Prevalence of and Risk Factors Associated with Psychopathological Symptoms in Uruguayan Adolescents, Using the Personality Assessment Inventory (PAI-A)

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Abstract

This work describes the distribution of psychopathological indicators and their clinical levels in Uruguayan high school adolescents by gender, age, and socioeconomic level of the participants. The proportion of cases with indicators at comorbid clinical levels is also estimated. We evaluated 540 adolescent students of both genders (55.5% female), aged 12 to 18 years (M=15.40; SD=1.92) of five departments of Uruguay, using the Personality Assessment Inventory-Adolescent (PAI-A; Morey, 2007). In many of the PAI-A scales, significant differences were recorded in the mean scores by gender, age, and socioeconomic status. A third of the adolescents presented significant levels on one or more clinical scales, the most frequent being depression, anxiety and somatizations, and the least prevalent, antagonistic traits. The adolescents with higher scores on the PAI-A scales were female, younger and with a lower socioeconomic level.

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1. Introduction

Between 5 and 20% of the child-adolescent population internationally is affected by mental disorders (Belfer, 2008; Copeland et al., 2011). It is estimated that about half of these disorders develop before the age of 15 and, in most cases, both emotional and behavioral clinical manifestations persist into adulthood (Stepp et al., 2013). These disorders have important effects on physical and mental health (Holmstrand et al., 2015), including a greater propensity

to be victims or perpetrators of violence (Whiting & Fazel, 2020), to consume substances (Gonzalvez et al., 2016), and commit suicide (Villar-Cabeza et al., 2018). Such effects have a negative impact on family, social, academic, and work environments (Asselmann et al., 2018). On an economic level, the negative consequences are also very significant (Domino et al., 2009; Simpson et al., 2005), as mental difficulties explain 45% of the total disability-adjusted life years (Gore et al., 2011), a measure of the global burden of disease, expressed as the number of years lost due to ill-health, disability or early death.

Adolescence is a stage of multiple physical, emotional, and social changes (Goddings et al., 2014). The stress deriving from these changes, especially in a context of exposure to poverty or violence, can make it a stage of high vulnerability to mental health problems (World Health Organization [WHO], 2019). Psychopathological symptoms, often with onset in early childhood, can act as risk factors for numerous adverse consequences in adolescents, including mental health disorders at later ages. Symptoms, in the context of psychopathology, are defined as enduring or recurring subjective experiences or behavior patterns that are indicative of a mental health problem (Wilshire et al., 2020). They provide some evidence for the existence of a disorder, and may shed light on its core characteristics, although they do not constitute, by themselves, mental disorders. The DSM-5, which classifies different types of mental disorders, outlines the diagnostic criteria for each specific disorder, which primarily consist of self-reported experiences and self-reported behavior patterns, grouped together, also known as psychopathological symptoms. Other behaviors observed by a third person, or signs, also act as diagnostic criteria for mental disorders.

Understanding the prevalence of psychopathological symptoms is especially important for adequate prevention (Centers for Disease Control and Prevention [CDC], 2012). It appears that only 6.7% of countries have studies on mental health problem rates in children and adolescents, with very few in low- and middle-income countries, such as Uruguay and other countries in South America (Erskine et al., 2017). Internationally, the prevalence of mental problems in adolescents ranges between 13% and 26% (Ghandour et al., 2019; Lawrence et al., 2015; Maalouf et al., 2016; Polanczyk et al., 2015; WHO, 2018), depending on the instruments or diagnostic criteria used to define them, the samples under study, or the methodological design. Uruguay lacks epidemiological studies on the prevalence of mental disorders in adolescents, defined in accordance with internationally agreed diagnostic criteria (for example, the Diagnostic and Statistical Manual of Mental Disorders [DSM-5] or the International Classification of Diseases [ICD-10]). There is also little national research on indicators of psychopathological

symptoms, and these studies vary in their presentation depending on the instrument and methodology used (Daset et al., 2015; Fernández et al., 2018; Instituto Nacional de la Juventud [INJU], United Nations Population Fund [UNFPA] & National Institute of Statistics [INE], 2020). Only one national study, in 1,374 children aged between 6 and 11 years, using the Child Behavior Checklist (Achenbach & Rescorla, 2001), extensively details the prevalence of psychopathological symptoms (Viola et al., 2007), indicating that 22% of Uruguayan schoolchildren registered at least one significant symptom, as reported by their parents.

Among the instruments adapted and validated to assess psychopathological characteristics in adolescents in Latin America are the Minnesota Multiphasic Personality Inventory in its version for adolescents (MMPI-A; Casullo, 2003) and the Millon Adolescent Clinical Inventory (MACI; Casullo et al.,1998), neither of which have adaptations for Uruguayan adolescents. In Uruguay, using a sample of 362 young people, the Adolescent Self-report has been developed, which is a 118 item-instrument (ADA; Daset et al., 2015) and, at the time of conducting our study, was in the construction and validation phase. It is interesting to contrast this with the Personality Assessment Inventory - Adolescent (PAI-A; Morey, 2007). This tool, used internationally for the study of psychopathological symptoms and variables related to the design of therapeutic interventions in young people from 12-18 years of age, has proven the robustness of its psychometric properties in clinical and community samples in American (Morey, 2007), and Spanish adolescents (Campos, 2017; Cardenal et al., 2018), and in Chinese (Cheung et al., 2008; Fan et al., 2008), Argentine (Stover et al., 2017), and Brazilian students (Penado et al., 2019). In addition, it has been used to evaluate American adolescent minor offenders (Lewis, 2017; Venta et al., 2018), and clinical samples with autism spectrum disorders (Hooks & Hernández, 2020), border line personality disorders (Venta et al., 2018), and with risky behaviors (Floyd et al., 2020). Differences in psychopathological symptoms by sex and age have been considered only in studies with community samples, similar to those in this study. These encompass North American (Morey, 2007), Chinese (Fan et al., 2008), Spanish (Campos, 2017) and Brazilian adolescents (Penado et al., 2019). Given their similarities in language and culture, the main findings from the Spanish and Brazilian samples are interesting. In Spanish adolescents (Campos, 2017), differences by sex/age ranged from small to insignificant; female adolescents presented more symptoms related to *Somatic complaints, Anxiety, Anxiety-related disorders, Borderline traits*, and *Problematic interpersonal relationships*; male adolescents, on the other hand, showed higher scores in the scale of *Mania, Antisocial Traits*, and *Problems with alcohol*. In Brazilian adolescents (Penado et al., 2019), females showed more significant increases in the *Depression* and *Anxiety* scales, and males in *Drug Problems* and *Antisocial Traits*. In terms of age, adolescents of the Spanish

sample (Campos, 2017) aged under 15, showed higher scores on the subscales of *Anxiety*, *Grandiosity*, *Persecution* and *Aggressive Attitude*, while those aged between 15 and 18 obtained higher scores in *Somatic complaints, Stress, Problems with alcohol, Problems with drugs* and *Antisocial traits*. Age differences were not analyzed for the Brazilian adolescents (Penado et al., 2019).

For ethical reasons, and to optimize the limited resources for prevention in mental health, priority should be given to policies that demonstrate empirical evidence of their effectiveness, starting with an adequate diagnosis (WHO, 2004). That is why determining the prevalence of youth mental health difficulties, far from pigeonholing adolescents, represents an act of care and commitment to the needs of this population group (WHO, 2019). In addition, the adequate use of these data could aid the implementation of concrete measures for preventing and treating mental health difficulties in juveniles, based on the risk and protection factors involved.

Child-adolescent psychopathology is associated with the interaction of biological, genetic, perinatal, family, psychological and environmental features (Goodman & Scott, 2012). Among the environmental factors, an inverse relationship has been found between socioeconomic status and the probability of developing a psychiatric disorder (Rutter, 2015). It is often argued that socioeconomic difficulties may be linked to barriers to accessing health interventions, including those for mental health (Yi & Hong, 2020), as well as to greater exposure to socio-community stressors and their cumulative effect (Elgar et al., 2015).

The prevalence and category of the presenting psychopathological symptoms also vary depending on the gender and age of the young people. A systematic review of 32 studies (Silva et al., 2020) aimed to assess the global prevalence of Common Mental Disorders (CMD), i.e., depressive and anxiety disorders, using the Global Health Questionnaire in 79,892 adolescents worldwide, aged 12-19. The results indicate that female adolescents more frequently present internalizing disorders (anxiety/depression) and bonding difficulties. In contrast, disruptive (behavior/oppositional) disorders, problematic substance use, and attention deficit disorder with or without hyperactivity are more prevalent in males (Ara, 2016; La Maison et al., 2018). In Uruguay, higher levels of subjective well-being and a lower prevalence of depression and social anxiety have been found in adolescent males than in females (Daset et al., 2015).

The findings are less conclusive in relation to variations by age (Fonseca-Pedrero et al., 2011). Some research reports that symptoms increase with age (Van Droogenbroeck, et al., 2018), while other studies suggest an opposite trend for some disorders (Van Roy et al., 2006). For example, it has been documented that the clinical presentation of externalizing disorders

(behavior problems and oppositional defiant disorder) seems to remit with age, while internalizing disorders (anxiety and depression) worsen (Salum et al., 2010).

In Uruguay, two studies describe psychopathological symptoms in adolescents, both with samples from private educational institutions in Montevideo (Daset et al., 2009; Fernández et al., 2018). In the first of these (Daset et al., 2009), using the Youth Self Report (YSR; Achenbach & Rescorla, 2001), 374 adolescents were categorized as carriers of internalizing and externalizing symptoms; females had the highest scores in depression/anxiety syndrome, while conduct disorder was most prevalent in males. In relation to age, this study indicates an increase in depression-anxiety, oppositional defiant disorder, and conduct disorders as the adolescent grows, while withdrawal-avoidance syndromes and thought disturbances decreased with age. In the second study (Fernández et al., 2018), 325 students from a private Catholic high school in Montevideo were evaluated using the Adolescents Self-Report (ADA; Daset et al., 2015) and the Subjective Wellbeing Index (Cummins et al., 2003). Male adolescents showed lower levels of psychopathology (lower levels of depression and anxiety, fewer conduct disorders, and less social anxiety) than adolescent females, and greater subjective wellbeing. Younger adolescents presented a higher level of subjective wellbeing and fewer disruptive behaviors, including the consumption of alcohol or other substances, than older adolescents. These studies analyze the differences in psychopathological symptoms by age and gender, but they do not report their prevalence or their relationship with socioeconomic status.

The prevalence of clinical personality indicators in the adolescent population of Uruguay and their variation by socioeconomic level, age, and gender remains a question. Psychopathological symptoms seldom present in isolation. Comorbidity, defined as the coexistence of at least two different psychopathology diagnoses or psychopathological features in the same individual (Angold et al., 1999), is extremely common and complicates diagnosis and prognosis (Kessler et al., 2014). It reaches 16% in the adolescent population, and there is evidence that it increases problems at educational, family, relationship, and general mental health levels (Thapar et al., 2012). Thus, it is also necessary to establish the proportion of Uruguayan adolescents who may present comorbidity between two or more indicators of clinical conditions, given the impact that this has on therapeutic intervention and prognosis.

Therefore, this study aimed to establish the risk and prevalence of factors associated with psychopathological symptoms in Uruguayan adolescents. Specifically, the study: 1) describes the distribution of psychopathological indicators and their clinical levels; 2) explores their association with three sociodemographic variables (gender, age, and socioeconomic status); and

3) estimates the presence of cases with indicators at comorbid clinical levels in a sample of 540 Uruguayan adolescent students, using the Personality Assessment Inventory-Adolescent (PAI-A; Morey, 2007). Some hypotheses can be generated based on past research in this area: 1) Female adolescents present a higher prevalence of psychopathological symptoms of anxiety and depression, as well as suicidal ideation, and males are more prone to engage in conduct problems; 2) Older adolescents have higher psychopathological indicators; and 3) A low SES is associated with more psychopathological symptoms in adolescents.

2. Method

2.1 Participants

The original sample consisted of 540 students (55.55% female) aged between 12 and 18, from seven public and private secondary education institutions, in Montevideo (43.25%) and in four departments in the rest of the country.

The scores on the PAI-A validity scales were analyzed and 57 cases were discarded in accordance with the recommendations of the manual (Cardenal et al., 2018, p. 31). Participants were excluded based on both non-content-based responsiveness (*Inconsistency* [ICN] and *Infrequency* [INF]), and response style distortion (*Positive Impression Management* [PIM] and *Negative Impression Management* [NIM]). Invalid PAI-A profiles were determined based on the following criteria: a) T scores > 78 in *Inconsistency* (INC) ($n=23$), b) $T > 78$ in *Infrequency* (INF) ($n=23$), c) $T > 85$ in *Negative Impression Management* (NIM) ($n=13$) and, finally, d) $T > 72$ in *Positive Impression Management* (PIM) ($n=5$). The final sample was made up of 483 students (57.8% females) from the following departments: Paysandú (18.4%), Durazno (5.6%), Artigas (6.4%), Canelones (28.8%) and Montevideo (40.8%). The mean age was 15.40 ($SD = 1.92$). The age distribution of the entire sample was as follows: 12 years ($n=38$, 7.9%), 13 years ($n=71$, 14.7%), 14 years ($n=61$, 12.6%), 15 years ($n=54$, 11.2%), 16 years ($n=85$, 17.6%), 17 years ($n=97$, 20.1%) and 18 years ($n=77$, 15.9%). Thirty-six per cent of the sample ($n=174$) attended public schools and 64% ($n=309$) private schools.

The groups with valid and invalid profiles were not differentiated by gender [$\chi2$ (1, $N=540$) = 1.55, $p=0.21$], but they were by age. There were more with valid profiles ($M=15.40$, $SD=1.92$) than with invalid profiles ($M=14.23$, $SD=1.68$) [t (74.83) =4.90, $p< 0.001$]. They were also differentiated by socioeconomic status (SES); the group with low SES tended to present more invalid profiles (15.7% of all cases at this level) than the groups with medium (8.3%) and high SES (9.5%) [$\chi2(2, N=540)$ =6.07, $p< 0.05$]. Table 1 shows the characteristics of the participants.

Table 1. Characteristics of the participants differentiated by gender

Characteristics	Males (n=204)		Females (n=279)	
Age (M; SD)	15.47 (1.89)		15.35 (1.95)	
	n	(%)	n	(%)
Department of residence				
Artigas	15	7.4	16	5.7
Canelones	57	27.9	82	29.4
Durazno	6	2.9	21	7.5
Montevideo	88	43.1	109	39.1
Paysandú	38	18.6	51	18.3
Type of School				
Public	110	3.94	64	31.4
Private	169	60.6	140	68.6
Year of high school				
1st	31	15.2	49	17.6
2nd	30	14.7	42	15.1
3rd	25	12.3	32	11.5
4th	29	14.2	31	11.1
5th	48	23.5	64	22.9
6th	41	20.1	61	21.9
Family type				
Nuclear	106	52.0	145	52.0
Single parent	38	18.6	59	21.1
Extended	22	10.8	25	9.0
Blended	31	15.2	39	14.0
Other	11	3.4	11	3.9
Socioeconomic status				
Low	57	27.9	72	25.8
Average	112	54.9	166	59.5
High	35	17.2	41	14.7

2.2 Variables and Instruments

Sociodemographic characteristics: To assess the SES, the INSE Socioeconomic Level Index was used in its abbreviated version (Llambí & Piñeyro, 2012). This groups households by their capacity of consumption as low, middle, and upper class. It asks about the type of family makeup of the participant, the number of people living in the home, educational level of the parents, neighborhood of origin, health provider of the main support of the household, number of people who contribute to the family income, and the services that the dwelling possesses.

Psychopathological indicators of personality: this variable was evaluated in the experimental version for Argentina (Stover et al., 2017) of the *Personality Assessment Inventory - Adolescent* (PAI-A) (Morey, 2007). The PAI-A is made up of 264 items with a Likert-type response format *(false = 0; slightly*

true = 1; fairly true = 2; and *completely true = 3).* Its administration takes approximately 80 minutes. It was designed to evaluate adolescents between 12 and 18 years of age and is composed of 4 validity scales that allow bias detection in the responses (*Positive Impression Management, Negative Impression Management, Inconsistency* and *Infrequency*), 11 clinical scales (*Somatic complaints, Anxiety, Anxiety-related disorders, Depression, Mania, Paranoia, Schizophrenia, Borderline features, Antisocial features, Alcohol problems* and *Drug problems)* 5 scales related to treatment (*Aggression, Suicidal ideation, Stress, Nonsupport* and *Treatment rejection*) and 2 scales on interpersonal styles (*Warmth* and *Dominance*). The PAI-A has been adapted to samples in Spain (Cardenal et al., 2018), China (Cheung et al., 2008), and Argentina (Stover et al., 2017). In Uruguay, the technique is currently in the process of adaptation, and this study constitutes part of the preliminary studies to achieve this objective. Since the scale has commercial rights, and it is automatically corrected on-line, it is not possible to identify the items conforming each scale. Cronbach's coefficient for each of the PAI-A scales is presented below, obtained from the very similar geographical and cultural background of Argentine adolescents, for which the same experimental version of the PAI-A was used as in this study.

The dimensionality of the inventory was tested in the Chinese sample using a principal component analysis with Promax rotation. The results indicated two factors grouping the clinical scales (49.93% of explained variance) and four when considering all the scales (Cheung et al., 2008). In its Argentine version, when performing the principal component analysis with the 22 scales, four dimensions were found (62.31% of the explained variance), and divergent coefficients of congruence when comparing the components with studies in samples from other countries (Stover et al., 2017). Both in its original version (Morey, 2007), and in the adaptations for samples from China (Cheung et al., 2008) and Argentina (Stover et al., 2017), high values of internal consistency have been reported in clinical scales, and moderate values for the clinical subscales and validity scales.

2.3 Process

The sample was obtained through non-probabilistic convenience sampling. Secondary education institutions were contacted, both public and private, located in Montevideo and other states. The inclusion criteria were: being an adolescent and a high school student (from first to sixth year of basic cycle or high school) in Uruguay. At least one high school was selected from each region of the country. Authorization to carry out the evaluations was requested from the directors of the schools. In those that accepted, an informed consent was sent through the institution to the parents or guardians of each student. The final sample consisted of those adolescents whose parents or guardians signed the consent and who agreed to respond to the

instrument by signing an informed assent. The administration of the instrument was in groups of between 15 and 45 students depending on the center, during school hours and in classrooms equipped for this purpose. It took approximately 90 minutes and was in the charge of professionals trained in psychological evaluation. Each participating school obtained a report of the differentiated results by class, in which the average obtained in each scale of the PAI-A was presented. The study was endorsed by the Ethics Committee of the Catholic University of Uruguay (Resolution No. A010317).

2.4 Data Analysis

The data processing and analysis was carried out with version 23 of the Statistical Package for Social Sciences (SPSS; IBM, 2015). For the descriptive analyses of the characteristics of the participants and the variables under study, absolute frequencies and percentages were estimated for qualitative variables, and means and standard deviations for the quantitative variables. To analyze the differences in the T scores of the PAI-A clinical scales by gender (males/females) and age (≤14 years, >14 years), analyses were performed using the Student's t test for independent groups. Differences by SES were analyzed using one-factor analysis of variance (ANOVA) and Tukey's post hoc multiple comparison tests.

Finally, the prevalence of the clinical levels of each scale was compared by gender, age, and SES, using contingency tables, the chi-square statistic ($\chi 2$), and the estimation of Odds Ratio (OR). The cut-off points used to estimate the presence of clinical levels were those indicated in the manual of the Spanish version of the PAI-A (Cardenal et al., 2018) for the 11 clinical scales (i.e., $T > 70$, except for Mania (MAN) [$T > 73$] and Antisocial features (ANT) [$T > 65$]).

3. Results

3.1 Descriptive Statistics and Comparisons by Age and Gender

Average T scores (M) and standard deviations (SD) are presented in Table 2 for the total sample (columns 2 and 3). In general terms, the highest T scores were related to Anxiety and Somatic Complaints (ANX and SOM) and the lowest to antagonistic traits (Antisocial features and Dominance). The same table presents the comparisons by gender (columns 3 to 6) and age (columns 8 to 10). Statistically significant differences were observed between gender groups, with females presenting higher scores in 27 of the 34 measures. Male adolescents presented higher scores on the scales of antisociality and physical aggression, grandiosity, and refusal of treatment (column 7). Those under 14 years of age had higher scores in 18 of the 22 measures where significant differences were recorded, except for drugs, alcohol, stress, and dominance, where adolescents aged 15 years and over presented higher scores (column 10).

Table 2. Means and standard deviations of T scores on PAI-A scales and subscales compared by gender and age.

	All		Males (*n*=204)		Females(*n*=279)			12 to 14 years		15 to 18 years		
	M	*SD*	*M*	*SD*	*M*	*SD*	Dif (*t*)	*M*	*SD*	*M*	*SD*	Dif (*t*)
SOM	56.64	11.30	52.00	10.05	56.57	11.79	-4.60***	55.20	11.86	54.34	11.00	*0.80*
SOM-C	54.57	11.76	53.18	10.11	55.58	12.75	-2.31*	55.08	12.14	54.29	11.55	*0.70*
SOM-S	52.55	11.50	49.58	10.11	54.73	11.97	-5.12***	52.52	11.09	52.57	11.73	*-0.04*
SOM-H	53.90	11.15	51.64	10.13	55.54	11.59	-3.85***	54.99	12.70	53.30	10.19	*1.50*
ANX	55.83	10.84	52.09	9.37	58.57	11.04	-6.96***	56.09	10.18	55.69	11.20	*0.38*
ANX-C	53.41	10.13	50.37	9.00	55.63	10.35	-5.96***	54.06	9.70	53.05	10.35	*1.05*
ANX-A	58.38	11.51	54.52	10.08	61.20	11.68	-6.73***	59.06	10.99	58.01	11.78	*0.95*
ANX-P	53.93	11.48	51.08	9.86	56.01	12.13	-4.92***	53.34	10.50	54.25	11.98	*-0.86*
ARD	54.07	10.06	50.56	9.23	56.63	9.88	-6.85***	55.69	10.06	53.19	9.97	2.63**
ARD-O	50.27	9.78	48.83	8.85	51.32	10.29	-2.85**	49.89	9.74	50.47	9.81	*-0.62*
ARD-P	54.70	10.88	51.99	10.80	56.70	10.53	-4.80***	57.44	11.04	53.22	10.52	4.14***
ARD-T	53.25	10.86	50.42	9.85	55.33	11.11	-5.12***	54.40	10.89	52.63	10.81	*1.72*
DEP	54.23	9.30	52.77	8.51	55.30	9.72	-2.97**	55.79	9.45	53.39	9.12	2.73**
DEP-C	52.84	10.53	51.72	9.35	53.67	11.26	-2.08*	53.85	10.82	52.29	10.34	*1.56*
DEP-A	54.99	11.23	52.88	10.04	56.53	11.80	-3.67***	56.70	12.38	54.06	10.47	2.36*
DEP-P	52.84	8.66	52.22	8.25	53.30	8.93	*-1,36*	54.09	8.01	52.17	8.93	2.35*

MAN	52.16	9.54	51.84	9.33	52.39	9.70	*-0.62*	53.94	10.22	51.19	9.02	3.06**
MAN-A	50.74	9.98	51.56	10.23	50.14	9.77	*1.55*	52.44	10.36	49.82	9.65	2.77**
MAN-G	48.61	10.07	50.53	9.02	47.21	10.52	3.72***	50.80	10.17	47.42	9.82	3.56***
MAN-I	55.15	10.50	52.11	10.55	57.37	10.27	-5.61***	55.29	10.79	55.08	10.35	*0.21*
PAR	53.16	9.32	52.21	9.00	53.85	9.51	*-1.92*	55.78	9.75	51.74	8.78	4.64***
PAR-H	53.35	9.65	51.91	9.12	54.41	9.90	-2.86**	54.49	10.44	52.73	9.16	*1.85*
PAR-P	49.21	9.53	48.38	8.90	49.82	9.94	*-1.67*	52.21	10.94	47.58	8.24	4.82***
PAR-R	55.39	9.57	55.50	9.68	55.30	9.51	*0.23*	57.14	9.75	54.43	9.35	2.99**
SCZ	52.81	10.24	51.60	9.77	53.70	10.50	-2.23*	54.31	10.56	52.00	9.99	2.38*
SCZ-P	50.20	10.47	49.27	9.93	50.88	10.82	*-1.67*	52.65	11.27	48.87	9.78	*3.68**
SCZ-S	51.55	9.33	52.37	8.94	50.96	9.57	*1.64*	52.16	9.67	51.22	9.14	*1.06*
SCZ-T	54.21	11.27	51.63	10.20	56.09	11.66	-4.47***	54.75	11.33	53.92	11.25	*0.77*
BOR	53.38	10.38	50.20	9.46	55.70	10.42	-5.96***	54.34	10.37	52.86	10.36	*1.49*
BOR- A	52.96	9.57	51.23	9.22	54.23	9.64	-3.44**	53.18	9.37	52.84	9.69	*0.38*
BOR- I	53.26	10.14	49.70	9.28	55.86	9.97	-6.91***	54.40	9.92	52.64	10.21	*1.83*
BOR- N	52.15	10.88	49.29	10.13	54.24	10.97	-5.06***	53.13	10.79	51.62	10.91	*1.46*
BOR-S	53.42	12.53	51.38	11.82	54.91	12.85	-3.09**	53.95	13.57	53.13	11.95	*0.68*
ANT	46.58	7.53	47.82	7.71	45.68	7.27	3.12**	45.92	7.70	46.94	7.43	*-1.42*
ANT-B	47.35	7.50	48.63	7.96	46.41	7.02	3.25**	46.46	7.72	47.83	7.35	*-1.93*
ANT-E	45.86	7.81	46.69	8.40	45.26	7.31	1.99*	46.03	8.00	45.77	7.72	*0.34*

ANT-S	48.44	8.54	49.36	8.36	47.76	8.63	2.04*	47.61	8.39	48.88	8.61	*-1.57*
ALC	51.14	8.91	50.91	9.13	51.31	8.75	*-0.49*	48.08	7.48	52.80	9.19	-6.11***
DRG	52.56	10.07	52.76	9.80	52.41	10.28	*0.38*	50.62	7.58	53.62	11.07	-3.51***
AGG	49.61	8.02	49.13	7.58	49.97	8.32	*-1.13*	50.91	8.26	48.91	7.80	2.64**
AGG-A	50.56	8.50	48.93	7.44	51.75	9.03	-3.76***	51.78	8.13	49.90	8.64	2.33*
AGG-V	49.31	8.12	48.19	7.81	50.14	8.27	-2.63**	49.79	7.77	49.06	8.31	*0.94*
AGG-P	48.82	9.27	50.51	9.25	47.57	9.10	3.48***	50.61	10.37	47.84	8.47	2.98**
SUI	50.40	11.58	49.35	9.94	51.17	12.60	*-1.77*	52.14	12.71	49.46	10.82	2.32*
STR	47.57	9.22	46.65	8.37	48.25	9.75	*-1.04*	46.43	8.80	48.19	9.39	-2.02*
NON	50.81	9.86	51.63	9.60	50.21	10.02	*1.57*	50.26	10.19	51.10	9.67	*-0.89*
RXR	46.30	10.12	48.78	10.06	44.48	9.78	4.72***	47.61	10.70	45.59	9.73	2.11*
DOM	46.73	9.91	46.50	9.81	46.91	10.00	*-0.46*	44.28	9.72	48.07	9.77	-4.07***
WRM	48.49	9.26	46.73	8.91	49.78	9.32	-3.62***	48.34	10.25	48.58	8.69	*-0.26*

Note: *p < 0.05; **p < 0.01; *** p < 0.00

SOM: Somatic complaints; **SOM-C**: Conversion Symptoms; **SOM-S**: Somatization; **SOM-H**: Health Concerns; **ANX**: Anxiety; **ANX-C**: cognitive; **ANX-A**: Affective; **ANX-P**: Physiological; **ARD**: Anxiety-related disorders; **ARD-O**: Obsessive-compulsive; **ARD-P**: Phobias; **ARD-T**: traumatic stress; **DEP**: Depression; **DEP-C**: Cognitive; **DEP-A**: Affective; **DEP-P**: Physiological; **MAN**: Mania; **MAN-A**: Activity level; **MAN-G**: Grandiosity; **MAN-I**: Irritability; **PAR**: Paranoia; **PAR-H**: Hypervigilance; **PAR-P**: Persecution; **PAR-R**: Resentment; **SCZ**: Schizophrenia; **SCZ-P**: Psychotic Experiences; **SCZ-S**: Social withdrawn; **SCZ-T**: Thought disorder; **BOR**: Borderline features; **BOR-A**: Affective instability; **BOR-I**: Identity problems; **BOR-N**: Negative relationships; **BOR-S**: Self-harm; **ANT**: Antisocial features; **ANT-A**: Antisocial behaviors; **ANT-E**: Egocentricity; **ANT-S**: Stimulus-seeking; **ALC**: Alcohol problems; **DRG**: Drug problems; **AGG**: Aggression; **AGG-A**: Aggressive attitude; **AGG-V**: Verbal aggression; **AGG-P**: Physical aggression; **SUI**: Suicidal ideation; **STR**: Stress; **NON**: Nonsupport; **RXR**: Treatment rejection; **DOM**: Dominance; **WRM**: Warmth.

3.2 Descriptive Statistics and Comparisons by SES

T scores were compared according to three socioeconomic levels (Table 3). Differences were found in 12 of the 49 measures compared (24.49% of the total measures) (column 7). In 9 of these, those with low SES tended to have higher T scores than the rest of the groups (column 8). Those with high SES had significantly higher scores on two scales: those related to alcohol consumption and the dominant interpersonal style.

Table 3. Means and standard deviations of T scores on PAI-A scales and subscales compared by socioeconomic status (SES)

	LOW SES		AVERAGE SES [b]		HIGH SES[c]		Dif (F)	Post hoc (Tukey)
	M	SD	M	SD	M	SD		
SOM	54.98	11.32	55.04	11.80	52.59	9.11	1.48	ns
SOM-C	54.98	11.94	54.96	12.45	52.41	8.18	1.53	ns
SOM-S	52.05	10.46	53.18	12.00	51.11	11.29	1.14	ns
SOM-H	54.89	11.89	53.82	11.25	52.50	9.34	1.12	ns
ANX	55.91	10.39	55.99	11.48	55.11	9.17	0.20	ns
ANX-C	53.60	9.87	53.47	10.70	52.83	8.39	0.15	ns
ANX-A	58.27	11.66	58.28	11.70	58.95	10.66	0.11	ns
ANX-P	53.98	11.28	54.36	11.98	52.26	9.79	0.99	ns
ARD	54.78	9.78	54.43	10.39	51.51	8.97	2.98	ns
ARD-O	48.83	9.38	51.04	10.07	49.89	9.15	2.33	ns
ARD-P	57.63	10.84	54.18	10.95	51.67	9.63	8.17***	3.45**ab/-5.96***ac
ARD-T	53.64	11.13	53.54	10.97	51.54	9.90	1.13	ns
DEP	55.76	9.74	54.15	9.30	51.93	8.05	4.12*	3.83*ac

DEP-C	54.87	11.25	52.32	10.23	51.30	9.99	3.58*	3.57*ac
DEP-A	56.60	12.62	54.87	11.17	52.71	8.29	2.92	ns
DEP-P	53.28	8.34	53.21	8.63	50.79	9.12	2.56	ns
MAN	51.50	9.26	52.74	9.98	51.14	8.26	1.25	ns
MAN-A	50.71	9.66	50.97	10.52	49.95	8.45	0.31	ns
MAN-G	48.02	8.67	49.29	10.67	47.13	9.92	1.68	ns
MAN-I	54.51	1.01	55.46	10.95	55.09	9.68	0.36	ns
PAR	54.55	8.98	53.18	9.50	50.72	8.85	4.08*	3.83*ac
PAR-H	54.43	9.71	53.69	9.63	50.26	9.11	4.96**	4.17**ac/3.43*bc
PAR-P	49.98	9.60	49.51	9.74	46.83	8.34	2.95	ns
PAR-R	56.84	9.33	54.73	9.56	55.32	9.89	2.15	ns
SCZ	53.46	10.92	53.04	10.37	50.86	8.29	1.72	ns
SCZ-P	50.28	11.05	50.69	10.71	48.28	8.24	1.60	ns
SCZ-S	52.05	9.61	51.63	9.33	50.43	8.67	0.74	ns
SCZ-T	55.04	11.74	54.19	11.31	52.88	10.31	0.88	ns
BOR	53.35	10.85	53.95	10.38	51.33	9.38	1.42	ns
BOR- A	53.04	9.89	52.87	9.57	53.14	9.11	0.03	ns
BOR- I	53.16	10.01	53.76	10.48	51.57	8.93	1.41	ns
BOR- N	52.16	10.99	53.01	10.91	48.96	10.09	4.20*	4.05*bc
BOR- S	53.26	13.52	54.03	12.42	51.46	11.06	1.26	ns
ANT	45.74	7.25	46.77	7.80	47.33	7.00	1.26	ns
ANT-B	46.47	7.34	47.47	7.60	48.37	7.33	1.63	ns

ANT-E	45.22	7.13	46.06	8.15	46.21	7.69	0.60	ns
ANT-S	47.81	8.11	48.62	9.00	48.83	7.56	0.49	ns
ALC	49.08	8.07	51.29	9.08	54.07	8.83	7.81***	-2.22*ab/-4.99***ac/-2.77*bc
DRG	51.83	9.04	52.95	10.79	52.39	8.91	0.55	ns
AGG	49.94	7.83	49.38	8.13	49.91	7.97	0.27	ns
AGG-A	52.12	8.57	49.85	8.50	50.51	8.13	3.19*	2.28*ab
AGG-V	48.56	7.88	49.31	8.08	50.62	8.64	1.54	ns
AGG-P	48.98	9.43	48.88	9.51	48.30	8.14	0.14	ns
SUI	51.02	11.34	50.95	12.39	47.36	7.95	3.16*	3.59*bc
STR	48.96	9.74	47.62	9.26	45.07	7.62	4.34*	3.90*ac
NON	51.53	11.40	50.24	9.30	51.64	8.96	1.07	ns
RXR	47.84	10.76	45.30	10.03	47.36	8.92	3.30*	2.54*ab
DOM	44.70	8.73	47.39	10.08	47.79	10.76	3.81*	-2.69*ab
WRM	47.91	9.22	49.04	9.13	47.46	9.79	1.22	ns

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; ns= no significance.

SOM: Somatic complaints; **SOM-C**: Conversion Symptoms; **SOM-S**: Somatization; **SOM-H**: Health Concerns; **ANX**: Anxiety; **ANX-C**: cognitive; **ANX-A**: Affective; **ANX-P**: Physiological; **ARD**: Anxiety-related disorders; **ARD-O**: Obsessive-compulsive; **ARD-P**: Phobias; **ARD-T**: traumatic stress; **DEP**: Depression; **DEP-C**: Cognitive; **DEP-A**: Affective; **DEP-P**: Physiological; **MAN**: Mania; **MAN-A**: Activity level; **MAN-G**: Grandiosity; **MAN-I**: Irritability; **PAR**: Paranoia; **PAR-H**: Hypervigilance; **PAR-P**: Persecution; **PAR-R**: Resentment; **SCZ**: Schizophrenia; **SCZ-P**: Psychotic Experiences; **SCZ-S**: Social withdrawn; **SCZ-T**: Thought disorder; **BOR**: Borderline features; **BOR-A**: Affective instability; **BOR-I**: Identity problems; **BOR-N**: Negative relationships; **BOR-S**: Self-harm; **ANT**: Antisocial features; **ANT-A**: Antisocial behaviors; **ANT-E**: Egocentricity; **ANT-S**: Stimulus-seeking; **ALC**: Alcohol problems; **DRG**: Drug problems; **AGG**: Aggression; **AGG-A**: Aggressive attitude; **AGG-V**: Verbal aggression; **AGG-P**: Physical aggression; **SUI**: Suicidal ideation; **STR**: Stress; **NON**: Nonsupport; **RXR**: Treatment rejection; **DOM**: Dominance; **WRM**: Warmth.

3.3 Significantly Elevated Levels on Clinical Scales

Of the total number of participants, 160 (33%) presented clinical levels in one or more scales (Table 4). Female gender was associated with a 2- to 4-fold increased risk for SOM, ANX, ARD, and BOR. Younger adolescents were at increased risk for DEP, MAN, and PAR. In contrast, the risk of having clinical levels in ALC and DRG increased significantly with age. The socioeconomic status was not significantly associated with the presence of clinical levels in any subscale (Table 5).

Table 4. Rates of adolescents with T-scores above clinical levels for the total sample and comparisons by gender and age

	All		Males		Females		OR	IC 95%	12 to 14 years		15 to 17 years		OR	IC 95%
	f	%	f	%	f	%			f	%	f	%		
SOM	57	11.8	15	7.4	42	15.1	2.23**	1.20-4.15	20	11.8	37	11.8	1.01	0.56-1.79
ANX	64	13.3	10	4.9	54	19.4	4.66***	2.31-9.39	20	11.8	44	14.1	1.23	0.70-2.16
ARD	41	8.5	9	4.4	32	11.5	2.87**	1.31-6.02	19	11.2	22	7.0	0.60	0.32-1.15
DEP	39	8.1	11	5.4	28	10.0	1.96	0.95-4.03	20	11.8	19	6.1	0.46*	0.25-0.94
MAN	15	3.1	8	3.9	7	2.5	0.63	0.23-1.77	12	7.1	3	1.0	0.13***	0.04-0.46
PAR	26	5.4	10	4.9	16	5.7	1.18	0.52-2.66	15	8.8	11	3.5	0.38*	0.17-0.84
SCZ	39	8.1	15	7.4	24	8.6	1.19	0.61-2.32	16	9.4	23	7.3	0.76	0.39-1.49
BOR	38	7.9	6	2.9	32	11.5	4.28***	1.75-10.43	16	9.4	22	7.0	0.73	0.37-1.43
ANT	15	3.1	8	3.9	7	2.5	0.63	0.23-1.77	5	2.9	10	3.2	1.09	0.37-3.24
ALC	25	5.2	11	5.4	14	5.0	0.93	.41-2.09	4	2.4	21	6.7	2.99*	1.01-8.84
DRG	36	7.5	15	7.4	21	7.5	1.03	0.52-2.04	1	0.6	35	11.2	21.28***	2.89-156.74

Note: * $p < 0.05$; ** $p < 0.01$; $p < 0.001$

SOM: Somatic complaints; **ANX**: Anxiety; **ARD**: Anxiety-related disorders; **DEP**: Depression; **MAN**: Mania; **PAR**: Paranoia; **SCZ**: Schizophrenia; **BOR**: Borderline features; **ANT**: Antisocial features; **ALC**: Alcohol problems; **DRG**: Drug problems.

Table 5. Rates of adolescents with T-scores above clinical levels for the total sample and comparisons by SES

	Low		Medium		High			x^2
	f	%	F	%			f	%
SOM	15	11.6	37	13.3	SOM		15	11.6
ANX	14	10.9	44	15.8	ANX		14	10.9
ARD	12	9.3	27	9.7	ARD		12	9.3
DEP	14	1.9	22	7.9	DEP		14	1.9
MAN	2	1.6	12	4.3	MAN		2	1.6
PAR	7	5.4	17	6.1	PAR		7	5.4
SCZ	13	10.1	25	9.0	SCZ		13	10.1
BOR	14	10.9	22	7.9	BOR		14	10.9
ANT	3	2.3	11	4.0	ANT		3	2.3
ALC	4	3.1	14	5.0	ALC		4	3.1
DRG	7	5.4	25	9.0	DRG		7	5.4

Note: Any x^2 values reach a significant level at $p <. 05$ or lower.

SOM: *Somatic complaints;* **ANX**: *Anxiety;* **ARD**: *Anxiety-related disorders;* **DEP**: *Depression;* **MAN**: *Mania;*

PAR: *Paranoia;* **SCZ**: *Schizophrenia;* **BOR**: *Borderline features;* **ANT**: *Antisocial features;* **ALC**: *Alcohol problems;*

DRG: *Drug problems.*

Over sixty percent (60.6%) of the cases with clinical levels presented significant elevations in 2 or more scales, indicating high comorbidity between the different clinical conditions (Table 6). On average, these participants presented 2.47 scales (SD=1.69, range 1-8) with scores on clinical levels. This average was significantly higher in females (M=2.66, SD=1.78) than in males (M=2.11, SD=1.46) [t (158) =-2.01; p=0.047], but did not differ by age [t (158) =1.46; p=0.147], nor by SES [F(2,157) = 2.43; p=0.091]. Table 6 presents the frequency distribution in the number of scales with clinical levels by sex, age, and SES.

Table 6. Rates of adolescents with T-scores above clinical levels according total number of scales in clinical levels, for the total sample, and comparisons by gender, age and SES

N° of scales above clinical levels	All		Males		Females		12 to 14 years		15 to 17 years		Low SES		Average SES		High SES	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
None	323	66.9	148	72.5	175	62.7	116	68.2	207	66.1	89	69.0	178	64.0	56	73.7
1	63	13.0	30	14.7	33	11.8	18	10.6	45	14.4	13	10.1	37	13.3	13	17.1
2	38	7.9	8	3.9	30	10.8	12	7.1	26	8.3	11	8.5	22	7.9	5	6.6
3	21	4.3	6	2.9	15	5.4	7	4.1	14	4.5	5	3.9	16	5.8	0	0
4	14	2.9	8	3.9	6	2.2	6	3.5	8	2.6	3	2.3	11	4.0	0	0
5	13	2.7	2	1.0	11	3.9	7	4.1	6	1.9	6	4.7	6	2.2	1	1.3
6	6	1.2	2	1.0	4	1.4	2	1.2	4	1.3	1	.8	4	1.4	1	1.3
7	4	.8	0	0	4	1.4	2	1.2	2	.6	1	.8	3	1.1	0	0
8	1	.2	0	0	1	.4	0	0	1	.3	0	0	1	.4	0	0

4. Discussion

While most young people go through adolescence without significant difficulties, some adolescents present vulnerabilities associated with mental health and may develop a mental disorder (Otto et al., 2017). In recent years, public health research has focused, among other variables, on risk and the protective factors of mental health -for the adolescent population, self-efficacy, self-esteem, an adequate family atmosphere, and social support have proven to be protective factors for mental disorders (Göbel & Cohrdes, 2021). On the other hand, a family history of mental disorders, parents' low educational level, low socioeconomic status, living in urban environments, belonging to migrant families, social isolation, impaired physical health, being or having been a victim of neglect or abuse (physical, emotional, sexual and/or bullying), suffering stigmatization, being exposed to high or intense levels of adverse or stressful events, among others, constitute risk factors for mental health in adolescents (Arango et al., 2018). In addition, problematic substance use, or other behavioral addictions and phobias, are also associated with risk of psychopathology during adolescence (Fabris et al., 2020; Frisone et al., 2021; Settineri et al., 2019).

The present article set out to examine the distribution of psychopathological indicators and their clinical levels in Uruguayan high school adolescents by the gender, age, and socioeconomic level of the participants, as well as to estimate the proportion of young people with comorbid indicators. Our results indicate highly consistent response patterns in adolescents, which gives validity to the findings. In the general sample, the most common symptoms were anxiety, somatization, and depression, which matches previous research in epidemiological samples of American (Ghandour et al., 2019) and Australian (Lawrence et al., 2015) adolescents, as well as transnational studies in adolescents and young adults (WHO, 2018).

The scores in the various scales of the PAI-A (Morey, 2007) showed differences by gender, age, and socioeconomic level. Regarding gender, our results indicate that depressive and anxious symptoms predominate in adolescent females, which is consistent with other research (Campos, 2017; Lopes et al., 2016; Penado et al., 2019; Silva et al., 2020). Also, in line with previous findings (Alloy et al., 2016; Campos, 2017; La Maison et al., 2018; Penado et al., 2019), male adolescents presented scores indicative of a predominance of behavior and aggression management problems. A previous study in a sample from Montevideo, the capital city of Uruguay, found that males have more significant difficulties in recognizing their mental health problems, and that they reported higher levels of well-being than adolescent females (Fernández et al., 2018). The most prevalent psychopathological indicators in males are associated with

exacerbated externalizing disorders, highly disruptive to their environment (Van Drogenbroeck et al., 2018). This raises questions about the multiple, complex factors involved in this apparent lower male capacity for introspection and, therefore, about the possible strategies that can be constructed at both educational and clinical levels for adolescent males to prevent such behavioral difficulties.

The present study reported no significant differences by gender for alcohol and substance use, which matches the trend for Uruguayan adolescents attending school reported by the National Drug Board (JND, 2018). Traditionally, during adolescence, males had a higher consumption of alcohol and substances than females (Campos, 2017), but epidemiological studies suggest that this trend has been reversing in recent years (Slade et al., 2016).

Considering the high prevalence of suicide risk in Uruguayan adolescents (MSP, 2020), the results of the Suicidal Ideation (SUI) scale in this study are particularly noteworthy. Traditionally, ideation occurs more frequently in women, although attempts are more prevalent in men (WHO, 2019). In our study, no differences were found by gender, which could be explained in part by the formulation of the questions in our instrument. While some international studies have used one or two dichotomous items to assess suicidal ideation in adolescents (Afifi et al., 2007; Garrison et al.,1991), our instrument includes Likert-type questions, which expands the response range of adolescents, and therefore, may impact their categorization as participants with/without suicidal ideation. Our study agrees with other research in Lithuanian (Zemaitiene & Zaborskis, 2005), Estonian (Samm et al., 2010), and Spanish (Antolín-Suárez, 2020) samples, which found no differences between adolescent males and females when evaluating suicidal ideation. One possible explanation for this could be the reduction of differences in sex-type roles adopted by adolescent females and males (Priess et al., 2009).

Some conditions that are more prevalent in women could partly explain the differences found in this study (Haugen et al., 2014); for example, greater reactivity to emotional and bonding stimuli (Van Der Heyden et al., 2014), greater dissatisfaction regarding body image (Fernández-Bustos et al., 2019), and greater restrictions are associated with the female gender role. In addition, women use rumination as a common coping strategy (Nolen-Hoeksema et al., 1999), and experience higher levels of demand regarding their academic performance (Wiklund et al., 2012), all of which are risk factors which may increase vulnerability and, in turn, enhance the possibility of developing mental health problems. These factors may contribute to the heightening of most of the PAI-A clinical scales in female adolescents in our sample.

Regarding age, and contrary to our hypothesis, our study found an inverse relationship between the risk of presenting psychopathological symptoms and the age of the adolescent. Although

the younger participants had higher scores on all scales (except those of alcohol/drug use, stress, and dominance) than older ones, there are international (Achenbach et al., 1990; Campos, 2017) and national (Fernández et al., 2018) studies that report an increase in the prevalence of mental disorders as the adolescent grows. However, population data in Uruguay indicate a higher level of consultation on mental health issues in adolescents aged 12 or 13 than in middle and late adolescents (INJU, UNFPA & INE, 2020), which is in line with our results.

Although our study did not categorize adolescents as early, middle, and late, other research has emphasized the increased risk of psychopathology in early (Mendle et al., 2020) or middle (Dray et al., 2016) adolescence, compared to late teens. The apparent better mental health of late adolescents may be associated with a strengthening of their social, affective, and cognitive skills, such as mentalization and emotional regulation, which have been associated with healthy adolescent development and maturation (Taylor et al., 2013). In middle and late adolescence, the strengthening of the ability to process one's own and others' emotions, partly made possible by the greater development of executive functions, enables adolescents to put emotional regulation strategies into practice that are less dependent on their peers and adult referents (Thompson & Goodman, 2010). Added to this, early adolescents may be experiencing the gradual loss of the protection that parents and other referring adults provide during childhood. Furthermore, during early and middle adolescence, young people have not reached the maximum level of autonomy, nor do they have all the necessary tools to achieve their own goals, which may put them in a position of greater emotional vulnerability. Thus, for example, in our study, despite reporting higher levels of stress, older adolescents did not present greater psychopathological risk, which may suggest a gradual construction of emotional and cognitive tools. In any case, the joint effect of gender and age on the prevalence of psychopathology remains to be fully investigated, and that could explain some of the discrepancies between our study and other research. Compared to middle and late adolescents, early adolescents may have a lower capacity for emotional regulation and a greater need for support from their environment to achieve it (Schweizer et al., 2020).

Consistent with previous findings (Reiss et al., 2019), a more unfavorable socioeconomic status was associated with higher rates of psychopathological symptoms in adolescents. Difficulties for these adolescents to access health and solid, diverse social support networks at these levels could explain these findings (Gunther et al., 2018). For example, population data from Uruguay show that access to mental health services, in the form of consultations with a psychologist or psychiatrist, is greater in sectors with higher incomes (INJU, UNFPA & INE, 2020). Also, a greater exposure to stressors, such as paternal/maternal mental pathology, loss of employment, or academic and social problems, has been proposed as a possible explanation for the

association between low SES and the higher prevalence of mental difficulties (La Maison et al., 2018).

In our study, one in three participants had clinically significant levels on at least one PAI-A scale (Morey, 2007). This is a higher rate than that reported in previous studies in the local population, with some psychopathological indicators of depression present in around 14.2% of Uruguayan adolescents (INJU, UNFPA & INE, 2020), and between 20 and 26% of other types of indicators for other countries, such as the United States (Ghandour et al., 2019), Australia (Lawrence et al., 2015), Brazil (La Maison et al., 2018), or Lebanon (Maalouf et al., 2016). However, the prevalence of psychopathological indicators at clinical levels reported here is similar to that reported by previous studies in other countries, which have placed it at 31% (Silva et al., 2020; WHO, 2018).

The differences in relation to previous studies may be explained by numerous methodological aspects. For example, when the source of information used is parents, professionals or teachers, the prevalence may be somewhat lower (Ghandour et al., 2019; La Maison et al., 2018; Lawrence et al., 2015; Maalouf et al., 2016; Viola et al., 2007). This applies especially to the detection of internalizing disorders (Polanczyk et al., 2015), which were precisely the most prevalent in this research. A lower rate of psychopathological symptoms may also be reported when the diagnostic instrument is more specific than the one used here (Viola et al., 2007). Studies whose samples include both children and adolescents (for example, Ghandour et al., 2019; Lawrence et al., 2015; Viola et al., 2007) may also report a lower overall prevalence, if the prevalence of mental problems increases with age.

Our results have implications at various levels, especially considering that mental disorders appear mainly during adolescence and youth and that they constitute strong predictors of psychopathology in adulthood (Geoffroy et al., 2021). At the prevention level, our findings point to younger women and those from disadvantaged socioeconomic sectors as population groups that are especially vulnerable to internalizing pathologies, while men seem especially vulnerable to externalizing pathologies. This highlights the importance of designing mental health prevention strategies that are specific to the needs and characteristics of adolescent males and females in accordance with their age and SES. While some symptoms could be addressed through interventions common to both genders, others may require differential approaches. For example, special attention may have to be paid to depressive/anxiety disorders in adolescent females, and to disruptive or antagonistic behaviors in males (Ara, 2016; La Maison et al., 2018).

Our study indicates the need to intervene early, before the age of 15, to reduce the appearance or perpetuation of various symptoms. That psychopathological indicators were more prevalent

in younger adolescents may indicate that prevention should be activated at the beginning of puberty or earlier. Especially for adolescents aged 15 years and over, substance-use prevention strategies and close monitoring in risk cases appear to be necessary, as the problem is known to increase with age. At a theoretical level, the results support the idea that adolescence is not a homogeneous stage in terms of risk and protective factors, but rather a life period whose sub-stages present particular characteristics in terms of vulnerability to psychopathology (Castellanos-Ryan et al., 2016). The mechanisms of emotional regulation and their underdeveloped coping strategies, as well as the lack of psycho-emotional maturity, that accompany adolescents in this period could explain their delicate situation, which requires an evidence-based public policy for the effective prevention of mental health problems, with universal intervention available whenever required (Pan American Health Organization, 2019).

5. Limitations and Future Lines of Research

This study offers important new information for public health policies in the Uruguayan context. However, some limitations must be considered when interpreting the results. First, given accidental sampling, the data cannot be interpreted in terms of national prevalence. Future efforts should be geared towards accessing a representative sample of participants selected on a probabilistic basis.

Second, this study was unable to include any participant from the third of Uruguayan adolescents between 16 and 18 years old who are not in the educational system (De Melo et al., 2016). Given that schooling is considered a protective factor for adolescent mental health (Farrington, 1992; Maalouf et al., 2016), our research would thus be reporting only about the "mentally healthier" group of adolescents. It is therefore urgent to expand the sample to include adolescents disconnected from the educational system, those who reside in clinical institutions (Chun et al., 2016) or in closed judicial mechanisms (Underwood & Washington, 2016). This is of special interest to be able to derive preventive and management recommendations for cases in situations of special vulnerability.

Third, in this study the information was provided only by the adolescents themselves, and it was not possible to include other key informants such as parents, teachers, or peers. The level of agreement between the information reported by the different informants is usually low (Polanczyk et al., 2015), so it would be advisable to include at least parents in identifying psychopathological symptoms, especially in regard to externalizing difficulties (Aebi et al., 2017). Future studies that include other qualified informants could provide data contrasting with the self-report of adolescents.

Fourth, the psychometric properties of the PAI-A (Morey, 2007) in Uruguayan adolescents, including its reliability and validity, as well as the estimation of national scales, still need to be analyzed as a future line of research.

Finally, we suggest further studies, on the one hand, detailing the psychopathological symptoms that occur with greater comorbidity in Uruguayan adolescents and, on the other, longitudinal or panel investigations that can give continuity to the findings and examine in greater detail the possible psychopathological variations at different life stages. It would also be interesting to consider the possible influence of early adverse life experiences on these variations among adolescents.

6. Conclusion

Mental problems during adolescence and youth have been shown to be strong predictors of mental problems in adulthood (Geoffroy et al., 2021). This study identifies population groups that are especially vulnerable to this phenomenon. Public policies should focus especially on these. We hope that our results will help to design effective strategies for the prevention and the promotion of mental health in Uruguayan adolescents, paying special attention to gender and age differences, which were the most significant for the risk of presenting symptoms of psychopathology during adolescence. Our results may facilitate plans to address mental difficulties in Uruguayan adolescents, especially at the primary care level, and minimize the short-, medium-, and long-term consequences of mental health problems. Finally, they may contribute to reducing the lack of information on the prevalence of psychopathology in general among adolescents, both in Uruguay and in the region, and to reducing the general stigma associated with difficulties in the field of mental health, particularly given the high prevalence of such difficulties that we found in our adolescent sample.

Ethical statement

APA ethical standards were followed in the conduct of the study, and we received approval from the Catholic University of Uruguay institutional review board.

Conflict of Interest Statement

The authors declare that the research was conducted in the absence of any potential conflict of interest.

References

1. Achenbach, T. M., Bird, H. R, Canino, G., Phares, V., Gould, M., & Rubio-Stipec, M. (1990). Epidemiological comparisons of Puerto Rican and U.S. Mainland children: Parent, teacher, and self-reports. *Journal of the American Academy of Child and Adolescent Psychiatry*, *29*(1), 84–93. https://doi.org/10.1097/00004583-199001000-00014

2. Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Forms & Profile*s. Burlington, VT: University of Vermont, Research Center for Children, Youth & Families.

3. Aebi, M., Kuhn, C., Banaschewski, T., Grimmer, Y., Poustka, L., Steinhausen, H. C., & Goodman, R. (2017). The contribution of parent and youth information to identify mental health disorders or problems in adolescents. *Child and Adolescent Psychiatry Mental Health, 11*(23). https://doi.org/10.1186/s13034-017-0160-9

4. Afifi, T. O., Cox, B. J., & Katz, L. Y. (2007). The associations between health risk behaviors and suicidal ideation and attempts in a nationally representative sample of young adolescents. *Canadian Journal of Psychiatry*, *52*(10), 666–674. https://doi.org/10.1177/070674370705201007

5. Alloy, L. B., Hamilton, J. L., Hamlat, E. J., & Abramson, L. Y. (2016). Pubertal Development, Emotion Regulatory Styles, and the Emergence of Sex Differences in Internalizing Disorders and Symptoms in Adolescence. *Clinical psychological science: a journal of the Association for Psychological Science, 4*(5), 867–881. https://doi.org/10.1177/2167702616643008

6. Angold, A., Costello, E.J. & Erkanli, A. (1999). Comorbidity. *Journal of Child Psychology and Psychiatry*, *40*(1), 57-87. https://doi.org/10.1111/1469-7610.00424

7. Antolín-Suárez, L., Nieto-Casado, F., Rodríguez-Meirinhos, A. & Oliva, A. (2020). Demographic, Social, and Economic Factors of Internalizing Problems in Referred and Non-Referred Adolescents. *International Journal of Environmental Research and Publica, 17*(14), 5195. https://doi.org/10.3390/ijerph17145195

8. Ara, E. (2016). Internalizing and Externalizing Problems in Adolescents Analyzing the Gender Difference. *International Journal of Research in Social Sciences, 6*(1), 328-337.

9. Arango, C., Díaz-Caneja, C. M., McGorry, P. D., Rapoport, J., Sommer, I. E., Vorstman, J. A., McDaid, D., Marín, O., Serrano-Drozdowskyj, E., Freedman, R. & Carpenter, W. (2018). Preventive strategies for mental health. *Lancet Psychiatry, 5*(7), 591-604. https://doi.org/10.1016/S2215-0366(18)30057-9

10. Asselmann, E., Wittchen, H. U., Lieb, R. & Beesdo-Baum, K. (2018). Sociodemographic, clinical, and functional long-term outcomes in adolescents and young adults with mental disorders. *Acta Psychiatrica Scandinavica, 137*(1), 6-17. https://doi.org/10.1111/acps.12792

11. Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., Demyttenaere, K., Ebert, D. D., Green, J. G., Hasking, P., Murray, E., Nock, M. K., Pinder-Amaker, S., Sampson, N. A., Stein, D. J., Vilagut, G., Zaslavsky, A. M., Kessler, R. C., & WHO WMH-ICS Collaborators. (2018). World Mental Health Surveys International College Student Project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology, 127*(7), 623–638. https://doi.org/10.1037/abn0000362

12. Belfer, M. L. (2008). Child and adolescent mental disorders: The magnitude of the problem across the globe. *Journal of Child Psychology and Psychiatry, 49*(3), 226–236. https://doi.org/10.1111/j.1469-7610.2007.01855.x

13. Cardenal, V., Ortiz-Tallo, M., Campos, M. & Santamaría, P. (2018). *Inventario de Evaluación de la Personalidad para Adolescentes: adaptación a lengua española.* España: TEA ediciones.

14. Casullo, M. (2003). Inventario multifásico de la personalidad de Minnesota para adolescentes (MMPI-A). Cátedra de Teoría y Técnica de Exploración y Diagnóstico de la Universidad de Buenos Aires. Retrieved from: https://www.academia.edu/10056856/universidad_de_buenos_aires_inventario_multifÁsico_de_la_pers onalidad_%20de_minnesota_para_adolescentes_mmpi-a

15. Castellanos-Ryan, N., Brière, F. N., O'Leary-Barrett, M., Banaschewski, T., Bokde, A., Bromberg, U., Büchel, C., Flor, H., Frouin, V., Gallinat, J., Garavan, H., Martinot, J. C., Nees, F., Paus, T., Pausova, Z., Rietschel, M., Smolka, M. N., Robbins, T. W., Whelan, R., Schumann, G., & Conrod, P. (2016). The structure of psychopathology in adolescence and its common personality and cognitive correlates. *Journal of Abnormal Psychology, 125*(8), 1039–1052. https://doi.org/10.1037/abn0000193

16. Casullo, M. M., Góngora, V., & Castro, A. (1998). La adaptación del Inventario MACI (Millon Adolescent Clinical Inventory). Un estudio preliminar con estudiantes adolescentes argentinos (MACI Inventory Adaptation. A Preliminary Study with Argentine Adolescent Students). *Investigaciones en Psicología, 3*, 73-89.

17. Centros para el Control y Prevención de Enfermedades [CDC]. (2012). *Encuesta Mundial de Salud a Escolares (GSHS).* E.U: CDC.

18. Cheung, F. M., Fan, W., Cheung, S. F., & Leung, K. (2008). Standardization of the Cross-cultural (Chinese) Personality Assessment Inventory for adolescents in Hong Kong: A combined emic-etic approach to personality assessment. *Acta Psychologica Sinica, 40*(7), 839–852. https://doi.org/10.3724/SP.J.1041.2008.01639

19. Chun, T. H., Mace, S. E., & Katz, E. R. (2016). Evaluation and Management of Children and Adolescents With Acute Mental Health or Behavioral Problems. Part I: Common Clinical Challenges of Patients With Mental Health and/or Behavioral Emergencies. *Pediatrics, 138*(3). https://doi.org/10.1542/peds.2016-1570

20. Copeland, W., Shanahan, L., Costello, E. J. & Angold, A. (2011). Cumulative prevalence of psychiatric disorders by young adulthood: a prospective cohort analysis from the Great Smoky Mountains Study. *Journal of the American Academy of Child & Adolescent Psychiatry*, *50(3),* 252–261. https://doi.org/10.1016/j.jaac.2010.12.014

21. Cummins, R. A., Eckersley, R., Pallant, J., Van Vugt, J., & Misajon, R. (2003). Developing a national index of subjective wellbeing: The Australian Unity Wellbeing Index. *Social Indicators Research, 64,* 159-190. https://doi.org/10.1023/A:1024712527648

22. Daset, L. R., Fernández, M. E., Costa-Ball, D., López-Soler, C. & Vanderplasschen, W. (2015). Desarrollo y validación del Autoinforme de Adolescentes: ADA. *Ciencias Psicológicas*, *9*(1), 85-104. https://doi.org/10.22235/cp.v9i1.169

23. Daset, L.R.; Lopez Soler, C. & Hidalgo, M.D. (2009). Síndromes empíricos en una población adolescente evaluados mediante el YSR. *Ciencias Psicológicas*, *3*(1), 67-82. https://doi.org/10.22235/cp.v3i1.138

24. Domino, M. E., Burns, B. J., Mario, J., Reinecke, M. A., Vitiello, B., Weller, E. B., Kratochvil, C. J., May, D. E., Feeny, N. C., Robins, M., Hallin, M. J., Silva, S. G., & March, J. S. (2009). Service use and costs of care for depressed adolescents: who uses and who pays? *Journal of Clinical Child and Adolescent Psychology, 38*(6), 826-836. https://doi.org/10.1080/15374410903259023

25. Dray, J., Bowman, J., Freund, M., Freund, M., Campbell, E., Hodder, R. K., Lacathelinas, C., & Wiggers, J. (2016). Mental health problems in a regional population of Australian adolescents: association with socio-demographic characteristics. *Child Adolesc Psychiatry Ment Health, 10(1), 32.* https://doi.org/10.1186/s13034-016-0120-9

26. Eaton, N. R., Keyes, K. M., Krueger, R. F., Balsis, S., Skodol, A. E., Markon, K. E., Grant, B. F. & Hasin, D. S. (2012). An invariant dimensional liability model of gender differences in mental disorder prevalence: evidence from a national sample. *Journal of Abnormal Psychology, 121(1)*, 282–288. https://doi.org/10.1037/a0024780

27. Elgar, F. J., Pförtner, T. K., Moor, I., De Clercq, B., Stevens, G. W. & Currie, C. (2015). Socioeconomic inequalities in adolescent health 2002–2010: a time-series analysis of 34 countries participating in the Health Behaviour in School-aged Children study. *The Lancet, 385*(9982), 2088–2095. https://doi.org/10.1016/S0140-6736(14)61460-4

28. Erskine, H. E., Baxter, A. J., Patton, G., Moffitt, T. E., Patel, V., Whiteford, H. A., & Scott, J. G. (2017). The global coverage of prevalence data for mental disorders in children and adolescents. *Epidemiology and Psychiatric Sciences, 26*(4), 395–402. https://doi.org/10.1017/S2045796015001158

29. Fabris, M. A., Marengo, D., Longobardi, C., & Settanni, M. (2020). Investigating the links between fear of missing out, social media addiction, and emotional symptoms in adolescence: The role of stress associated with neglect and negative reactions on social media. *Addictive Behaviors, 106*, 106364. https://doi.org/10.1016/j.addbeh.2020.106364

30. Fan, W., Cheung, F., Cheung, S. & Leung, K. (2008). Gender Difference of Personality Traits among Hong Kong Secondary School Students and Their Developmental Analyses, *Acta Psychologica Sinica,40*(09), 1002-1012. https://doi.org/10.3724/SP.J.1041.2008.01002

31. Farrington, D. (1992). Implicaciones de la investigación sobre carreras delictivas para la prevención de la delincuencia. En L. V. Montoro González & V. Garrido Genovés (Dirs.), *La reeducación del delincuente juvenil. Los programas de éxito.* (pp. 127-154). Valencia, España: Tirant lo Blanch.

32. Fernández-Bustos, J. G., Infantes-Paniagua, Á., Gonzalez-Martí, I., & Contreras-Jordán, O. R. (2019). Body Dissatisfaction in Adolescents: Differences by Sex, BMI and Type and Organisation of Physical Activity. *International journal of environmental research and public health*, *16*(17), 3109. https://doi.org/10.3390/ijerph16173109

33. Fernández, M. E., Damme, L. V., Pauw, S. D., Costa-Ball, D., Daset, L. & Vanderplasschen, W. (2018). The moderating role of age and gender differences in the relation between subjective well-being, psychopathology, and substance use in Uruguayan adolescents. *Revista Latinoamericana de Psicopatología Fundamental, 21*(3), 486-510. https://doi.org/10.1590/1415-4714.2018v21n3p486.5

34. Floyd, P. N., Charles, N. E., Sigurdson, L., & Barry, C. T. (2020). Optimal PAI-A Cutoffs to Determine Risk for Non-Suicidal Self-Injury (NSSI) and Suicide-Related Behavior (SRB) among At-Risk Adolescents. *Archives of Suicide Research*, 1-18. https://doi.org/10.1080/13811118.2020.1784334

35. Fonseca-Pedrero, E., Paino, M., Lemos-Giráldez, S. & Muñiz, J. (2011). Prevalencia de la sintomatología emocional y comportamental en adolescentes españoles a través del Strengths and Difficulties Questionnaire (SDQ). *Revista de Psicopatología y Psicología Clínica*, *16*(1), 15-25. doi.org/10.5944/rppc.vol.16.num.1.2011.10348

36. Frisone, F., Settineri, S., Sicari, P. F., & Merlo, E. M. (2020). Gambling in adolescence: a narrative review of the last 20 years. *Journal of Addictive Diseases, 38*(4), 438-457. https://doi.org/10.1080/10550887.2020.1782557

37. Garrison, C.Z., Jackson, K.L., Addy, C.L., McKeown, R.E., & Waller, J.L. (1991). Suicidal behaviors in young adolescents. *Am J Epidemiol, 133*(10), 1005-14. https://doi.org/10.1093/oxfordjournals.aje.a115809

38. Geoffroy, M., Orri, M., Girard, A., Perret, L. & Turecki, G. (2021). Trajectories of suicide attempts from early adolescence to emerging adulthood: Prospective 11-year follow-up of a Canadian cohort. *Psychological Medicine, 51*(11), 1933-1943. https://doi.org/10.1017/S0033291720000732

39. Ghandour, R. M., Sherman, L. J., Vladutiu, C. J., Ali, M. M., Lynch, S. E., Bitsko, R. H. & Blumberg, S. J. (2019). Prevalence and treatment of depression, anxiety, and conduct problems in U.S. children. *The Journal of Pediatrics*, *206*, 256-267. https://doi.org/10.1016/j.jpeds.2018.09.021

40. Göbel, K. & Cohrdes, C. (2021). The whole is greater than the sum of its parts: profiles of multiple mental health risk factors using Latent class analysis. *Child and Adolescent Psychiatry and Mental Health, 15*. https://doi.org/10.1186/s13034-021-00380-8

41. Goddings, A., Mills, K., Clasen, L., Giedd, J., Viner, R. & Blakemore, S. (2014). Longitudinal MRI to assess effect of puberty on subcortical brain development: an observational study, *The Lancet, 88*, 242-251. https://doi.org/10.1016/S0140-6736(14)60315-9

42. Gonzálvez, M., Espada, J., Guillén-Riquelme, A., Secades, R. & Orgilés, M. (2016). Asociación entre rasgos de personalidad y consumo de sustancias en adolescentes españoles. *Adicciones, 28*(2), 108-115.

43. Goodman, R. & Scott, S. (2012). *Child and Adolescent Psychiatry*, 3rd ed. Wiley-Blackwell, Oxford. https://doi.org/10.1002/9781118340899

44. Gore, F. M., Bloem, P. J., Patton, G. C., Ferguson, J., Joseph, V., Coffey, C., Sawyer, S. M., & Mathers, C. D. (2011). Global burden of disease in young people aged 10–24 years: a systematic analysis. *The Lancet, 377*(9783), 2093–2102. doi: 10.1016/S0140-6736(11)60512-6

45. Gunther, S., Moor, I., Knochelmann, A. & Richter, M. (2018). Intergenerationale Mobilität und gesundheitliche Ungleichheiten in Ost- und Westdeutschland. Eine Trendanalyse von 1992 bis 2012. [Intergenerational mobility and health inequalities in East and West Germany: A trend analysis from 1992 to 2012]. *Bundesgesundheitsblatt, Gesundheitsforschung, Gesundheitsschutz, 61*(1), 78–88. https://doi.org/10.1007/s00103-017-2655-1

46. Haugen, T., Johansen, B. T., & Ommundsen, Y. (2014). The role of gender in the relationship between physical activity, appearance evaluation and psychological distress. *Child Adolesc Ment Health,* 19(1), 24-30. https://doi.org/10.1111/j.1475-3588.2012.00671.x

47. Holmstrand, C., Bogren, M., Mattisson, C. & Brådvik, L. (2015). Long-term suicide risk in no, one or more mental disorders: the Lundby Study 1947-1997. *Acta Psychiatrica Scandinavica, 132*(6), 459-469. https://doi.org/10.1111/acps.12506

48. Hooks, E. & Hernández, M. (2020). Profile analysis of the Personality Assessment Inventory-Adolescent (PAI-A) for individuals with autism spectrum disorder. *Psychol Schs. 2021, 58*, 400– 415. https://doi.org/10.1002/pits.22453

49. IBM Corp. Released. (2015). IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp.

50. Instituto Nacional de la Juventud [INJU], Fondo de Población de Naciones Unidas [UNFPA] & Instituto Nacional de Estadística [INE]. (2020). *IV Encuesta Nacional de Adolescencia y Juventud 2018.* República Oriental del Uruguay. Retrived from: http://www.ine.gub.uy:82/Anda4/index.php/catalog/691/export

51. Kessler, R. CAdler, L. A., Berglund, P., Green, J. G., McLaughlin, K. A., Fayyad, J., Russo, L. J., Sampson, N. A., Shahly, V., Zaslavsky, A.M. (2014). The effects of temporally secondary co-morbid mental disorders on the associations of DSM-IV ADHD with adverse outcomes in the US National Comorbidity Survey Replication Adolescent Supplement (NCS-A). *Psychological Medicine, 44*(8), 1779–1792. https://doi.org/10.1017/S0033291713002419

52. La Maison, C., Munhoz, T. N., Santos, I. S., Anselmi, L., Barros, F. C. & Matijasevich, A. (2018). Prevalence and risk factors of psychiatric disorders in early adolescence: 2004 Pelotas (Brazil) birth cohort. *Social Psychiatry and Psychiatric Epidemiology,* 53, 685–697 (2018). https://doi.org/10.1007/s00127-018-1516-z

53. Lawrence, D., Johnson, S., Hafekost, J., Boterhoven De Haan, K., Sawyer, M., Ainley, J. & Zubrick, S.R. (2015). The Mental Health of Children and Adolescents. Report on the second Australian Child and Adolescent Survey of Mental Health and Wellbeing. Canberra: Department of Health.

54. Lewis, A. (2017). Comparison of clinical scales: Youth COMPAS, PAI-A, and MACI. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 78*(4-B)(E).

55. Llambí, C. & Piñeyro, L. (2012). Índice de Nivel Socioeconómico (INSE). Accessed at: http://www.cinve.org.uy/wp-content/uploads/2012/12/Indice-de-nivel-socioecon%C3%B3mico.pdf

56. Lopes, C. S., Abreu, G. de A., Santos, D. F. dos, Menezes, P. R., Carvalho, K. M. B. de, Cunha, C. de F., Vasconcellos, M. T. L. de, Bloch, K. V., & Szklo, M. (2016). ERICA: prevalence of common mental disorders in Brazilian adolescents. *Revista de Saúde Pública, 50*(Suppl. 1), 14s. https://doi.org/10.1590/s01518-8787.2016050006690

57. Maalouf, F. T., Ghandour, L. A., Halabi, F., Zeinoun, P., Shehab, A. A. & Tavitian, L. (2016). Psychiatric disorders among adolescents from Lebanon: prevalence, correlates, and treatment gap. *Social Psychiatry and Psychiatric Epidemiology, 51*(8), 1105-1116. https://doi.org/10.1007/s00127-016-1241-4

58. Mendle, J., Beam, C.R., McKone, K.M.P. & Koch, M.K. (2020). Puberty and Transdiagnostic Risks for Mental Health. *Journal of Research on Adolescence: the Official Journal of the Society for Research on Adolescence, 30*(3), 687-705. https://doi.org/10.1111/jora.12552

59. Ministerio de Salud Pública [MSP]. (2020). *Día Nacional de Prevención del Suicidio.* República Oriental del Uruguay.
Retrieved from: https://www.gub.uy/ministerio-salud-publica/comunicacion/noticias/dia-nacional-prevencion-del-suicidio

60. Morey, L.C. (2007). *The Personality Assessment Inventory professional manual.* Lutz, FL: Psychological Assessment Resources.

61. Nolen-Hoeksema, S., Larson, J., & Grayson, C. (1999). Explaining the gender difference in depressive symptoms. *Journal of Personality and Social Psychology, 77*(5), 1061–1072.
https://doi.org/10.1037/0022-3514.77.5.1061

62. Organización Mundial de la Salud. (2004). *Prevención de los Trastornos Mentales: Intervenciones Efectivas y Opciones de Políticas.* Accessed at:
https://www.who.int/mental_health/evidence/Prevention_of_mental_disorders_spanish_version.pdf

63. Organización Mundial de la Salud. (2019). *Salud mental del adolescente.* Accessed at:
https://www.who.int/es/news-room/fact-sheets/detail/adolescent-mental-health

64. Organización para la Cooperación y el Desarrollo Económicos. (2014). *Making mental health count: the social and economic costs of neglecting mental health care.* Paris: OECD.

65. Organización Panamericana de la Salud. (2019). *Guía de intervención mhGAP para los trastornos mentales, neurológicos y por consumo de sustancias en el nivel de atención de salud no especializada. Versión 2.0.*
Retrieved from: https://iris.paho.org/handle/10665.2/34071

66. Otto, C., Haller, A.C., Klasen, F., Hölling, H., Bullinger, M. & Ravens-Sieberer, U. (2017). BELLA study group. Risk and protective factors of health-related quality of life in children and adolescents: Results of the longitudinal BELLA study. *PLoS One*, *12*(12., https://doi.org/10.1371/journal.pone.0190363

67. Penado Abilleira, M., Rodicio-García, M. L., Corrás Vázquez, T., Ríos de Deus, M. P., & Iglesias Cortizas, M. J. (2019). Personality characteristics of a sample of violent adolescents against their partners. *Psicologia: Reflexão e Crítica.* https://doi.org/10.1186/s41155-019-0122-7

68. Polanczyk, G. V., Salum, G.A., Sugaya, L. S., Caye, A. & Rohde, L.A. (2015). Annual research review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *J Child Psychol Psychiatry, 56*(3), 345-65. https://doi.org/10.1111/jcpp.12381

69. Priess H. A., Lindberg, S. M. & Hyde, J. S. (2009). Adolescent gender-role identity and mental health: Gender intensification revisited. *Child Dev., 80*, 1531–1544. https://doi.org/10.1111/j.1467-8624.2009.01349.x

70. Reiss, F., Meyrose, A. K., Otto, C., Lampert, T., Klasen, F., Ravens-Sieberer, U. (2019). Socioeconomic status, stressful life situations and mental health problems in children and adolescents: Results of the German BELLA cohort-study. *PLOS ONE*, *14*(3). https://doi.org/10.1371/journal.pone.0213700

71. Rutter, M. (2015). Resilience: Concepts, findings, and clinical implications. In A. Thapar, D. S. Pine, J. F. Leckman, S. Scott, M. J. Snowling, & E. Taylor (Eds.), *Rutter's Child and Adolescent Psychiatry* (pp. 341-351). USA: John Wiley and Sons, Ltd. https://doi.org/10.1002/9781118381953.ch27

72. Salum, G. A., Polanczyk, G.V., Miguel, E. C. & Rohde, L. A. (2010). Effects of childhood development on late-life mental disorders. *Current Opinion in Psychiatry, 23*(6), 498–503. https://doi.org/10.1097/YCO.0b013e32833ead33

73. Schweizer, S., Parker, J., Leung, J. T., Griffin, C., & Blakemore, S.-J. (2020). Age-related differences in affective control and its association with mental health difficulties. *Development and Psychopathology, 32*(1), 329–341. https://doi.org/10.1017/S0954579419000099

74. Settineri, S., Merlo, E. M., Alibrandi, A., Sicari, F., Dritto, I. P., Strangis, F., & Frisone, F. (2019). Personality and phobias in adolescence: age and gender in psychopathological expressions. *Journal of Mind and Medical Sciences, 6*(2), 304-310. https://doi.org/10.22543/7674.62.P304310

75. Silva, S. A., Silva, S. U., Ronca, D. B., Gonçalves, V. S. S, Dutra, E. S. & Carvalho, K. M. B. (2020). Common mental disorders prevalence in adolescents: A systematic review and meta-analyses. *PLOS ONE, 15*(4), e0232007. https://doi.org/10.1371/journal.pone.0232007

76. Simpson, G. A., Bloom, B., Cohen, R. A., Blumberg, S. & Bourdon, K.H. (2005). U.S. Children with emotional and behavioral difficulties: Data from the 2001, 2002, and 2003 National Health Interview Surveys. *Advance Data, 360*, 1-13. https://doi.org/10.1037/e609192007-001

77. Slade, T., Chapman, C., Swift W., Keyes, K., Tonks, Z. & Teesson, M. (2016). Birth cohort trends in the global epidemiology of alcohol use and alcohol-related harms in men and women: systematic review and metaregression. *BMJ Open, 6*(10), e011827. https://doi.org/10.1136/bmjopen-2016-011827

78. Stepp, S. D., Olino, T. M., Klein, D. N., Seeley, J. R. & Lewinsohn, P. M. (2013). Unique influences of adolescent antecedents on adult borderline personality disorder features. *Personality Disorders: Theory, Research, and Treatment, 4*(3), 223–229. https://doi.org/10.1037/per0000015

79. Stover, J. B., de la Iglesia, G., Castro-Solano, A.; Fernandez-Liporace, M. M. (2017). Inventario de Evaluación de la Personalidad para adolescentes: consistencia interna y dimensionalidad en adolescentes de Buenos Aires. *Pensando Psicología; 13*(22), 15-27. https://doi.org/10.16925/pe.v13i22.1985

80. Thapar, A., Collishaw, S., Pine, D.S. & Thapar, A.K. (2012). Depression in adolescence. *The Lancet, 379*, 1056–1067. https://doi.org/10.1016/s0140-6736(11)60871-4

81. Thompson, R. A., & Goodman, M. (2010). Development of emotion regulation: More than meets the eye. In A. M. Kring & D. M. Sloan (Eds). *Emotion regulation and psychopathology: A transdiagnostic approach to etiology and treatment* (p. 38–58). The Guilford Press.

82. Underwood, L. A., & Washington, A. (2016). Mental Illness and Juvenile Offenders. *International journal of environmental research and public health*, *13*(2), 228. https://doi.org/10.3390/ijerph13020228

83. Van der Graaff, J., Branje, S., De Wied, M., Hawk, S., Van Lier, P., & Meeus, W. (2014). Perspective taking and empathic concern in adolescence: gender differences in developmental changes. *Developmental psychology*, *50*(3), 881. https://doi.org/10.1037/a0034325

84. Van Droogenbroeck, F., Spruyt, B. & Keppens, G. (2018). Gender differences in mental health problems among adolescents and the role of social support: results from the Belgian health interview surveys 2008 and 2013. *BMC Psychiatry*, *18*(1). https://doi.org/10.1186/s12888-018-1591-4

85. Van Roy, B., Grøholt, B., Heyerdahl, S. & Clench-Aas, J. (2006). Self-reported strengths and difficulties in a large Norwegian population 10-19 years: age and gender specific results of the extended SDQ-questionnaire. *European Child & Adolescent Psychiatry*, *15*(4), 189-198. https://doi.org/10.1007/s00787-005-0521-4

86. Venta, A., Magyar, M., Hossein, S., & Sharp, C. (2018). The psychometric properties of the Personality Assessment Inventory–Adolescent's Borderline Features Scale across two high-risk samples. *Psychological assessment*, *30*(6), 827. https://doi.org/10.1037/pas0000528

87. Villar-Cabeza, F., Esnaola-Letemendia, E., Blasco-Blasco, T., Prieto-Toribio, T., Vergé-Muñoz, M., Vila-Grifoll, M. & Castellano-Tejedor, C. (2018). Análisis dimensional de la personalidad del adolescente con conducta suicida. *Actas Españolas de Psiquiatría, 46*, 104-111.

88. Uruguay. Junta Nacional de Drogas. (2020). *VII Encuesta Nacional de Consumo de Drogas en Estudiantes de Enseñanza Media, 2018*. Uruguay: JND.

89. Viola, L., Garrido, G. & Varela, A. (2007). *Estudio epidemiológico sobre la Salud Mental de los niños uruguayos.* Montevideo: GEGA.

90. Whiting D. & Fazel S. (2020). Epidemiology and Risk Factors for Violence in People with Mental Disorders. In: B. Carpiniello, A. Vita, & C. Mencacci (Eds). *Violence and Mental Disorders. Comprehensive Approach to Psychiatry* (pp. 49-62) Suiza: Springer, Cham. https://doi.org/10.1007/978-3-030-33188-7_3

91. Wiklund, M., Malmgren-Olsson, E. B., Öhman, A., Bergström, E., & Fjellman-Wiklund, A. (2012). Subjective health complaints in older adolescents are related to perceived stress, anxiety and gender – a cross-sectional school study in Northern Sweden. *BMC Public Health, 12*(1). https://doi.org/10.1186/1471-2458-12-993

92. Wilshire, C. E., Ward, T., & Clack, S. (2020). Symptom descriptions in psychopathology: How well are they working for us? In press, *Clinical Psychological Science.* https://doi.org/10.1177/2167702620969215

93. Yi, J. & Hong, J. (2020). Socioeconomic Status and Later-life Mental Health in South Korea. *American Journal of Health Behavior, 44*(2), 200-213. https://doi.org/10.5993/AJHB.44.2.8

94. Zemaitiene, N., & Zaborskis, A. (2005). Suicidal tendencies and attitude towards freedom to choose suicide among Lithuanian schoolchildren: results from three cross-sectional studies in 1994, 1998, and 2002. *BMC Public Health, 5*(1). https://doi.org/10.1186/1471-2458-5-83