Toni Maglica*, Ina Reić Ercegovac & Maja Ljubetić

FAMILY CHARACTERISTICS AS DETERMINANTS OF MENTAL HEALTH IN ADOLESCENTS

The family environment is considered to be a micro-ecological system with numerous risk and protective factors for mental health. The goal of this research was to determine how different functional and/or structural family characteristics affect some indicators of mental health in adolescents. A number of 1,239 adolescents (ages 15–19) participated in the research. General Data Questionnaire, Family Life Satisfaction Scale, Family Communication Scale, Positive Mental Health Scale, Anxiety, Depression and Stress Scale, and Stressful Events in the Family Checklist, were applied. The results indicated no connection between sociodemographic characteristics and self-assessed satisfaction. Adolescents with older parents were less satisfied with their family and familial communication. Gender differences in mental health were confirmed, mostly to the detriment of girls. The mother's age and the father's level of education significantly correlate with individual mental health. Adolescents with older mothers reported lower mental health. Adolescents with fathers of lower educational status reported higher stress and depression level. Stress within the family proved to be significant in explaining adolescents' mental health, especially due to financial issues, and conflicts among family members. Finally, the results indicated that family communication and satisfaction, with the control of sociodemographic characteristics and stress in a family, additionally explain the significant part of the variance in adolescents' mental health.

Keywords: family communication; family satisfaction; adolescents; mental health; internalized problems

1. Introduction

Mental health is an integral and essential component of the entirety of human health understood as a wholeness of physical, mental, and social well-being, and not merely as the absence of disease or weakness. It enables individuals to realize

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their potential, productivity, possible contribution to the community they live in and to adequately cope with everyday stressful situations (WHO 2014a). Various factors affect mental health, and there are periods of life when the risk of mental health issues is increased. Adolescence is, along with pregnancy and childhood, one of these periods, especially when one considers that most mental problems occur before adulthood (CAMPION et al. 2020; CAMPION 2019; JONES 2013). The mental health of adolescents is of particular interest to practitioners and scientists because the period of adolescence encompasses strong and growing changes and formative learning experiences that occur during the transition from childhood to adulthood. During this period, adolescents must navigate their way through overwhelming experiences and feelings of uncertainty, while at the same time they discover new skills and competencies that may be carried through the rest of their lives. Recent neurological evidence underlines the importance of adolescence as a period that can have long-lasting impact on life trajectories because of the rapid structural and neuro-developmental changes that take place in the brain during this period (DAHL et al. 2018; SHEEHAN et al. 2017; PATTON et al. 2016; SLOBODA & PETRAS 2014). Despite the above statements, ORDÓÑEZ and COLLINS (2015) think that adolescent mental health is still neglected in the wider mental health context and that additional research should be conducted. For example, when it comes to adolescent mental problems, ERSKINE and colleagues (2017) state that global prevalence data is still scarce. Yet, what we know is that a significant percentage of adolescents exist who manifest mental health problems (POLANCZYK et al. 2015), and World Health Organization data show that adolescents aged 13–18 years are manifesting anxiety problems (more than 20% of youth), depression (10–15% of youth) and suicide is the second leading cause of death in people 15–29 years old (WHO 2014a); i.e., it is the first pattern of mortality in young girls aged 15–19 years (WHO 2014b). An ecological model (BRONFENBRENNER 1979) is often used to explain mental health (even mental health problems), enabling a better understanding of adolescents' relationships with their environment, and the interaction of their risk and protective factors. For this paper, the research focused on certain characteristics of the family as the closest environment within the ecological model and their impact on mental health, as well as on some of the mental problems specific to adolescents.

Parents are undoubtedly the key gatekeepers to the mental health of adolescents (SCHNYDER et al. 2019); therefore, it is extremely important to explore the relationship between parenting and adolescent mental health. The obtained results contribute to the development of preventive strategies (VAN LOON et al. 2014), but also to the promotion of mental health. Previous research findings have shown that quality family relationships, familial cohesion, satisfaction within the family and quality communication are family protective factors that protect mental health, contribute to an individual's sense of well-being and prevent behavioural issues (ALM et al. 2020; REED et al. 2015; LUTAHR & ZELAZO 2003; MASTEN 2001, as cited

in Velez et al. 2019). When it comes to communication, the importance of quality in communication processes and family interactions has been the topic of numerous studies (Epstein et al. 1993; Haskard et al. 2009; Peterson & Green 2009), with the following highlighted as key aspects determining the quality of family relationships and familial functioning: active listening (Hafen & Crane 2003; Mcnaughton & Vostal 2010; Weger et al. 2014), appropriate manners of conversation and problem solving (Akhlaq et al. 2013; Ahmadi et al. 2010), control of expressing negative feelings (Morris et al. 2011) and freedom in mutual expression of affections and emotions (Liu et al. 2015; Čotar Konrad 2016). The use of active listening is the first step in an effective two-way communication and successful cooperation among family members, especially in the parent-adolescent relationship, enabling both information gathering and showing interest in the other party (Mcnaughton & Vostal 2010). Studying the (in)effectiveness of active listening and the consequent effects on family practice, Hafen and Crane (2003) emphasizes that one of the intervention measures in family therapy should be to teach parents about active listening. According to research results, the reason for this is that with communication being based on active listening, the recipient of the messages feels better (Weger et al. 2014), and this aspect is extremely important – especially when it comes to communication between parents and adolescents. On the other hand, poor family relationships, lack of cohesion, and inadequate communication remain family risk factors that are associated with many mental disorders throughout life, addiction, and even psychiatric disorders (Ballester et al. 2020; Berg et al. 2017; Landstedt et al. 2015; Morgan et al. 2012).

The goal of this research was to examine the contribution of different structural and functional family characteristics to adolescents' mental health, and internalized problems that adolescents manifest. Regarding the aforementioned goal, this study tried to answer the following research questions:

1. The relationship between the sociodemographic characteristics of adolescents and their families, family satisfaction and familial communication, and the mental health of adolescents.

2. Whether adolescents differ in self-assessment of mental health, depression, anxiety, and stress concerning gender, age, and the type of school they attend?

3. Whether satisfaction with family relationships and communication contributes to adolescent mental health in addition to the contribution of sociodemographic characteristics and experiences of stressful family events?

2. Materials and Methods

2.1. Sample

The research included 1,239 adolescents aged 15 to 19 years, 7.28% of them students of two-year and three-year vocational secondary schools (N = 92), 49.17% four-year and five-year vocational secondary school students (N = 621) and 43.55% were grammar high school students (N = 550). The sample's structure according to age and gender is shown in *Table 1*.

Table 1
Sample structure by age and gender (N = 1,239)

	15 years	*16 years*	*17 years*	*18, 19 years*	*Total*
Male	121	172	159	117	569
Female	135	178	182	175	670
Total	256	350	341	292	**1,239**

In the entire sample, more than 98% of adolescents live with their mothers (N = 1,216) and 87% with their fathers (N = 1,074). The majority of participants, 83.70% (N = 1,053) stated that their parents live together in a marital relationship, while 107 adolescents (8.47%) stated that they had experienced parental divorce. The average age of the mothers was M = 45.13 (SD = 5.12) with their age ranging from 30 to 70 years; the average age of the fathers was M = 48.64 (SD = 5.80) with an age range of 33 to 70 years. Shown in *Table 2* is the structure of parental categories according to the level of education and employment status at the time of the survey.

Table 2
Parental education and working status

Education	*Mother*	*Father*	**Working status**	*Mother*	*Father*
Elementary school	2.40%	2.82%	*Full time*	73.6%	79.50%
High school	55.80%	57.02%	*Short-time work*	9.81%	6.05%
Bachelor's degree	13.21%	12.98%	*Unemployed*	13.96%	2.82%
Master's degree & <	28.58%	27.18%	*Retired*	15.75%	10.33%
			Other	0.88%	1.29%

2.2. Instruments

The following instruments were used in the research: General Data Questionnaire for students, Family Satisfaction Scale, Family Communication Scale, Positive Mental Health Scale, Depression, Anxiety and Stress Scale and Stressful events in the family checklist. The measures were either translated from English and validated in previous researches on Croatian samples (Maurović et al. 2020; Novak et al. 2021) or constructed in Croatian.

General Data Questionnaire collected data on the participants' basic socio-demographic characteristics (gender, age, grade, type of school) and their families' basic sociodemographic characteristics (household members, parents' age, parents' educational and work status, parents' marital/partner status).

Family Satisfaction Scale is an integral part of the FACES IV instrument (Olson et al. 2006). It consists of ten questions that address the positive aspects of family relationships (e.g., closeness between members, ability to resolve disagreements, etc.); the task of the participants was to assess (on a scale from 1 to 5) levels of satisfaction where 1 meant very dissatisfied and 5 very satisfied. Confirmatory factor analysis showed a good fit of the data to the one-factor model (GFI = .90; CFI = .94; NNFI = .93), hence a total score was formed as a linear combination of estimates on all ten items, with a higher result indicating higher family satisfaction. The scale's psychometric characteristics are shown in *Table 3*.

Family Communication Scale is an integral part of the FACES IV instrument (Olson et al. 2006). It consists of ten items that examine various positive aspects of communication within the family (e.g., calm discussion of problems, honest expression of emotions, etc.), and the task of participants is to assess on a scale from 1 to 5 the degree of agreement with each particle where 1 means 'I completely disagree', and 5 'I completely agree'. Confirmatory factor analysis showed a good fit of the data to the one-factor model (GFI = .93; CFI = .96; NNFI = .94); therefore, one total result was formed as a linear combination of estimates on all ten items, with a higher result indicating better communication in the family. The psychometric characteristics of the scale are shown in *Table 3*.

Depression, Anxiety and Stress Scale (Lovibond & Lovibond 1995; Reić Ercegovac & Penezić 2012) originally consists of 42 items arranged in three subscales which examine the level of depression (pessimism, inability to feel positive emotions, etc.), anxiety (breathing difficulties, anxiety, panic, etc.) and stress (inability to relax, irritability, etc.). An abbreviated version of 21 items was used in this research, with each subscale represented by seven items. The participants' task was to evaluate on a scale from 0 to 3 how much each item referred to them in the last week. At the same time, 0 meant 'It did not refer to me at all', and 3 meant 'It strongly referred to me', i.e., 'It referred to me most of the time'. Confirmatory factor analysis on predefined three factors showed a good fit of the data to the

three-factor model (GFI = .92; CFI = .94; NNFI = .93); therefore, three total results were formed, and their psychometric characteristics are shown in *Table 3*.

The Positive Mental Health Scale (Warwick-Edinburgh Positive Mental Health Scale, CLARKE et al. 2011) consists of 14 items that encompass behavioural and affective aspects of an individual's mental well-being (e.g., relaxation, interest in other people, self-confidence, etc.), and the task of participants is to rate on a scale of 1 to 5 how often they felt, behaved, or thought the stated way during the previous two weeks where 1 meant 'Never' and 5 'Always'. Confirmatory factor analysis on a predetermined single factor, following the instructions for using the scale, showed a satisfactory fit of the data to the one-factor model (GFI = .89; CFI = .90; NNFI = .89) and formed a highly reliable total result, the higher value of which indicates the participants higher level of mental health. The scale's psychometric characteristics are shown in *Table 3*.

Stressful events in the family checklist was constructed for research purposes and consisted of several stressful events that participants were required to mark if they experienced them in the family. These were parental divorce, financial problems in the family, domestic violence, significant disagreements between parents and significant disagreements between adolescents and parents.

Table 3
Psychometric characteristics of the used instruments

	N	Cronbach α	M (SD)	Range	skewness	kurtosis
Satisfaction with family	10	.95	38.73 (9.20)	10–50	-.94	.43
Family communication	10	.94	39.30 (8.73)	10–50	-.84	.31
Depression	7	.89	6.07 (5.42)	0–21	.90	-.08
Anxiety	7	.85	5.98 (5.22)	0–21	.90	.01
Stress	7	.88	7.62 (5.55)	0–21	.52	-.69
Mental Health	14	.93	52.19 (10.37)	14–70	-.55	.05

2.3. Procedure

The data presented in this paper are part of a larger scientific research within the *Positive Development of Croatian Adolescents project* [original title in the Croatian language: *Pozitivan razvoj mladih u Republici Hrvatskoj*], led by Dr.

Miranda Novak, Faculty of Education and Rehabilitation Sciences, University of Zagreb. The research was conducted upon informant consents and in accordance with respecting all ethical standards. It was conducted in schools, i.e., during classes that the respondents attend, on the paper-and-pencil principle. Participation in the research was entirely anonymous and voluntary, and the students who agreed to participate signed an informed consent letter. Completing the questionnaire took approximately one school hour.

2.4. Data analyses

Data were analysed using the statistical application STATISTICA13. Since all measures had indicators of skewness and kurtosis ranging from -1 to +1, parametric procedures were applied. The correlation between the variables was tested by the Pearson correlation coefficient. Gender, age and school differences in mental health, depression, anxiety and stress were analysed by the use of ANOVA. To test the separate contribution of sociodemographic and family variables to the explanation of individual differences in adolescents' mental health, several hierarchical regression analyses were applied.

3. Results

As expected, variables involving adolescent mental health are highly interrelated, as are the family relationship assessment variables (*Table 4*). Participants who reported a high satisfaction with family relationships also rated family communication as positive. Adolescent age is generally unrelated to either family relationship assessments or mental health assessments. Only a significant, albeit very low, negative correlation was found between adolescent age and depression. Furthermore, the age of the parents is related to the adolescents' assessments in such a way that the age of both parents is significantly negatively related to the adolescents' assessments of family satisfaction and family communication. It should be added that the age of mothers is significantly negatively associated with the assessment of adolescent mental health. These are low but significant correlation coefficients. The education level of the mothers is unrelated to any assessment of adolescents, while the fathers' educational level is significantly negatively related to the level of stress and depression of the adolescents. In other words, adolescents of fathers possessing lower educational status rate the level of stress and depression higher.

Table 4
Correlations among major study variables

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Age										
2.	Mother's age	.190**									
3.	Father's age	.235**	.741**								
4.	Mother's education	-.105**	.064*	-.041							
5.	Father's education	-.065*	.114**	.046	.503**						
6.	Family communication	-.028	-.132**	-.097**	-.028	.009					
7.	Satisfaction with family	-.018	-.131**	-.098**	-.028	-.015	.814**				
8.	Positive mental health	.032	-.080**	-.036	.008	-.001	.420**	.389**			
9.	Stress	-.021	.009	-.002	-.033	-.060*	-.285**	-.304**	-.494**		
10.	Anxiety	-.050	.024	.007	-.020	-.052	-.281**	-.288**	-.429**	.789**	
11.	Depression	-.062*	.027	-.005	-.054	-.060*	-.348**	-.365**	-.597**	.795**	.765**

*p < .05; **p < .01.

To examine age and gender differences in mental health assessment and levels of stress, depression, and anxiety, two-way MANOVA was conducted with age and gender as independent variables, followed by univariate tests for each dependent variable. These analyses' results are shown in *Table 5*.

Table 5
Adolescent's Mental health, Depression, Anxiety and Stress (gender and age comparison)

Dependent variables	Independent variables	Wilks	F	df
Mental Health, Depression, Anxiety and Stress	Gender	.957	13.54**	4,1203
	Age	.989	1.09	12,3183
	Gender x age	.984	1.58	12,3183

Univariate tests

Mental Health	Gender	27.89**	1,1206
	Age	.81	3,1206
	Gender x age	1.63	3,1206
Depression	Gender	21.30**	1,1206
	Age	2.01	3,1206
	Gender x age	1.71	3,1206
Anxiety	Gender	25.24**	1,1206
	Age	1.61	3,1206
	Gender x age	.47	3,1206
Stress	Gender	43.80**	1,1206
	Age	.47	3,1206
	Gender x age	1.95	3,1206

It can be concluded that, regardless of age, a systematically significant difference exists between adolescents in all indicators. Adolescent girls, compared to their male counterparts, rated their mental health lower and their levels of depression, anxiety, and stress significantly higher. This was found in all age groups, for all variables. Although differences concerning age are not significant, it should be noted that there is a noticeable trend of increasing mental health in older groups; i.e., it seems that the mental health of girls from the youngest age group: i.e., those attending year one of secondary school, is the most vulnerable. Since the results shown in *Table 5* do not suggest a conclusion about significant age differences for girls, one-way analyses were used to separately test differences between age groups for each criterion and showed that the difference was significant only for depression (F = 3.45, df = 3,664; P = .016). *Figure 1* shows these results. On the other hand, no such trend is observed in adolescent boys. Moreover, the results of depression and anxiety are very stable across age groups (*Figure 2*), and individual tests among age groups did not indicate any significant difference.
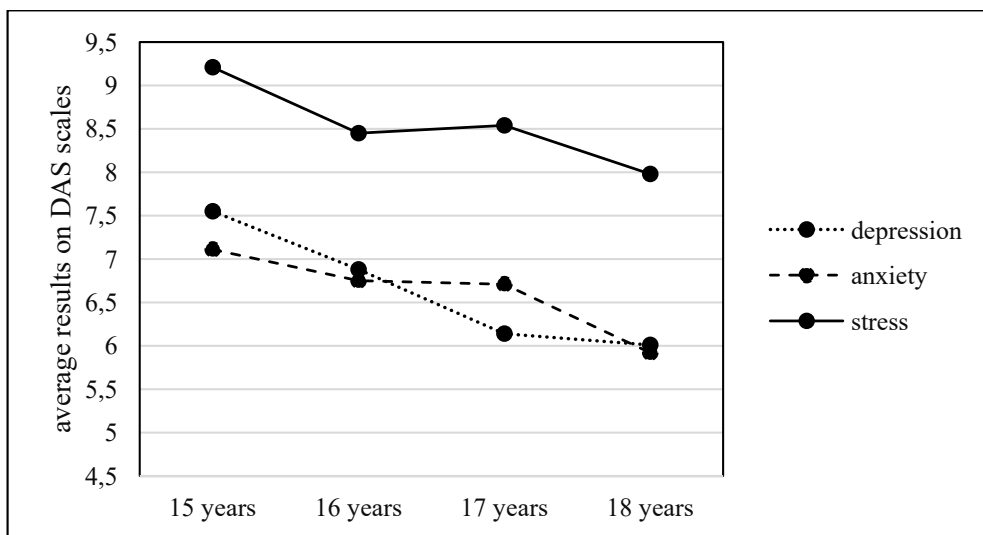
Figure 1
Depression, anxiety, and stress in adolescent girls of different age groups
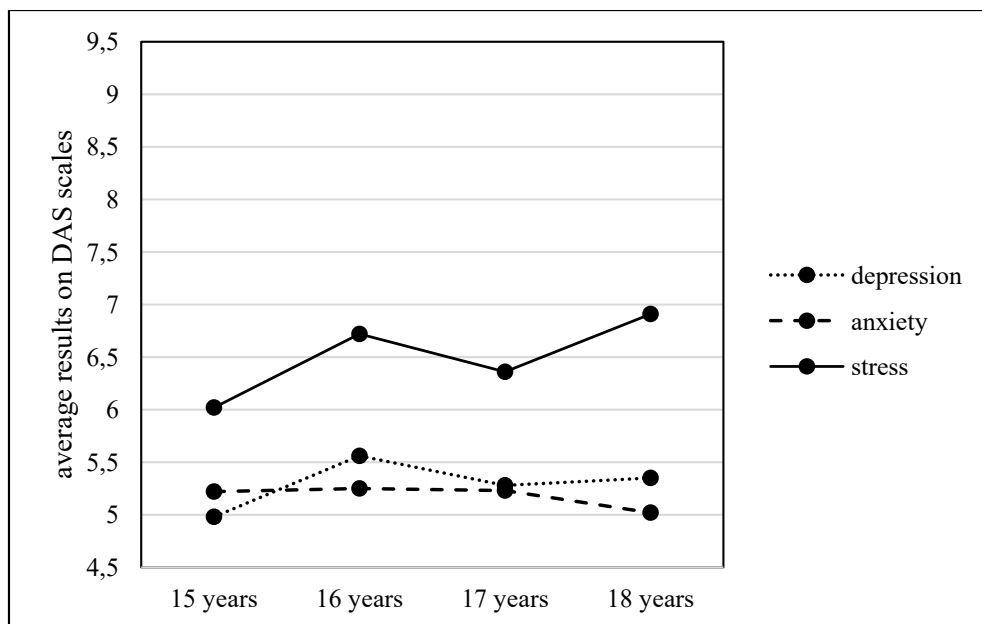

Figure 2
Depression, anxiety, and stress in adolescent boys of different age groups

Table 6 shows the results of MANOVA, followed by univariate tests with type of school as an independent variable. There were n = 91 participants in a subsample of 2- or 3-year vocational school; n = 610 participants in a subsample of 4- or 5-year vocational school, and n = 546 participants in a subsample of grammar high school.
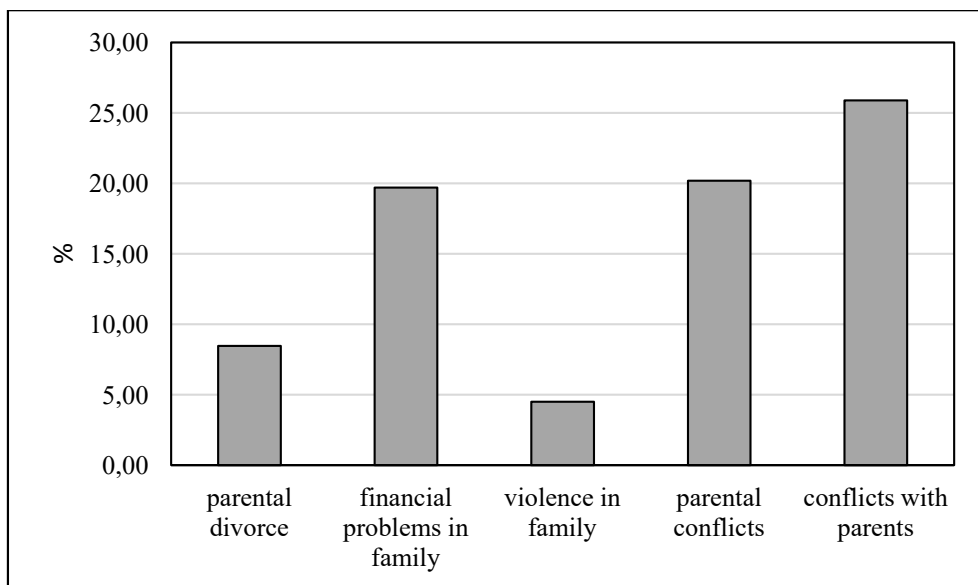
Table 6
Adolescent's Mental health, Depression, Anxiety and Stress (school program comparison)

Dependent variables	Independent variable	Wilks	F	df
Mental, Health, Depression, Anxiety, and Stress	Type of school	.986	2.13*	8,2456
Univariate tests				
Mental Health	Type of school		4.14*	2,1231
Depression	Type of school		2.63	2,1231
Anxiety	Type of school		1.74	2,1231
Stress	Type of school		1.32	2,1231

*p < .05; **p < .01.

The type of school proved to be important only in the assessment of mental health, with a subsequent analysis by groups showing that grammar high school students rated mental health lower than students in four-year vocational secondary schools. No significant differences in the type of school were found in other indicators of mental functioning (*Table 6*).

Figure 3 shows the proportion of participants who reported different sources of stress in the family. Slightly less than 5% of the participants experienced domestic violence, 8.47% of the participants experienced the divorce of their parents, about 20% of the participants experienced financial problems in the family and significant disagreements among parents, while, as expected, most participants reported conflicts with parents.

Figure 3
Proportion of participants who experienced the stated stressors within the family

Table 7 shows the results of hierarchical regression analyses with adolescent well-being variables as criteria and family characteristics as predictors. Given the previously identified significant differences in the gender of the participants, variables of participants' gender and age were introduced in the first step to control their eventual contribution when determining the contribution of family characteristics. In all analyses, the family's sociodemographic characteristics were introduced in the second step, sources of stress in the family in the third step, and assessments of family satisfaction and family communication in the last step of the analysis.

Selected predictors explained a total of 21% of mental health variance, 18% of depression, 14% of anxiety, and 15% of stress. For all four criteria, in addition to controlling the sociodemographic characteristics of adolescents and families as well as sources of stress within the family, family satisfaction introduced in the final steps of the analysis proved to be a significant predictor of adolescent mental health. The same was found for communication in the family except for the stress criterion.

Significant predictors of mental health are the gender and age of adolescents, family satisfaction, and communication within the family. Adolescent boys compared to adolescent girls, older people compared to younger people, and those who assessed higher family satisfaction and better communication, also assessed their mental health as better. Similar results were obtained in the analysis with depression as a

criterion, in addition to financial problems in the family as an additional significant predictor. For anxiety, in addition to age, gender, satisfaction and communication in the family, significant predictors prove to be also the experience of domestic violence and the experience of financial issues in the family. Furthermore, the results indicate more anxiety in adolescent girls than in adolescent boys, in the younger people as opposed to the older ones, and also more anxiety in those less satisfied with the family and the communication within it, as well as in those who have experienced financial issues in the family and domestic violence. Finally, gender, financial issues in the family, and family satisfaction proved to be significant predictors of stress, with adolescent girls as well as those less satisfied with their family experiencing higher stress.

Table 7
Hierarchical Regression Analysis with Mental Health variables as criteria

		Criteria			
		Mental Health	*Depression*	*Anxiety*	*Stress*
1. step					
Gender		-.16**	.16**	.18**	.21**
Age		.05	-.07*	-.06*	-.03
Type of school		-.03	-.04	-.05	-.03
	R (R²)	.17 (.03)	.17 (.03)	.19 (.03)	.21 (.04)
	F (df)	11.27** (3,1140)	11.25** (3,1139)	13.59** (3,1139)	17.70** (3,1139)
2. step					
Gender		-.16**	.16**	.18**	.21**
Age		.06	-.08*	-.07*	-.04
Type of school		-.03	-.02	-.05	-.01
Mother's Age		-.12**	.09**	.06	.04
Father's Age		.05	-.06	-.02	-.02
Mother's Education		.02	-.04	.02	.00
Father's Education		.01	-.05	-.06	-.06
	R (R²)	.19 (.04)	.19 (.04)	.20 (.04)	.22 (.05)

ΔR²	.01*	.01	.01	.01
F (df)	6.33** (7,1136)	6.16** (7,1135)	6.58** (7,1135)	8.27** (7,1135)

3. step

Gender	-.14**	.13**	.16**	.18**
Age	.06*	-.09**	-.07*	-.05
Type of school	-.03	-.02	-.05	-.01
Mother's Age	-.10*	.06	.03	.01
Father's Age	.04	-.05	-.02	-.02
Mother's Education	.02	-.03	.02	.01
Father's Education	-.01	-.03	-.04	-.05
Divorce	.01	-.04	-.04	-.02
Financial problems	-.07*	.10**	.11**	.10**
Family violence	-.05	.07*	.12**	.05
Parental conflicts	-.03	.12**	.07	.11**
Conflicts with parents	-.08*	.06	.05	.08*
R (R²)	.25 (.06)	.31 (.10)	.31 (.10)	.33 (.10)
ΔR²	.02*	.06**	.06**	.05**
F (df)	6.30** (12,1131)	10.30** (12,1130)	9.97** (12,1130)	11.10** (12,1130)

4. step

Gender	-.13**	.11**	.15**	.18**
Age	.06*	-.08**	-.06*	-.04
Type of school	-.04	-.02	-.05	-.01
Mother's Age	-.06	.03	.04	-.02
Father's Age	.03	-.06	-.02	-.02
Mother's Education	.03	-.04	.01	.00
Father's Education	-.01	-.03	-.04	-.05
Divorce	.03	-.05	-.04	-.03

Financial problems	-.03	.07*	.09**	.08**
Family violence	-.01	.04	.09**	.02
Parental conflicts	.06	.06	.02	.06
Conflicts with parents	-.02	.01	.02	.04
Family communication	.32**	-.13**	-.11*	-.08
Satisfaction with family	.13**	-.21**	-.14**	-.17**
R (R²)	.46 (.21)	.43 (.18)	.38 (.14)	.40 (.15)
ΔR²	.15**	.08*	.04*	.05**
F (df)	21.66** (14,1129)	18.20** (14,1128)	13.31** (14,1128)	14.74** (14,1128)

4. Discussion

The goal of this research was to determine how different family characteristics, whether functional or structural, affect the mental health experience of adolescents. In addition to positive mental health, the same characteristics were examined concerning mental health problems – primarily internalized – since the substantive body of research indicates 20% of adolescents manifesting mental health issues, with anxiety and depression being the most prevalent ones (WHO 2014a; WHO 2014b; UNICEF 2017).

The family environment belongs to 'microecology', the closest and narrowest system that carries many risk and protective factors for mental health. Healthy family functioning depends on a number of factors, and one of the most significant is family communication, which directly affects the overall family atmosphere and the satisfaction experience of individuals in that family (HASKARD et al. 2009; PETERSON & GREEN 2009). Concerning the first research question on the connection between the sociodemographic characteristics of adolescents and their families on the one hand, and family communication, family satisfaction, and adolescent mental health on the other, the results showed that adolescents (regardless of their age) who assess positive family communication show high satisfaction with family relationships and positive mental health. This finding is consistent with a number of studies that speak in favour of the importance of good quality family communication and its connection to good quality family relationships and mental health (ALM et al. 2020; BERG et al. 2017; REED et al. 2015; MORGAN et al. 2012; LUTAHR & ZELAZO 2003; MASTEN 2001, as cited in VELEZ et al. 2019). Adolescent age is generally unrelated to either family relationship assessments or mental health. There is only a significant but low negative

correlation between adolescent age and depression. The result is not uncommon: some studies confirm that early adolescents at the beginning of secondary school exhibit a higher level of depression (combined with anxiety) compared to the older ones who attend upper grades of secondary school (RICE et al. 2011; AKOS & GALASSI 2004; REIĆ ERCEGOVAC & KALEBIĆ 2016), which can be associated with new situations, environments, requirements and expectations that they try to respond to. Concerning parental age, the results of our research show that the age of both parents stands as significantly negatively associated with assessments of family communication and family satisfaction, and also, the mother's age negatively correlated with the child's mental health. The negative relationship between parental age and adolescent family satisfaction and communication can be interpreted in the context of family cognitions and age-dependent behaviour. It is possible that older parents are more inclined to apply more traditional parental behaviours that promote higher control level and obedience versus supporting autonomy, which may reflect on children's assessments of the family environment, especially in adolescents seeking autonomy, avoiding strict family rules, and breaking boundaries that formed the framework of their expected behaviour during childhood. This is supported by research findings suggesting that redirecting people to more conservative values is a function of age (ROBINSON 2013), which is reflected in parental cognitions and behaviours, and given the wide age range of parents in this research (up to 70 years), it is possible that this also contributed to such results. However, since this research did not cover parental behaviours concerning the age of the parents and their parental cognition, these assumptions should be verified in subsequent studies.

Although a lower educational status of the parents is usually associated with lower mental health in some studies (APA 2020; NGUYEN et al. 2017), the results of our research did not confirm this, except in the part where higher levels of stress and depression are expressed by adolescents whose fathers have a lower level of education. It is possible that the fathers' lower level of education is associated with lower family incomes, which can cause negative reactions from adolescents who express ever-growing needs in financial terms, and if the latter cannot be met, this can be an additional source of difficulty for adolescents. This is supported by the results of regression analyses which showed that financial problems in the family are a significant predictor of both adolescents' mental health and difficulties in their mental functioning of. Also, the results of previous research show that a lower socioeconomic status is associated with lower levels of education, and consequently, a higher level of stress and mental health issues (ALM et al. 2020; BERG et al. 2017).

Another research question sought to examine whether adolescents differ in their assessment of mental health, depression, anxiety, and stress concerning age, gender, and the schools they attend. Research around the world has shown mixed results when it comes to gender and mental health during childhood and adolescence, depending on the mental health indicators researched. In general, a large body

of research consistently points to gender differences when it comes to adolescent mental health, to the detriment of girls (Tejerina-Arreal et al. 2020; Berg et al. 2017; UNICEF 2017; WHO 2014b). In a large study conducted by UNICEF in 31 European countries, twice as many girls reported symptoms related to their mental health as boys at ages 13 and 15 (UNICEF 2017). On the other hand, young men are more likely to manifest externalized behavioural problems, addictive behaviours, and involvement in juvenile delinquency (Buist et al. 2020; Cummings & Davies 1994; Dornfeld & Kruttschnitt 1992, as cited in Berg et al. 2017; Maglica 2017; Ricijaš et al. 2016), and girls generally more often manifest internalized problems such as depression, anxiety, and higher levels of stress (Merikangas et al. 2011; WHO 2018). The results of our research clearly indicate that girls in all age groups assess their mental health lower, and the level of depression, anxiety, and stress higher. Although the differences concerning age did not prove to be significant, girls show a noticeable trend of increasing mental health in higher grades; i.e., it seems that the girls belonging to the youngest age group, the ones attending year one, have the most vulnerable mental health. Research on our samples also led to the conclusion that girls during the transition from primary to secondary school are the most vulnerable group in terms of mental health (Reić Ercegovac & Kalebić 2016). The results obtained are not surprising given that entering a new environment, being among new peers, exposed to new demands and expectations can be stressful and increase anxiety (Rice et al. 2011; Akos & Galassi 2004). It should be noted that girls are particularly vulnerable in this developmental transition for a number of reasons. Namely, compared to boys, girls are more focused on social relationships and acceptance by peers due to gender-typical socialization, which makes them more susceptible to stress and anxiety during the adjustment to the new environment, and should they not meet their expectations, it can increase dissatisfaction and depression. Furthermore, due to consistent gender differences in self-esteem to the detriment of girls (Quatman & Watson 2001; Bleidorn et al. 2016; Moksnes & Espnes 2013), adapting to a new environment and facing new demands may have a more negative effect on the already fragile self-esteem of girls during that period. On the other hand, better self-perception of young men can also serve as a protective factor in the stressful period of adjustment. Finally, since girls are continuously more focused on school obligations and achievements and are more committed to fulfilling school obligations (Roviš & Bezinović 2011), they may be more uncertain about academic achievements due to fulfilling their own and the environment's expectations, which can be reflected in stress and heightened anxiety. When it comes to the type of school, the difference was shown only in mental health, with better results achieved by students of four-year vocational secondary schools than students of high schools with a four-year generalist programmes. It is very possible to connect the obtained results to the complexity of high school curricula with generalist programmes, including the adolescents' curricular and

extracurricular obligations, as well as with the 'prestigiousness', and thus, higher standards of these schools compared to vocational schools.

   Concerning stressors within the family environment, a smaller percentage of participants reported having experienced violence (5%) and parental divorce (8.47%), while a much higher number of respondents reported financial problems in the family (20%) and conflicts with parents (over 25%). Worth repeating is that general stress, problems related to parental stress, and the resulting dysfunction of family relationships play an important role in children's mental health and are often explored in this context (Berg et al. 2017; Manning & Lamb 2003; Duchovich et al. 2009; Merikangas et al. 2011). Socioeconomic status is most often viewed as a family variable and is considered an important protective and risk factor for health in general, and thus for mental health. It has a significant impact on the child's physical, social, and cognitive development (Nguyen et al. 2017; Ordóñez & Collins 2015; Lund et al. 2011). Low socioeconomic status (SES), indicated by lower household income, educational status, and poverty, is associated with a greater risk of developing a mental and behavioural disorder than in children and adolescents of middle or high SES (Reiss 2013). On the other hand, family conflicts, poor family relationships, and poor communication are strong risk factors for adolescent mental health, development of mental problems, addictions and even juvenile delinquency (Buist et al. 2020; Alm et al. 2020; Berg et al. 2017; Maglica 2017). This is confirmed by the results of our research, since the results of regression analyses showed that with control of sociodemographic family characteristics, financial problems, and conflicts within the family significantly predict the mental health of adolescents. Interestingly, on top of these factors, satisfaction with family relationships and intra-family communication also explain a significant portion of mental health variance.

   In other words, regardless of the sociodemographic characteristics of the family and the sources of stress in the familial context, communication among family members and family satisfaction further contribute to all indicators of adolescent mental health. This undoubtedly implies the importance of the family atmosphere and the adolescent's perception of the family as a strong protective factor for mental health in adolescence. It should be noted that all predictors included in the research explain between 14 and 21% of the variance in adolescent mental health which means that there are a number of other important factors to consider when explaining adolescent mental health. Nevertheless, the results of regression analyses showed that among the included predictor variables, the age and gender of adolescents, financial stressors in the family, satisfaction and family communication were the most significant contributors. Namely, these variables in the last steps of the analysis proved to be significant predictors of all criteria variables of mental health. Bearing in mind the importance of mental health for the success of the adolescents' developmental tasks, the results confirm the importance of a stable, safe, and supportive family atmosphere for the adolescent well-being.

5. Limitations and Conclusion

Before concluding, it is necessary to look at the limitations of the conducted research. The first stems from the fact that only adolescents participated in it, so for future research it would be useful to include parents and their assessments of the family environment, which would provide additional important information about the relationship between family characteristics and mental health in adolescence. Furthermore, in the research, there was a significantly lower share of two-year and three-year high school students compared to four-year school and high school students, but given the share in the high school population, students with the lowest level of high school education are proportionally represented. Finally, with regard to mental health as the main dependent variable in the research, it should be noted that specific diagnosed mental health difficulties were not controlled; i.e., adolescents were treated as a homogeneous sample in the research. Also, although relatively large, the sample is from only one urban environment, something which should be considered when interpreting the results. Despite the limitations, the research confirmed the already known results about gender differences in mental health and internalized mental health problems in adolescence, highlighted the importance of environmental stressors affecting the family for adolescent mental health, and confirmed the added importance of family relationships and communication as a protective factor in the mental health of adolescents.

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