the father (Amato & Gilbreth, 1999). As we already mentioned in the Introduction, the negative effect of divorce on adolescent's behaviour, including alcohol use, might be enhanced by this low quality of the adolescent-father relationship. This means that keeping the father positively involved after divorce might be a protective factor with regard to the higher probability of adolescent drunkenness in divorced families.

Strengths and limitations

The present study has several strengths and limitations. A first strength is the size of study sample and its representativeness for the regions of Slovakia. Selection bias was unlikely due to the way the sample was drawn and the high response rate (93%). A main limitation of our study is that it relied on the self-report of respondents. However, the questionnaires were filled out anonymously, which has been shown to lead to rather valid self-reports (Del Boca & Noll, 2000). Moreover, adolescents from small towns and rural areas were somewhat underrepresented in our sample. However, prevalence rates of drunkenness between the adolescents concerned and the remainder of our sample were similar, which makes it rather unlikely

that this factor would affect our findings. Another limitation of the study is the lack of sociodemographic data, which would enable to frame the findings in a broader context.

Conclusion

Our findings show that one of the possible pathways of the association between parental divorce and adolescent drunkenness might be the relationship with the father. It should be realized, though, that this conclusion requires confirmation in longitudinal research that provides conclusive evidence on the causal chains. In contemporary society, this issue may have major public health implications: Both the proportion of marriages ending in divorce and the rates of excessive alcohol drinking among adolescents are increasing. Our results show that adolescents from divorced families are at higher risk of drunkenness, as are those who report to have more negative feelings toward parents, in particular fathers. This means that adolescent children of divorced parents as well as their parents should thus be a particular target group in prevention, offering an important route for obtaining gains in adolescents' health.

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General discussion, implications and conclusions

This thesis focused on the role of the family environment in adolescents' excessive drinking, which is one of the most frequent adolescent risk behaviours. The main aim was to contribute to the understanding of how different factors of family life might act as risk or protective factors with regard to this particular risk behaviour. The contribution of other factors (personality factors, well-being and peer influence) was also explored.

This final chapter provides a summary of the main findings of this study and a discussion of the main findings in the context of what is already known from research in this field. In addition, the strengths and limitations of the study are discussed and the implications for future research and for public health practice are addressed.

8.1. Main findings

Research question 1 (Chapter 3)

Do adolescents with different patterns of alcohol use (abstainer, consumer, and excessive drinker) differ in family characteristics (family structure, socioeconomic position), perceived social support, personality characteristics (extraversion, self-esteem, aggression) and well-being?

Adolescent abstainers and excessive drinkers differed in every explored characteristic except for positive self-esteem and social support from others. Moreover, differences were found between abstainers and consumers in extraversion, aggression and social support from family and between consumers and excessive drinkers in negative self-esteem, aggression, well-being and social support from friends. The higher the score in aggression, extraversion, perceived social support from friends and negative self-esteem and the lower the scoring in social support from family and well-being, the more risky the pattern of alcohol consumption was. Furthermore, adolescents from divorced families and those from families with higher affluence are significantly more likely to be excessive drinkers.

Research question 2 (Chapter 4)

Is there an association of parental divorce with adolescent drunkenness? How do socioeconomic position, family structure, social support from family and well-being contribute to this association?

Parental divorce increased the probability of drunkenness among adolescents. This effect remained significant even after the inclusion of other factors. Furthermore, high education level of parents, high family affluence, low level of social support from family and higher levels of the depression/anxiety dimension of psychological well-being increased the probability of drunkenness among adolescents.

Research question 3 (Chapter 5)

Is there an association between participation in risky leisure time activities, parental monitoring and adolescent drunkenness? Do adolescents who participate in risky leisure time activities and report having been drunk differ in the level of parental monitoring from those who participate without having been drunk?

Participation in risky leisure time activities increased the probability of drunkenness among adolescents. This effect remained significant after the inclusion of parental monitoring into the model. Moreover, a low level of mother's monitoring was found to increase the probability of drunkenness. Within the group of "risky participants" (adolescents who reported participation in at least one of the three risky activities daily or several times a week) those who reported having been drunk scored significantly lower in monitoring from the mother compared with those who did not.

Research question 4 (Chapter 6)

Is there an association between family structure, quality of communication with both parents and adolescent drunkenness? Is there an association between family structure, quality of communication with both parents and adolescent frequent alcohol drinking? Do age and gender contribute to these associations?

Living in an incomplete family and difficult communication with both parents increased the probability of both drunkenness and frequent alcohol drinking among adolescents when assessing the crude effects of these variables. When assessing the joint effects, all of them continued to show a statistically significant association with drunkenness, and all of them, except communication with father, continued to show a statistically significant association with frequent alcohol drinking. Moreover, male gender and higher age increased the probability of both drunkenness and frequent alcohol drinking.

Research question 5 (Chapter 7)

*Is there an association between parental divorce and adolescent drunkenness?
How do adolescents' feelings toward their parents contribute to this association?*

Parental divorce increased the probability of drunkenness among adolescents. This effect remained significant even after the inclusion of two dimensions of adolescents' feelings towards mother (positive and negative affect) into the analysis, while both of these dimensions (positive and negative feelings towards mother) were found to be associated with drunkenness. Inclusion of the dimensions of adolescents' feelings towards father (positive and negative affect) decreased the association of parental divorce with adolescents' drunkenness. Both of these dimensions (positive and negative feelings toward father) were associated with adolescents' drunkenness.

8.2. Discussion of the main findings

Family structure and possible pathways of influence

Family environment is one of the most significant contexts when it comes to adolescents' risk behaviour. One of the key findings of this thesis concerns the strong association between parental divorce (or living in an incomplete family) and adolescents' excessive alcohol use (Chapters 3, 4, 6, and 7). This finding is in line with several previous studies exploring the effect of divorce or family structure on adolescents' substance use (Paxton et al., 2007; Rodgers & Rose, 2002). Adolescents living in divorced or incomplete families are at higher risk of trying alcohol early and drinking hazardingly (Kirby, 2006). This may have several explanations, such as lowered socioeconomic position after divorce, lowered social support, lowered parental monitoring, lowered adolescent's well-being or worsened relationship and quality of communication between parent and adolescent. Some of these possible pathways were covered by our research questions and are framed in the theoretical model presented in the Chapter 1; some of them need to be assessed in further research.

A first explanation of the effect of parental divorce (or living in an incomplete family) on adolescents' excessive drinking is that it is due to the lowered socioeconomic position (SEP) of the family after divorce. It may be expected that a family after a divorce (single-parent family) is at higher risk of living in poverty (one income instead of two, frequent moving, etc.). This socioeconomic disadvantage can intensify the effects of divorce. However, in this study socioeconomic position did not contribute very much to the association between parental divorce and drunkenness among adolescent (Chapter 4). Moreover, despite our assumption that a lower socioeconomic position would be connected with

a higher probability of adolescents' drunkenness, our results showed the contrary: higher socioeconomic position (higher education of the father and higher levels of family affluence) was related to an increased probability of drunkenness (Chapters 3 and 4). To explain this fact only by the possession of more financial resources (e.g. more pocket money from parents) available for buying alcohol is not sufficient, as the prices of alcohol in Slovakia are rather low, in some cases even lower than the prices of soft drinks: the average price of a beer (0.3 L) is €0.50 and of a soft drink (0.3 L) is €1 in a pub. One explanation might be that the roots of the association between higher SEP and the higher probability of excessive drinking are found in the particular youth subculture related to high SEP, particularly the attitude to alcohol use.

A second explanation of the effect of parental divorce (or living in an incomplete family) on adolescents' excessive drinking is the perceived amount of social support coming from the family. In our study perceived social support from the family partially mediated this effect of parental divorce, although to a rather limited extent (Chapter 4). This means that social support, as a part of the social capital of the family, functions as a risk buffer against the impact of divorce on adolescents' excessive drinking: thus, even if parents are divorced, an adolescent might be less likely to exhibit risk behaviour if he/she experiences emotional support from family members. In addition, social support was found to also have its own direct effect on adolescents' drunkenness – low levels of social support from family increased the risk of adolescents' drunkenness (Chapters 3 and 4). This is in line with the study of Catanzaro and Laurent (2004), who found that perceiving high levels of family support reduced the risk of alcohol use associated with the avoidance of problems as a coping strategy. And several other studies have shown an association between low levels of support from family and alcohol use in adolescents (Heimisdottir et al., 2010; Shucksmith et al., 1997; Windle & Miller-Tutzauer, 1997)

A third explanation for the fact that parental divorce (or living in an incomplete family) increased the risk of adolescents' excessive drinking might be the worsened relationship with parents after divorce. Our results confirm this explanation partially — we found that the association of drunkenness with parental divorce largely decreases if adjusted for affect toward the father, which can be interpreted as a mediating effect of the latter (Chapter 7). The reason for this could be that after divorce children more frequently live with their mother rather than with their father (Dunn, 2004). The quality of the relationship with the non-present father is very often poor (Amato & Gilbreth, 1999; Dunn, 2004). This is due to several reasons, such as the frequency of contact with him and the quality of the post-divorce relationship between the parents, but also economic support from the father (Amato & Gilbreth, 1999). The negative effect of divorce on adolescents' behaviour, including alcohol use, might

be enhanced by this low quality of the adolescent-father relationship. It suggests that keeping the father positively involved after a divorce might be a protective factor with regard to the higher probability of adolescent drunkenness in divorced families.

A fourth possible explanation of the effect of parental divorce (or living in an incomplete family) on adolescents' excessive drinking is the quality of the mutual parent-adolescent communication. In contrast with this explanation, in our study communication did not moderate the association between family structure and adolescents' drunkenness or frequent alcohol drinking (Chapter 6). However, communication with parents perceived as difficult by adolescents increased the risk of frequent drinking and drunkenness among them, which is in line with some other studies (Eickhoff, 2001; Griffin et al., 2000). Good quality of communication has been shown to act as a protective factor with regard to youth substance use (Currie et al., 2008). This might be partially explained by parental control, which is changing in this period of life. Control consists less from direct observation and more from communication between parents and the adolescent when compared to earlier years. Good quality communication might lead to effective parental control and thus to a decreased risk of substance use (Clark et al., 2008).

Parental control (or parental monitoring) is the fifth possible pathway of the effect of parental divorce (or living in an incomplete family) on adolescents' drunkenness. The majority of adolescents with divorced parents (nearly 60% in our sample) live in single-parent families, that is with one parent only, and this parent usually has to perform the functions of both parents. This could easily lead to a decrease in the control (monitoring) of adolescent behaviour, thus providing more opportunities for risk behaviour in general and for experimentation with alcohol in particular. Even though this hypothesis needs to be confirmed by further research, we already know that a lack of parental monitoring of the leisure time activities and peer relationships of adolescents is one of the risk factors for excessive drinking (Beck et al., 2004; Griffin et al., 2000; Marsden et al., 2005). This was partially confirmed also by the results of our study (Chapter 5). We found that only mother's monitoring has an affect on adolescent drunkenness – adolescents who are less monitored by their mothers are more likely to report having recently been drunk. Through adequate monitoring, parents become aware of situations or peer friends that may lead to exposure to alcohol, and such knowledge enables them to divert their children from potentially risky situations and friends (Bahr et al., 1998). Our results showed that unlike father's monitoring, mother's monitoring seems to be a protective factor with regard adolescent excessive drinking. This might have several explanations. One might be that a mother is usually the person to whom adolescents turn to with their daily problems, while a father is rather the person to talk

about more serious decisions and the future (Geckova et al., 2000). In addition, fathers tend to be home with the family less often than mothers, which might imply that primarily the mother obtains daily information about the whereabouts of an adolescent and can monitor the adolescent's behaviour properly through this information. These gender differences were identified in a variety of other parenting behaviours and attitudes (Cottrell & Liu, 2007). Mothers usually know more about their adolescent children's lives; they spend more time with them in joint activities and they converse more about personal topics (Bumpus et al., 2001; Crouter et al., 1990; Waizenhofer et al., 2004). Furthermore, mothers get information about their children in a more direct way, whereas fathers get it mostly indirectly from their wives (Waizenhofer et al., 2004).

The last possible route for the negative impact of parental divorce (or living in an incomplete family) on adolescents' excessive drinking might be the poor psychological well-being of adolescents due to this situation. Depression/anxiety (as a dimension of well-being) was found to have an effect on adolescent drunkenness (Chapters 3 and 4). Parental divorce might represent a stressful experience in an adolescent's life (e.g. inter-parental conflict, moving, less nurturing) (Armistead et al., 1990) and therefore might cause a worse sense of well-being (Spruijt & de Goede, 1997; Storksen et al., 2006). We found support for this in our study: adolescents with divorced parents scored significantly higher in depression/anxiety, and those who had experienced parental divorce recently (in the last 12 months) reported even higher levels of depression/anxiety. However, the possible mediating effect of low well-being should be explored in further research.

In summary, several pathways may explain the association of parental divorce (or living in an incomplete family) and adolescents' excessive drinking. Our findings indicate that in particular socioeconomic position of the family, an adolescent's well-being, maternal monitoring and affect towards the father contribute to this association. In general, a number of aspects of the parent-adolescent relationship might function as a buffer against the negative impacts of parental divorce, and should thus be included in prevention programmes.

Peer context of adolescent excessive drinking

Despite the fact that the main focus of this thesis is on various family characteristics, for a more integrated view aspects of peer context have also been taken into account. In this period of life, peers are becoming more important when compared to younger ages. Peers represent another significant source of social support after family (Kerr et al., 2003). These relationships and the social support gained from peers are not only necessary from a developmental point of view, but they are also

connected with a certain risk with regard to excessive alcohol use (Engels & ter Bogt, 2001). The results of this study confirmed this association: high levels of perceived social support from peer friendships increased the risk of adolescents' excessive drinking (Chapter 3). However, this does not necessarily mean that the relationships among peers themselves are risky; such relationships are an essential part of healthy socialisation during adolescence (Kerr et al., 2003). Unfortunately, these relationships take place mostly in places where alcohol is sold (bars, pubs, discos, etc.), so maintaining a social network in adolescence is strongly connected with places or situations in which alcohol is easily obtainable.

Therefore, participation in certain leisure time activities involving such places or situations puts adolescent at higher risk regarding alcohol use. Three leisure activities that are relatively common among Slovak adolescents (going out with friends, having parties, visiting sporting matches) were explored in this thesis as another aspect of the peer context. Engels et al. (1999) emphasised some positive functions of these activities (going out with friends) in particular in terms of adolescents' integration into a peer group. However, our results, in line with some other studies (e.g. Engels et al., 1999; Kuntsche et al., 2008), indicate that adolescents who reported participating in these activities are also more likely to report drunkenness.

The role of personality

Maintaining a network of various relationships in adolescence and establishing patterns of behaviour is not only influenced by factors of the social environment; personality traits play a role as well. Some of these have been also found to be associated with excessive alcohol use in adolescents (Petraitis et al., 1995; George et al., 2010). Extraversion is often found to be directly associated with risk behaviours, including drunkenness (Martsch & Miller, 1997; Merenakk et al., 2003). This may be due to the fact that extraversion stimulates participation in social activities, but as stated above, the real risk of excessive drinking is probably more related to the context in which these activities take place. Our results partially supported this association between extraversion and alcohol use — extraversion makes one more likely to be a consumer of alcohol, but not an excessive drinker (Chapter 3). This finding fits with the hypothesis that extraversion may play an important role in the development of alcohol-related problems, but it becomes more difficult to assess when confounded with more serious alcohol problems (George et al., 2010).

Another personality characteristic associated with adolescent excessive drinking is aggressiveness. Aggressive behaviour is, on one hand, a common result of problematic drinking, but on the other hand, aggressive tendencies in behaviour may also predict excessive alcohol use (Gerra et al., 2004). Our findings confirmed this association: the higher the

scores in the dimensions of aggressiveness (physical aggression, verbal aggression, anger and hostility), the more risky the pattern of alcohol consumption (consumer – excessive drinker) (Chapter 3). However, the cross-sectional design of this study did not provide sufficient information about the causal relationships between aggressiveness and excessive drinking.

8.3 Strengths and limitations of the study

The most important strength of this study is its use of a large, nationally representative sample covering the different regions of the country and focusing on the age group of young adolescents. A further strength is that due to the way the sample was drawn and due to a rather high response rate in this sample, selection bias was unlikely.

However, this study also has some limitations. A main limitation of the study is that it relied on the subjective self-report of respondents. Nevertheless, previous studies support the validity of self-reports (Reijneveld et al., 2003; Rebagliato, 2002). The questionnaires were filled out anonymously and in the absence of teachers, which has been shown to lead to rather valid self-reports and to decrease the probability of under- or over-reporting of health-related behaviour (Brener et al., 2003; Del Boca & Noll, 2000). A second limitation is that adolescents from small towns and rural areas were somewhat underrepresented in our sample. However, prevalence rates of drunkenness were similar among the adolescents concerned and the remainder of our sample, which makes it rather unlikely that this factor thus affected our findings. A third limitation is the cross-sectional design of this study, by which it is impossible to make conclusive statements about causality in our findings. They thus need to be further explored in a study with a longitudinal design.

8.4 Implications

8.4.1 Implications for future research

This study has shown the role of family environment factors in excessive alcohol use among adolescents. However, the findings are fully based on a cross-sectionally designed study. Our research should thus be repeated using longitudinally designed studies to also explore the causal relationships between adolescent excessive drinking and its family, social and psychosocial determinants. Such a study could also provide information about changes and trends in this particular health-related risk behaviour in adolescents. However, cross-sectional studies might

also be improved, for example, by international networking (e.g. Health Behaviour in School-aged Children Study), enabling international comparisons of the findings.

Moreover, some hypotheses for further research have arisen directly from our results. We have confirmed the strong association between parental divorce (or living in an incomplete family) and adolescent excessive drinking, but the mechanism of this association is not fully explained yet. Future research should focus on this mechanism and possible mediating and moderating effects. Qualitative design of such research (case studies, analysis of life trajectories) might be helpful in outlining the hypotheses about the families of adolescent excessive drinkers, which would be consequently verified in cross-sectional research. And finally, more intense research on divorced or single-parent families would also bring additional and valuable information about the impact on adolescent behaviour.

8.4.2 Implications for public health practice

Our findings may have several consequences for public health practice. The key finding indicates that adolescents from incomplete or divorced families are a vulnerable group with regard to excessive alcohol use. They should thus become, together with their parents, a particular target group for health promotion and prevention programs. In contemporary society, where the number of marriages ending in divorce is increasing (Mladek et al., 2006), this issue demands a great deal of attention.

Strengthening positive parenting practices and skills (like effective monitoring, etc.) and supporting the mutual emotional relationships between parents and their adolescent children (e.g. via quality communication) might help to prevent the negative side effects of parental divorce on adolescents. More specifically, our results indicate the need to focus attention on non-resident fathers (or the parent who is absent after divorce). As has been mentioned above, the negative effect of parental divorce on adolescent's behaviour is often enhanced by a low quality of the adolescent-father relationship. To keep the father positively involved after divorce might act as buffer against these negative effects.

Another important issue for public health practice arises from the findings on peer context. Peer relationships, an essential part of healthy socialisation in adolescence, usually take place in an environment with easy access to alcohol. Prevention strategies should therefore begin with the regulation of selling alcohol to those underage (under 18 years old). However, it is known from the practice that although such restrictions exist, they are not monitored effectively. Furthermore, prevention strategies should target the support of safe, alcohol-free places for peer interactions. These should be attractive to adolescents and at the same

time should not offer them the opportunity to use alcohol. A solution could also be to limit the availability of alcoholic drinks in environments that are frequented by young adolescents (e.g. to raise the age limit for selling alcohol to adolescents in public places from the current limit of 18). Last but not least, pricing policies should be changed as well in order to limit the availability of alcohol drinks for adolescents. It has been shown that an increase in the prices of alcoholic beverages is an effective policy for reducing alcohol consumption and its consequences, particularly in young people (Chaloupka et al., 2002).

5.5 Conclusion

No other part of the life is so characterised by changes and new developmental tasks as adolescence. Almost all risk behaviours start and occur particularly often during this period (Richter, 2009). Excessive alcohol drinking is one of the most common of these behaviours. There is a wide range of factors influencing excessive drinking in adolescence; understanding these factors and the mechanisms of their influence is an important part of prevention and health promotion.

Despite the growing influence of peers, family remains a strong factor affecting the behaviour and shaping the lifestyle of young people. The negative impact of parental divorce (or living in an incomplete family) on adolescent excessive drinking is relatively well-known from a number of studies (e.g. Fisher et al., 2007; Kristjansson et al., 2009; Kuntsche & Kuending, 2006). Some of them showed even a long-term impact of divorce on excessive drinking in adulthood (Huurre et al., 2010). The findings of this study are relevant in particular for countries with the increasing divorce rates. Slovakia is an example of such a country: in 2003 more than 41% of marriages ended in divorce in Slovakia compared with 32% in 1995 (Mladek et al., 2006), and it seems difficult to fully prevent its negative impacts. However, the results of our study showed that there are other aspects of family life and the parent-adolescent relationship through which the risks of parental divorce might be reduced and the negative side effects on adolescents' behaviour might be prevented.

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Summary

Excessive alcohol use in adolescence is a major public health concern in most developed countries. It is important to focus on studying this behaviour among adolescents, as substantial lifestyle patterns are established during this period of life. Excessive drinking in adolescence is an important predictor of alcohol problems in adulthood, leading not only to alcohol dependence, but also to chronic physical and mental health problems in later life. Despite the growing influence of peers in adolescence, the family remains a strong factor affecting the behaviour and shaping the lifestyle of young people.

The main aim of this thesis was to explore the relationship between adolescent excessive drinking and several characteristics of family life. The contributions of both structural characteristics (family structure, socioeconomic position) and psychosocial characteristics (social support, parental monitoring, parent-adolescent communication, adolescents' feelings toward parents) in adolescent excessive drinking were explored. A further aim of this thesis was to explore the contribution of other factors (personality, well-being, leisure time activities, and social support from peers). Based on the aims of this thesis, five research questions were consecutively answered regarding the differences in family, social and personality characteristics between adolescents with three patterns of alcohol use (Chapter 3); the association of parental divorce and other contributing factors with adolescent drunkenness (Chapter 4); the association of risky leisure time activities and parental monitoring with adolescent drunkenness (Chapter 5); the association of family structure and quality of parent-adolescent communication with adolescent drunkenness and frequent alcohol drinking (Chapter 6); and finally, the association of parental divorce with adolescent drunkenness and the contribution of adolescents' feelings toward their parents to this association (Chapter 7). The answers to this research questions are described in Chapters 3 to 7.

Chapter 1 provides general information about excessive drinking in adolescent population, the main dimensions of family environment (family structure, socioeconomic position of the family, social support from family, parental monitoring, parent-adolescent communication, and adolescents' feelings toward parents), and other contributing factors that were explored (personality factors, well-being, peer influence). The aims of the study and research questions are formulated and a model of the studied variables is presented in this chapter as well.

Information about the design of the study is given in *Chapter 2*. It describes two research samples used in this thesis. It further provides a short description of the measures and analysis used.

In *Chapter 3* three groups of adolescents with specific patterns of alcohol use (abstainer, consumer, and excessive drinker) are compared regarding personality factors (extraversion, self-esteem, and aggression), family factors (socioeconomic position, family structure), social support from family and from friends, and well being. The results showed significant differences between abstainers, consumers and excessive drinkers – a risky pattern of alcohol consumption was more likely among adolescents who have divorced parents, higher socioeconomic position, higher scores for perceived social support from friends, extraversion, negative self-esteem and aggression, and lower scores for social support from family and well-being.

Chapter 4 focuses on family factors, exploring the associations between parental divorce and adolescent drunkenness and the contribution of socioeconomic position, family structure, social support from family and well-being. The findings indicate that parental divorce has a persistent influence on adolescent excessive drinking. Parental divorce increased the probability of drunkenness among adolescents. This effect remained statistically significant after the inclusion of the other aforementioned factors. Furthermore, high education level of parents, high family affluence, low level of social support from family, and low level of psychological well-being increased the probability of drunkenness among adolescents.

Chapter 5 deals with the issue of leisure time activities of adolescents and parental monitoring of them, and the associations of these with adolescent excessive drinking. The results showed that participation in risky activities increased the probability of drunkenness among adolescents. This effect remained statistically significant after inclusion of parental monitoring into the model. Moreover, a low level of monitoring by the mother increased the probability of drunkenness. Within the group of 'risky participants' (adolescents who reported participation in at least one of the three risky activities daily or several times a week) those who reported having been drunk scored significantly lower in monitoring from the mother compared with those who did not.

In *Chapter 6* the role of the family structure and the quality of the communication with parents is explored regarding two patterns of adolescent alcohol use (frequent alcohol drinking and lifetime drunkenness). The findings revealed that living in an incomplete family and difficult communication with both parents increased the probability of both drunkenness and frequent alcohol drinking among adolescents when assessing the crude effects of these variables. When assessing the joint effects, all of them still had a statistically significant association with drunkenness, and all of them, except the communication with father, continued to have a statistically significant association with frequent alcohol drinking. Moreover, male gender and higher age increased the probability of both drunkenness and frequent alcohol drinking.

Chapter 7 explores the association between parental divorce and adolescent drunkenness again. Furthermore, the contribution of the adolescents' feelings toward parents into this association is explored. Parental divorce increased the probability of drunkenness among adolescents. This effect remained statistically significant even after inclusion of two dimensions of adolescents' feelings towards the mother (positive and negative affect) in the analysis, while both of these dimensions (positive and negative feelings towards the mother) were associated with drunkenness. Inclusion of the dimensions of adolescents' feelings towards the father (positive and negative affect) decreased the association of parental divorce with adolescents' drunkenness. Both of these dimensions (positive and negative feelings towards the father) were associated with adolescents' drunkenness.

Finally, in *Chapter 8* the main findings are summarized and discussed in the context of the theoretical background. Next, the strengths and limitations of the study are discussed and the possible implications for future research and for public health practice are addressed.

Understanding the factors influencing excessive alcohol use in adolescence, and the mechanisms of their influence is important for its prevention and for health promotion. The findings of this study support the importance of family context in this risk behaviour of adolescents. The negative impact of parental divorce (or living in an incomplete family) on adolescent excessive drinking is relatively well-known from a number of studies. However, the findings of this thesis showed that other aspects of family life and parent-adolescent relationship contribute. This may offer additional cues to decrease the negative effects of parental divorce on adolescents' health behaviour.

Samenvatting

Overmatig gebruik van alcohol in de adolescentie is in de meeste ontwikkelde landen een belangrijk volksgezondheidsprobleem. Het is belangrijk zich bij het bestuderen van dit gedrag op adolescenten te richten, omdat belangrijke leefstijlpatronen tijdens deze periode van het leven worden vastgelegd. Overmatig drinken in de adolescentie is een belangrijke voorspeller van aan alcohol-gerelateerde problemen op volwassen leeftijd. Zulk gedrag leidt niet alleen tot afhankelijkheid van alcohol, maar ook tot chronische lichamelijke en geestelijke gezondheidsproblemen op latere leeftijd. Ondanks de groeiende invloed van leeftijdsgenoten in de adolescentie, blijft de familie een factor met een sterke invloed op het gedrag en de ontwikkeling van de leefstijl van jongeren.

Het hoofddoel van dit proefschrift was om de relatie tussen overmatig drankgebruik gedurende de adolescentie en een aantal kenmerken van het gezinsleven te verkennen. De bijdragen van zowel de structurele kenmerken (gezinsstructuur, sociaal-economische positie) als psychosociale kenmerken (sociale steun, ouderlijk toezicht, ouder-adolescent communicatie, gevoelens van adolescenten ten opzichte van ouders) bij overmatig drinken gedurende de adolescentie werden onderzocht. Een verder doel van dit proefschrift was om de bijdrage van andere factoren (persoonlijkheid, welzijn, vrijetijdsactiviteiten, en sociale steun van groepsgenoten) te verkennen. Gebaseerd op de doelen van dit proefschrift werden vijf onderzoeksvragen achtereenvolgens beantwoord wat betreft de verschillen in gezins-, sociale en persoonlijkheidskenmerken tussen adolescenten met drie patronen van alcoholgebruik (hoofdstuk 3), het verband tussen de echtscheiding van de ouders en andere factoren en dronkenschap gedurende de adolescentie (hoofdstuk 4), het verband tussen risicovolle vrijetijdsbestedingen en ouderlijk toezicht, en dronkenschap gedurende de adolescentie (hoofdstuk 5), het verband tussen de structuur van het gezin en de kwaliteit van de ouder-adolescent communicatie enerzijds en dronkenschap en frequent alcoholgebruik anderzijds gedurende de adolescentie (hoofdstuk 6), en tenslotte het verband tussen echtscheiding van de ouders en dronkenschap gedurende de adolescentie en de bijdrage aan dit verband van de gevoelens van de adolescent ten opzichte van hun ouders (hoofdstuk 7). De antwoorden op deze onderzoeksvragen zijn beschreven in de hoofdstukken 3 tot 7.

In *Hoofdstuk 1* wordt algemene informatie over overmatig alcoholgebruik bij adolescenten gegeven, over de belangrijkste dimensies van de gezinsomgeving (gezinsstructuur, sociaal-economische positie van het gezin, sociale steun vanuit het gezin, ouderlijk toezicht, ouder-adolescent

communicatie en gevoelens van adolescenten ten opzichte van ouders), en andere factoren die werden onderzocht (persoonlijkheidsfactoren, welzijn, invloed van groepsgenoten). Het doel van het onderzoek en de onderzoeksvragen worden geformuleerd alsmede een model van de bestudeerde variabelen.

Informatie over de opzet van de studie wordt gegeven in *Hoofdstuk 2*. Het beschrijft twee steekproeven die zijn gebruikt in dit proefschrift. Het biedt verder een korte beschrijving van de meetinstrumenten en de gebruikte analysemethoden.

In *Hoofdstuk 3* worden drie groepen van jongeren met specifieke patronen van alcoholgebruik (geheelonthouder, gebruiker, en de overmatige drinker) vergeleken met betrekking tot persoonlijkheidsfactoren (extraversie, gevoel van eigenwaarde, en agressie), gezinsfactoren (sociaal-economische positie, gezinsstructuur), sociale steun van het gezin en van vrienden, en welzijn. De resultaten laten significante verschillen zien tussen de geheelonthouders, de gebruikers en de overmatige drinkers - een riskant alcoholgebruik was meer waarschijnlijk onder adolescenten van gescheiden ouders, met een hogere sociaal-economische positie, hogere scores wat betreft ervaren sociale steun van vrienden, extraversie, een negatief zelfbeeld en agressie, en lagere scores wat betreft sociale steun van het gezin en wat betreft welzijn.

Hoofdstuk 4 richt zich op gezinsfactoren. Het verband tussen echtscheiding van de ouders en dronkenschap gedurende de adolescentie en de bijdrage van sociaal-economische positie, gezinsstructuur, sociale steun vanuit het gezin en welzijn worden verkend. De bevindingen zijn dat echtscheiding van de ouders een langdurige invloed op overmatig drankgebruik gedurende de adolescentie heeft. Echtscheiding verhoogt de kans op dronkenschap onder jongeren. Dit effect bleef statistisch significant na het toevoegen van de andere genoemde factoren. Voorts kunnen een hoog opleidingsniveau van de ouders, een hoog welvaartsniveau van het gezin, een laag niveau van sociale steun vanuit het gezin, en een laag niveau van psychisch welbevinden de kans op dronkenschap onder jongeren verhogen.

In *Hoofdstuk 5* worden de vrijetijdsactiviteiten van adolescenten en ouderlijk toezicht op hen behandeld, en het verband ervan met overmatig drankgebruik gedurende de adolescentie. De resultaten laten zien dat de deelname aan risicovolle activiteiten de kans op dronkenschap onder jongeren deed toenemen. Dit effect bleef statistisch significant ook na de toevoeging van het ouderlijk toezicht aan het model. Bovendien verhoogde een laag niveau van toezicht door de moeder de kans op dronkenschap. Binnen de groep van 'risicovolle deelnemers' (jongeren die deelname aan ten minste een van de drie risicovolle activiteiten dagelijks of meerdere keren per week opgaven) scoorden degenen die meldden dat ze dronken waren geweest significant lager wat betreft het toezicht van de moeder vergeleken met degenen die dat niet waren geweest.

In *Hoofdstuk 6* wordt de rol van de gezinsstructuur en de kwaliteit van de communicatie met de ouders onderzocht met betrekking tot twee patronen van adolescent alcoholgebruik (frequent alcoholgebruik en dronkenschap ooit gedurende het leven). Uit de resultaten blijkt dat een onvolledig gezin en moeilijke communicatie met beide ouders de kans op zowel dronkenschap als frequent alcoholgebruik onder jongeren verhoogt indien alleen de ruwe effecten van deze variabelen worden beoordeeld. Bij de beoordeling van de wederzijds gecorrigeerde effecten hadden alle variabelen een statistisch significant verband met dronkenschap, en met frequent alcoholgebruik, uitgezonderd de communicatie met de vader. Bovendien verhoogde het mannelijk geslacht en een hogere leeftijd de kans op zowel dronkenschap en frequent alcoholgebruik.

In *Hoofdstuk 7* wordt het verband tussen de echtscheiding van de ouders en dronkenschap gedurende de adolescentie nogmaals onderzocht. Daarbij wordt ook de bijdrage van de gevoelens van de adolescent naar diens ouders met betrekking tot dit verband verkend. Echtscheiding verhoogt de kans op dronkenschap onder jongeren. Dit effect bleef statistisch significant, zelfs na het toevoegen van twee dimensies van de gevoelens van de adolescent naar de moeder (positieve en negatieve gevoelens) aan de analyse, terwijl beide dimensies (positieve en negatieve gevoelens naar de moeder) verband hielden met dronkenschap. Toevoeging van de dimensies van de gevoelens van de adolescent naar de vader (positieve en negatieve gevoelens) aan de analyse deed het verband tussen scheiding van de ouders en dronkenschap gedurende de adolescentie dalen. Beide dimensies (positieve en negatieve gevoelens ten opzichte van de vader) hingen samen met dronkenschap gedurende de adolescentie.

Ten slotte worden in *Hoofdstuk 8* de belangrijkste bevindingen samengevat en besproken in de context van de theoretische achtergrond. Vervolgens worden de sterke punten en beperkingen van het onderzoek besproken en de mogelijke implicaties voor toekomstig onderzoek en voor de volksgezondheidspraktijk geschetst.

Inzicht in de factoren die van invloed zijn op overmatig alcoholgebruik gedurende de adolescentie, en in de mechanismen die dat gebruik beïnvloeden is van belang voor de preventie van overmatig alcoholgebruik. De bevindingen van deze studie ondersteunen het belang van de context van het gezin wat betreft dit risicogedrag van adolescenten. De negatieve impact van een echtscheiding van de ouders (of het deel uitmaken van een onvolledige familie) op overmatig drinken gedurende de adolescentie is relatief goed bekend uit een aantal studies. Echter, uit de bevindingen van dit proefschrift blijkt dat andere aspecten van het gezinsleven en de ouder-adolescent relatie ook aan dat gedrag bijdragen. Dit kan extra aangrijpingspunten bieden om de negatieve effecten van een echtscheiding op het gezondheidsgedrag van adolescenten te doen afnemen.

Zhrnutie

Rizikové pitie alkoholu v adolescencii predstavuje jeden z hlavných problémov verejného zdravotníctva vo väčšine rozvinutých krajín. Je dôležité zamerať sa na výskum tohto správania najmä u adolescentov, keďže v tomto období života sa budujú základy životného štýlu mladých ľudí. Rizikové pitie v adolescencii je významným prediktorom problémov s alkoholom v dospelosti, keďže vedie k závislosti od alkoholu, ale taktiež k mnohým chronickým ochoreniam a psychickým problémom v neskoršom živote. Napriek rastúcemu vplyvu rovesníkov v období adolescencie, rodina naďalej ostáva silným faktorom ovplyvňujúcim správanie a formujúcim životný štýl mladých ľudí.

Hlavným cieľom tejto práce bolo skúmať vzťah medzi rizikovým pitím adolescentov a niekoľkými charakteristikami rodinného života. Skúmaná bola úloha štrukturálnych (štruktúra rodiny, socioekonomická pozícia rodiny) a psychosociálnych (sociálna opora, rodičovská kontrola, komunikácia medzi adolescentom a rodičmi, pocity adolescenta voči rodičom) charakteristík. Dodatočným cieľom práce bolo skúmať úlohu ďalších faktorov (osobnostné charakteristiky, psychická pohoda, voľnočasové aktivity, sociálna opora od rovesníkov). Na základe cieľov práce bolo formulovaných a postupne zodpovedaných 5 výskumných otázok zameriavajúcich sa na rozdiely v rodinných, sociálnych a osobnostných charakteristikách medzi adolescentmi s tromi rôznymi vzorcami konzumácie alkoholu (Kapitola 3); na vzťah medzi rozvodom rodičov, ďalšími faktormi a opitosťou adolescenta (Kapitola 4); na vzťah medzi rizikovými voľnočasovými aktivitami, rodičovskou kontrolou a opitosťou adolescenta (Kapitola 5); na vzťah medzi štruktúrou rodiny, kvalitou komunikácie medzi adolescentom a rodičmi a opitosťou a opakovaným pitím adolescenta (Kapitola 6); a napokon na vzťah medzi rozvodom rodičov a opitosťou adolescenta a na pravdepodobný vplyv pocitov adolescenta voči rodičom na tento vzťah (Kapitola 7). Odpovede na tieto výskumné otázky sú popísané v Kapitole 3 až 7.

Kapitola 1 ponúka všeobecné úvodné informácie o rizikovom pití v populácii adolescentov, o hlavných dimenziách rodinného prostredia (štruktúra rodiny, socioekonomická pozícia rodiny, sociálna opora od rodiny, rodičovská kontrola, komunikácia medzi adolescentom a rodičmi, a pocity adolescenta voči rodičom) a o ďalších faktoroch, ktoré boli skúmané (osobnostné faktory, psychická pohoda, vplyv rovesníkov). Ciele práce a výskumné otázky sú prezentované v závere tejto kapitoly spolu s teoretickým modelom skúmaných premenných a ich vzťahov.

Informácie o dizajne štúdie sa nachádzajú v *Kapitole 2*, v rámci ktorej sú krátko popísané dve výskumné vzorky, metodiky a štatistické analýzy použité v tejto práci.

V *Kapitole 3* sú porovnávané tri skupiny adolescentov s rôznymi vzorcami pitia alkoholu (abstinent, konzument, rizikovo pijúci) v osobnostných faktoroch (extroverzia, sebaúcta, agresivita), v rodinných faktoroch (socioekonomická pozícia, štruktúra rodiny) a v miere sociálnej opory (od rodiny a rovesníkov) a psychickej pohody. Výsledky ukázali štatisticky významné rozdiely medzi abstinentmi, konzumentmi a rizikovo pijúcimi adolescentmi – rizikovejší vzorec pitia alkoholu je pravdepodobnejší u adolescentov, ktorí majú rozvedených rodičov, vyššiu socioekonomickú pozíciu rodiny, vyššiu mieru extroverzie, negatívnej sebaúcty, agresivity a vnímanej sociálnej opory od rovesníkov; a naopak nižšiu mieru psychickej pohody a vnímanej sociálnej opory od rodiny.

Kapitola 4 sa zameriava na rodinné faktory. Skúmaný je vzťah medzi rozvodom rodičov a opitosťou adolescenta, a pravdepodobný vplyv ďalších faktorov (socioekonomická pozícia rodiny, štruktúra rodiny, sociálna opora od rodiny a psychická pohoda). Zistenia naznačujú, že rozvod rodičov má stabilný vplyv na rizikové pitie adolescenta – zvyšuje pravdepodobnosť výskytu opitosti u adolescentov. Tento vplyv si zachoval štatistickú významnosť aj po pridaní ostatných zmienovaných faktorov. Ďalej, vyššie dosiahnuté vzdelanie rodičov, vyššia miera rodinného blahobytu, nižšia miera vnímanej sociálnej opory od rodiny a nižšia miera psychickej pohody zvyšujú pravdepodobnosť výskytu opitosti u adolescentov.

Kapitola 5 sa zameriava na problematiku voľno-časových aktivít adolescentov a rodičovskú kontrolu týchto aktivít a ich vzájomný vzťah s rizikovým pitím adolescentov. Vychádzajúc zo zistení, účasť na rizikových voľno-časových aktivitách zvyšuje pravdepodobnosť výskytu opitosti u adolescentov. Tento efekt si zachoval štatistickú významnosť aj po pridaní rodičovskej kontroly do modelu. Navyše, nízka miera rodičovskej kontroly na strane matky zvyšuje pravdepodobnosť výskytu opitosti u adolescentov. V rámci skupiny „účastníkov rizikových voľno-časových aktivít“ (adolescentov, ktorí uviedli, že sa zúčastňujú minimálne jednej z troch rizikových aktivít denne alebo niekoľkokrát za týždeň), tí, ktorí uviedli, že boli opití vykazujú významne nižšiu mieru rodičovskej kontroly od matky v porovnaní s tými, ktorí opitosť neuviedli.

V *Kapitole 6* je skúmaná úloha rodinnej štruktúry a kvality komunikácie medzi adolescentom a rodičmi v súvislosti s dvoma vzorcami pitia alkoholu (opakované pitie alkoholu a skúsenosť s opitosťou). Výsledky odhalili, že žiť v rodine s jedným rodičom a vnímať komunikáciu s rodičmi ako „náročnú“ zvyšuje pravdepodobnosť opakovaného pitia alkoholu aj skúsenosti s opitosťou u adolescentov. Pri skúmaní vzájomného spolupôsobenia týchto faktorov (štruktúry rodiny a kvality komunikácie), obidva ukázali štatisticky významný vzťah s opitosťou

adolescenta, a s výnimkou vnímanej kvality komunikácie s otcom aj s opakovaným pitím adolescenta. Navyše, mužské pohlavie a vyšší vek taktiež zvyšujú pravdepodobnosť skúsenosti s opitnosťou aj opakovaného pitia u adolescentov.

Kapitola 7 opäť skúma vzťah medzi rozvodom rodičov a opitnosťou adolescenta. Navyše je skúmaný pravdepodobný vplyv pocitov adolescenta voči rodičom na tento vzťah. Výsledky opäť potvrdili, že rozvod rodičov zvyšuje pravdepodobnosť výskytu opitosti u adolescentov. Tento vzťah si zachoval štatistickú významnosť aj po pridaní dvoch dimenzií pocitov adolescenta voči matke (pozitívny a negatívny afekt) do analýz, pričom obidve tieto dimenzie taktiež preukázali štatisticky významný vzťah s opitnosťou adolescenta. Pridanie dvoch dimenzií pocitov adolescenta voči otcovi (pozitívny a negatívny afekt) oslabilo vzťah medzi rozvodom rodičov a opitnosťou adolescenta. Obidve tieto dimenzie (pozitívny a negatívny afekt k otcovi) preukázali štatisticky významný vzťah s opitnosťou adolescenta.

Na záver, v *Kapitole 8* sú zosumarizované a diskutované hlavné zistenia tejto práce v kontexte teoretických poznatkov. Ďalej sú diskutované silné stránky a limitácie štúdie, a taktiež možné implikácie pre ďalší výskum, ako aj pre prax v oblasti verejného zdravotníctva.

Porozumenie faktorom, ktoré ovplyvňujú rizikové pitie alkoholu v adolescencii, ako aj mechanizmom ich vplyvu, je dôležité pre oblasť prevencie a podpory zdravia. Výsledky tejto práce podporujú a zdôrazňujú význam rodinného kontextu pre rizikové správanie adolescentov. Negatívny vplyv rozvodu rodičov (alebo žitia v rodine s jedným rodičom) na rizikové pitie je pomerne dobre známy z množstva výskumných štúdií. Zistenia tejto práce však ukazujú, že aj ďalšie aspekty rodinného života a vzťahu medzi adolescentom a rodičom prispievajú k tomuto vplyvu. To ponúka nové podnety pre oblasť prevencie a najmä pre snahu minimalizovať negatívny dopad rozvodu rodičov na správanie adolescentov, ktoré súvisí o zdravím.

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About the author



Zuzana Tomčíková was born on December 5th, 1982, in Ružomberok, Slovakia. After the secondary school, she studied psychology at the Department of Psychology, University of Trnava. In May 2006 she graduated in psychology. Her Master thesis was dealing with the approaches in the family psychotherapy. After her university studies she started working as a researcher at PJ Safarik University in Kosice, Slovak Republic in September 2006 and at the same time she started her PhD studies at University of Groningen, The

Netherlands. Her research interest focuses on social and psycho-social determinants of adolescents' health and health-related behaviour, in particular on the role of family environment. In addition, she participated in the education process in the Faculty of Arts and in the Medical Faculty where she delivered lectures in Introduction to Psychology, Developmental Psychology and Communication in Medicine. She also participated as a lecturer in Social-psychological trainings for university students and supervised students' bachelor and master theses. During this time she worked as an external lecturer in Slovak Red Cross, delivering lectures in Psychology and Communication. Since 2009 she is participating on Health Behaviour in School-aged Children (HBSC) study, a multinational project conducted in collaboration with the World Health Organization. At present she is working at the Prague College of Psychosocial Studies.

Graduate School Kosice Institute for Society and Health (KISH) and previous dissertations

The Graduate School Kosice Institute for Society and Health (KISH) was established in 2004. The Graduate School KISH is hosted by the Medical Faculty of the University of Pavol Jozef Safarik in Kosice (Slovakia). KISH researchers originate from the Medical Faculty, the University Hospital and other hospitals, and the Faculty of Arts. Its research concentrates on public health, health psychology, epidemiology and medical sociology. The interdisciplinary research programs focus on Youth and Health and on Chronic Disease.

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