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Environmental risk and protective factors of adolescents' and youths' mental health: differences between parents' appraisal and self-reports

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Abstract
Purpose We investigated the effect of parents' mental health, life events, and home life (among other factors) on adolescents'/youths' mental health, whether such an effect varies when several variables are assessed jointly, and also whether the informant source of the mental health problem modifies the estimations.

Methods We studied a representative sample of 454 Spanish adolescents/youths studied longitudinally (2 assessments, 3 years apart). We considered factors associated with adolescents'/youths' mental health (conduct, emotional, and hyperactivity scores [SDQ]): risk factors (parents' mental health and life events) and mediators (social and financial support). Structural equation modeling was applied. We constructed two models: (a) with parents' SDQ responses and (b) with self-reported SDQ responses (in a subsample of $N = 260$).
Results Model fit was adequate for parents' appraisal. Parents' mental health ($p < 0.05$) and undesirable life events ($p < 0.05$) were the most important risk factors. The same model showed poorer fit when self-reported measures were used. Home life exerted a stronger protective effect on adolescents'/youths' mental health when reported by adolescents/youths. The negative effect of parents' mental health was significantly protected by home life in emotional [−0.14 (0.07)] and hyperactivity scores [−0.2 (0.08)].
Conclusions Even in the presence of other factors, parents' mental health has an important effect on adolescents'/youths' mental health. Good levels of home life are protective, especially when adolescents'/youths' mental health is self-reported.

Keywords Adolescents' and youth' mental health · Parents' mental health · Undesirable life events · Home life · Structural equation modeling · Parental appraisal/self-report

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Introduction

Negative parenting behaviors have been invoked as a major mechanism affecting children's and adolescents' mental

health. Conspicuously, parental mental health has been identified as the most important influence on children's disposition toward mental pathology [1, 2]. However, parents' mental health is just one among a large number of potential risk factors affecting adolescents'/youths' mental health. Life events (LEs), peer relationships, self-esteem, body image, pubertal status, resilience, socioeconomic status, or attention regulation have been identified as factors related to children's mental health [3, 4]. Nevertheless, the evidence has been gathered separately, frequently in clinical or school-based convenience samples [5–7].

Goodman and Gotlib [26] proposed a model to integrate the way in which risk factors of adverse outcomes are transmitted from parents to their children. In their model, parent psychopathology (depression) interacts with other variables through risk mechanisms, children's vulnerabilities, and protective factors. Other studies have related parental conditions, family, and environmental factors with child development [8]. A number of studies have also reported differences between parents' and children's or adolescents' appraisals of adolescent'/youths' mental health using the same instruments [9]. Also, some studies report adolescence as a more vulnerable period, above all due to conflicts with family members and peers [10]. However, the literature emphasizes the need for more follow-up studies to understand the developmental trajectories of children and adolescents and the relationships among the variables and to measure such differences using the same modeling framework [11].

Despite some evidence, there are few reports, and multiple-reporter assessment has not been used. It might be the case that interrelationships between disorder risk factors and mediators change depending on who informs about the mental state. This is not a minor issue: mental health services usually follow parental demands, and therefore, access to services often depends on parental appraisal. There is still a gap to be filled about the variables that affect parents' and children's/adolescents' appraisals and whether there are any differences at all between the two.

In this study, we developed a comprehensive model including different risk factors and mediators that might have influence on mental health problems in children and adolescents. The model was tested longitudinally in a community sample. In addition, we tested for differences between two appraisals of adolescents and youths.

Methods

Design and sample

The KIDSCREEN project was carried out in representative samples of children and adolescents (ages 8–18) in 13 European countries [12]. Here we present data of the Spanish sample, while was the only to perform a follow-up assessment 3 years after baseline. Baseline sample was identified using random digital dialling. Households were contacted and asked to participate by interviewers who had received study-specific training. If the person agreed to participate, the questionnaire, other study materials, and an informed consent form were mailed together with a stamped, addressed envelope for return of the completed questionnaire. The parent could be the mother, father, or a tutor, depending on the choice of the family. Participation at baseline was 47.2 %, similar to other postal surveys [13, 14]. Of those participating in the baseline, 840 families agreed to participate in a future assessment.

Follow-up evaluation took place in 2006, 3 years after baseline study, an interval considered sufficient to allow for relevant changes in participants' mental health status. The same baseline questionnaire and study materials were sent out at follow-up, but with some added instruments, as indicated below. In total, 454 follow-up questionnaires were returned, 87.6 % of which had paired parent/child information necessary for the analysis of the present work ($N = 398$). As explained in more detail elsewhere [12, 15], follow-up participants were slightly younger than non-participants and tended to have a higher level of education, but no differences were found in response rates by gender. The study was approved by the institutional review board of the Mar Hospital (CEIC-PSMAR).

Measures

Adolescents'/youth's mental health

This was the final outcome of the present study, and it was assessed with the Strengths and Difficulties Questionnaire (SDQ). We used the conduct, emotional, and hyperactivity disorder scales. The SDQ has been shown to be valid and reliable both in the original and the adapted Spanish versions [16, 17]. Continuous SDQ scores were used to indicate the degree of mental health problems. Scores ranged from 0 to 10, with higher scores indicating poorer mental health. The SDQ was answered by 100 % of parents included in the sample and by a subsample of adolescents/youths, including 35 % of them (those who were older than 11 years at baseline, $N = 260$). These two appraisals were analyzed separately in the present study.

Parents' mental health status

Parents' mental health was assessed using the SF-12_v2^R [18], in its Spanish version, which has been reported to have good validity scores [19]. It is composed of 12 questions covering eight dimensions of health. The mental health component scores (MCS-12) were computed and

standardized to T-values with a mean of 50 and a standard deviation of 10, based on US general population data. We used the continuous value of MCS.

Life events

Life events were measured using the Coddington Life Events Scales (CLES) [20]. The instrument measures the occurrence during the previous year of 53 stressful LEs. The impact of the LEs is measured in terms of Life Change Units (LCU). Severe, recent, and repeated events imply higher (worse) scores. The CLES have been adapted into Spanish and shown to be psychometrically equivalent to the original [21]. Scores were calculated as the weighted sum of the respondent stress suffered in negative situations. The CLE scales were self-reported by the adolescents/youths and were included in the study only in the follow-up assessment.

Socioeconomic status and social capital

For assessing these factors, we selected three dimensions of the KIDSCREEN-52 questionnaire [23], a measure of health-related quality of life with 52 items and 10 dimensions. Specifically, for socioeconomic status, we used the "financial support" dimension as an indicator of financial capital of adolescents and youths [22]. "Social support and peers" and "Home life" were selected as an indicator of the social capital of the respondent, since they assess the following two aspects: (1) the relation with peers considering the time spent with them, satisfaction with these relationships, and the level of confidence; and (2) home life, considering the happiness with family relationships in home life, family support and availability, and the perception of being loved. As it happens with the rest the KIDSCREEN dimensions, items are scored using a Rasch one-parameter logistic model [24]. To facilitate interpretation, Rasch scores were translated into T-values using the representative sample of the European general population [24]. Higher scores indicate better resources. The Spanish version has demonstrated acceptable psychometric properties [25]. Variables with item examples are shown in Table 1. The KIDSCREEN-52 instrument was self-administered to all participating adolescents/youths.

When describing the results about all observed variables (e.g., home life, mental health of the parents, conduct, emotional, and hyperactivity problems, among others), we refer to the measurements done with the instruments used, which is obviously just an approximation to the theoretical concept meant to be assessed.

Development of the model

We developed a model to test the effect of selected risk factors on the presence of specific mental problems in adolescents/youths. Four guiding principles were taken into account as previously suggested, the model should: (1) consider different roles for the variables [26] and use socioeconomic variables as mediators [27]; (2) be tested using both parental appraisal and self-reports of mental health; (3) respect the study timeline; and (4) take into account the co-occurrence of mental health problems should be taken into account.

Table 1 Variables and assessment instruments used in the Spanish KIDSCREEN follow-up study

Observed variables	Instruments	Time data collected	Recall period	Respondent	Item example
Adolescents'/youths' mental health	Strengths and difficulties questionnaire (SDQ)	Baseline and follow-up	Previous 6 months	Parents/proxy and adolescents/youths	-I try to be nice with other people. I care about their feelings Conduct: lies, fights, temper, steals* Emotional: fears, worries, clingy, unhappy, somatic Hyperactivity: distractible, persistent, restless, fidgety, reflective
Parents' mental heath status	SF-12$_v$2^R	Baseline and follow-up	Previous week	Parents/proxy	Have you felt downhearted and depressed?
Undesirable life events	Coddington life events scales (CLES)	Follow-up retrospectively	Previous 12 months	Adolescents/youths	Becoming involved with drugs
Financial support	KIDSCREEN dimension	Baseline and follow-up	Previous week	Adolescents/youths	Have you had enough money to do the same things as your friends?
Social support and peers	KIDSCREEN dimension	Baseline and follow-up	Previous week	Adolescents/youths	Have you and your friends helped each other?
Home life	KIDSCREEN dimension	Baseline and follow-up	Previous week	Adolescents/youths	Have your parent(s) had enough time for you?

We included variables available in the KIDSCREEN follow-up study, selecting risk and mediators reported in the literature to be related with adolescents' and youths' mental health: (a) factors with negative impact such as poor parents' mental health status and having experienced undesirable LEs; (b) socioeconomic mediators in the presence of risk factors (financial support, social support and peers, and home life); and (c) socio-demographic variables (age).

Adolescents'/youths' mental health was measured at baseline and follow-up. In both assessments, parents' reported data were available. In addition, a subsample of adolescents/youths (those who were older than 11 years at baseline, $N = 260$) self-responded their mental health (SDQ) in both periods. Parents' mental health status was reported by parents both at baseline and follow-up. Undesirable LEs were self-reported by adolescents/youths and were collected only at follow-up. Socioeconomic and social capital variables were self-reported by the adolescents/youths both at baseline and follow-up.

We had hypothesized that low levels of mental health in parents would be a risk factor for levels of mental health in adolescents and youths [28, 29]. Financial support was hypothesized to positively affect home life and social support and peers [2]. In addition, we considered that social support would positively affect relationships with the family [30]. It was hypothesized that age would have an effect on relationships with the family and on social support, as social relations tend to worsen in adolescence [10]. Finally, our hypothesis about the baseline situation was that family relationships would be directly related to emotional, conduct, and hyperactivity problems. Previous studies have highlighted the importance of social relations as being protective in the presence of risk factors [31], and a direct effect was hypothesized.

For consistency with the data collection, all the mentioned variables were included also at a follow-up level. LEs happening between the two assessments were included in this part of the model. In the follow-up level, parents' mental health, home life, and social support and peers would be related in the same way as at baseline and that their mutual influences would also remain. Financial support was excluded from this part of the model as it remained very stable between baseline and follow-up. LEs were hypothesized to be risk factors for mental health outcomes of adolescents and youths [10, 32]. Since good family relationships can protect against the possible stress due to life events [33], we hypothesized that life events would exert an effect through family relationships. Finally, we hypothesized that parents' mental health and family relationships would affect the mental health of adolescents/youths at follow-up, these being the ultimate dependent variables.

Statistical analysis

Analyses were performed in three steps: (1) a general model based on parental appraisal of adolescents' and youths' mental health ($N = 398$), (2) a multigroup test in the same general model to assess gender differences, and (3) finally, the same model was tested using self-reported SDQ scores, which were available for the 260 kids who were older than 11 at baseline.

We applied structural equation modeling. The estimator of choice was maximum likelihood with standard errors estimated using first-order derivatives (MLF). Model fit was assessed using comparative fit index (CFI > 0.9), Tucker-Lewis index (TLI > 0.9), and root mean square error (RMSEA < 0.05). We performed a missing completely at random (MCAR) test to know whether missing values were compatible with a pattern of missing completely at random. Analyses were performed with Mplus 5.2.

Results

The baseline questionnaire was answered by 840 pairs of adolescents/youths and their corresponding parent, of whom 454 pairs were followed-up (54 % response rate), and 398 pairs had sufficient information available to be included in the present analysis. Missing values were compatible with a pattern of missing completely at random (MCAR), ($p = 0.33$), so there was no evidence indicating that results would be different if no data were missing.

Table 2 presents the characteristics of the sample at baseline and follow-up. About 52 % of adolescents/youths and 76 % of responding parents were female. Boys showed higher hyperactivity than girls at baseline and follow-up. At follow-up, boys and girls did not significantly differ on the mean number of undesirable LEs. Scores for home life and social support and peers worsened at follow-up for both boys and girls. Parents' mental health as assessed by the SF-12 MCS significantly decreased 2.8 points between baseline and follow-up.

Figure 1 depicts the model assessing the factors affecting the presence of mental health problems in adolescents and youths in the general model (using the parental appraisal of adolescents'/youths' mental health). Regarding risk factors, parents' mental health affected their children's mental health both at baseline and follow-up. At baseline, emotional, conduct, and hyperactivity problems were negatively influenced by parents' mental health ($\beta = -0.17$, -0.14, and -0.25, respectively, $p < 0.05$). At follow-up, emotional and hyperactivity problems were also negatively influenced by parents' mental health ($\beta = -0.15$ and $\beta = -0.1$, respectively, $p < 0.01$). Undesirable events

Table 2 Baseline and follow-up characteristics of the study sample. KIDSCREEN follow-up study

	Boys–girls difference p value (two-sided)	Boys $n = 189$		Girls $n = 209$	
		Mean (SD) [proportion]	SE mean	Mean (SD) [proportion]	SE mean
Baseline					
Adolescents and youths					
Age	0.03	15.1(2.82)	0.2	15.66 (2.83)	0.2
Conduct *	0.94	2.13 (1.15)	0.81	2.21 (0.94)	0.65
Emotional *	0.09	1.38 (1.47)	0.1	1.63 (1.68)	0.11
Hyperactivity *	0.00	3.95 (2.49)	0.18	2.71 (2.1)	0.14
Financial resources	0.82	51.13 (9.57)	0.66	51.34 (8.66)	0.63
Social support and peers	0.83	54.53 (9.61)	0.66	54.73 (9.59)	0.69
Home life	0.52	52.39 (8.9)	0.64	51.77 (10.39)	0.71
Parents					
Age	0.31	41.97 (4.69)	0.34	42.46 (4.99)	0.34
Mother responding	0.35	[80 %]	0.03	[0.76]	0.03
SF-12 MCS score	0.09	51.78 (8.89)	0.64	53.1 (6.98)	0.43
Follow-up					
Adolescents and youths					
Conduct	0.23	2.19 (1.04)	0.07	2.3 (0.98)	0.06
Emotional	0.46	1.64 (1.67)	0.12	1.76 (1.64)	0.11
Hyperactivity	0.00	3.53 (2.47)	0.18	2.37 (1.88)	0.13
Undesirable life events	0.73	59.5 (86.24)	6.27	62.42 (84.38)	5.83
Social support and peers	0.00	49.96 (8.2)	0.59	52.65 (9.13)	0.63
Home life	0.80	49.7 (8.8)	0.64	49.93 (9.52)	0.65
Parents					
SF-12 MCS score	0.02	46.97 (11.08)	0.8	49.31 (9.14)	0.63

KIDSCREEN follow-up study

* Parental appraisal is reported in all the SDQ values

negatively affected hyperactivity at follow-up ($\beta = 0.09$, $p < 0.05$). In addition, they showed indirect effects through home life ($\beta = -0.21$, $p = 0.05$).

Home life had a protective effect on emotional problems at baseline. There was also an effect of financial support and social support and peers on adolescents'/youths' mental health. This effect passed through home life. In addition, the effect of parents' mental health also passed through home life. Increasing age was associated with worse home life. At follow-up, hyperactivity and conduct problems were protected by family relations. There were significant correlations between SDQ scores, especially between emotional and hyperactivity scores both at baseline and follow-up.

The overall model explained 44, 10, and 20 % of the variance in hyperactivity, conduct, and emotional scores, respectively. The final model showed good fit as indicated by absolute ($\chi^2 = 116.82$, $df = 64$) and relative fit indices (RMSEA = 0.046). Incremental fit indices also showed excellent values (CFI = 0.94; TLI = 0.92).

Regarding socioeconomic variables, home life was affected by financial support, social support and peers, parents' mental health, and age ($p < 0.001$). The effect of parents' mental health was mediated by home life, and the protective effect of home life decreased the likelihood of having an emotional problem [$\beta = -0.21$ (SE 0.05)]. The same was found at follow-up, although the protective effect was less intense. Also, there were significant protective effects of home life on conduct [$\beta = -0.1$ (SE 0.05)] and hyperactivity problems [$\beta = -0.09$ (SE 0.04)].

The multigroup model testing gender differences yielded similar model fit and relationships between variables as the previous model. However, gender differences in hyperactivity were found, with boys being more prone to suffer from them. Gender explained more of the variance in hyperactivity scores (51 %), though no other substantial difference was detected. When restricting the model in order to use self-reported SDQ scores ($N = 260$), the protective effect of home life became much larger (protective effect for emotional [$\beta = -0.14$ (SE 0.07)] and for

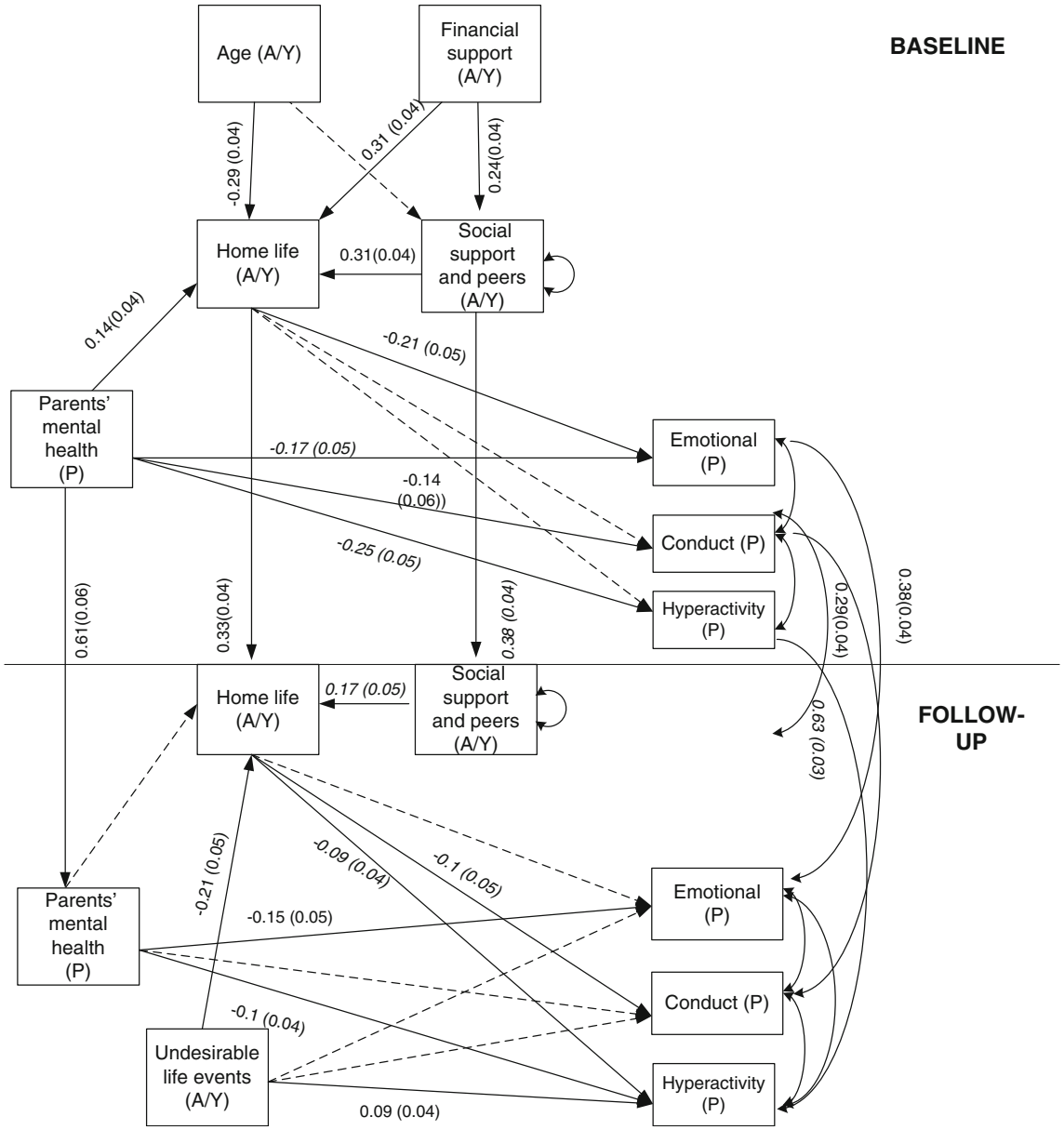

Fig. 1 Path model of variables that might affect adolescents' and youths' mental health (Standardized coefficients (SE)). KIDSCREEN follow-up study. *Note*. *Dashed lines* represent non-significant paths. Only significant parameter estimates and their standard errors are shown. Standardized coefficients and SE are presented. *P* indicates that the variable has been answered by parents. *A/Y* indicates adolescents' and youths' have answered the variables. Goodness of fit indexes: $\chi 2 = 116.81$, *df*=64; CFI: 0.94 TLI: 0.92 RMSEA: 0.046

hyperactivity problems [$\beta = -0.2$ (SE 0.08)]. Table 3 indicates differences in path coefficients between the models with two appraisals of the adolescents' and youths' mental health. The table also shows R-squared coefficient that represents the proportion of variance of the variables under consideration, which is ultimately explained by the final model. Model fit was much poorer for the model using self-reported adolescents'/youths' mental health (CFI: 0.83, TLI: 0.75 and RMSEA: 0.07). Using Lagrange multiplicators to identify new paths in this model suggested relationships from home life to undesirable LEs and from social support and peers to emotional problems. These paths significantly increased model fit. Correlation between emotional and hyperactivity problems was statistically significant, at follow-up (Table 4).

Discussion

Adolescents' and youths' mental health measures are affected by complex interactions between risk and protective factors. Our study gives support to previous theoretical

Table 3 Summary of differences in the parental appraisal and self-reported models of adolescents' and youths' mental health [Beta coefficients (SE) and R^2]. KIDSCREEN follow-up study

Outcome	Variable	Coefficient (SE)		R^2	
		Parental report	Self-report	Parental report	Self-report
Baseline					
Home life	Parents' mental health	0.14 (0.04)	0.14 (0.06)	0.30 (0.06)	0.36 (0.04)
	Age	−0.29 (0.45)	−0.18 (0.07)		
	Financial support	0.31 (0.04)	0.31 (0.06)		
	Social support	0.31 (0.04)	0.32 (0.06)		
Conduct	Parents' mental health	−0.14 (0.06)	−0.15 (0.07)	0.05 (0.04)	0.02 (0.01)
Emotional	Parents' mental health	−0.21 (0.05)	ns	0.11 (0.05)	0.09 (0.02)
	Home life	−0.17 (0.05)	−0.34 (0.08)		
Hyperactivity	Parents' mental health	−0.25 (0.05)	−0.21 (0.11)	0.06 (0.04)	0.06 (0.03)
Follow-up					
Home life	Home life baseline	0.33 (0.04)	0.41 (0.07)	0.21 (0.05)	0.21 (0.03)
	Undesirable events	−0.21 (0.05)	ns		
	Social support	0.17 (0.05)	ns		
Emotional	Emotional baseline	0.38 (0.04)	0.50 (0.04)	0.19 (0.05)	0.19 (0.03)
	Parents' mental health	−0.15 (0.05)	ns		
	Home life	ns	−0.14 (0.07)		
Conduct	Conduct baseline	0.29 (0.04)	0.27 (0.08)	0.09 (0.04)	0.1 (0.03)
	Home life	−0.1 (0.05)	ns		
Hyperactivity	Hyperactivity baseline	0.63 (0.03)	0.40 (0.07)	0.26 (0.05)	0.45 (0.03)
	Parents' mental health	−0.1 (0.04)	ns		
	Undesirable LEs	0.09 (0.04)	0.21 (0.08)		
	Home life	−0.09 (0.04)	−0.20 (0.08)		

Ns non-significant

Table 4 Product-moment, (phi), and [tetrachoric] correlations between study variables. KIDSCREEN follow-up study

	Home life	Social support and peers	Age	Parents' mental health	Financial support and peers	Undesirable life events	Sex	Hyperactivity	Conduct
Home life	1								
Social support and peers	0.44**	1							
Age	−0.33**	−0.13*	1						
Parents' mental health	0.21**	0.14*	−0.03	1					
Financial support and peers	0.38**	0.23**	−0.02	0.05	1				
Undesirable life events	−0.07	−0.12	0.05	−0.08	−0.15**	1			
Sex	0.02	0.00	−0.08	−0.09	−0.01	−0.05	1		
Hyperactivity	−0.16*	−0.15*	−0.05	−0.16*	−0.21*	0.24**	(0.49)*	1	
Conduct	−0.15*	−0.11	−0.01	−0.26*	−0.15	0.18**	(0.14)	[0.46]**	1
Emotional	−0.23**	−0.23**	0.11	−0.16*	−0.25*	0.15*	(−0.02)	[0.66]**	[0.52]**

$N = 398$; * $p < 0.05$; ** $p < 0.01$

models indicating that parents' mental health is a major risk factor [2, 3, 34]. Undesirable LEs are also risk factors, but they show smaller effects than parents' mental health. Our results also show the risk associated to a poor relationship with the family members and suggest that it would be important to focus on family support when trying to prevent mental health problems in children. Nevertheless, the importance of this factor (poor relations) varied depending on who was reporting the adolescents'/youths' mental health, and this issue deserves further research.

When interpreting our findings, certain limitations of the study should be taken into account. First, the response rate at follow-up was relatively low (54 %), which is usually the case in postal surveys [13, 14]. Nevertheless, the sample analyzed was shown to be representative of the Spanish population [15]. Secondly, self-report measures of adolescents'/youths' mental health were only available in a subsample, thus lowering statistical power and limiting the generalizability of results. Thirdly, although the SDQ is a well-established instrument, its sensitivity and positive predictive values may be low for community samples [16]. In addition, although the psychometric properties of the SDQ have been widely tested [16, 35, 36], we did not have previous information about the internal consistency of the independent scales. Also, the SDQ had been originally developed for adolescents up to age 16, while our sample included youths aged 21. The same happens with the KIDSCREEN questionnaire. However, feasibility of the instruments application was demonstrated in the KIDSCREEN pilot study, and guaranteed its appropriate functioning among older population [15]. Finally, the life events measure was not included at baseline, because of the lack of scales availability in Spanish at that time.

Among the strengths of this study, we should emphasize that our results are based on a representative sample of the general population, and hence allow generalization of the observations as they are less prone to selection bias. Also the longitudinal design allows disentangle some time-dependent threats to causality, which typically limit cross-sectional designs [4, 31]. And, importantly, our model included a wide array of factors and relationships previously reported as influencing mental health problems [4, 37].

The parents who reported to have worse mental health status tended to attribute more mental health problems to their offspring. According to our results, a decrement of 12 points in parents' mental health measured with the SF-12 mental component summary (MCS), which is equivalent to 1.33 SD, is associated to an increment of emotional scores of 0.2 SD in kids. A decrease of 25 points (2 SD) in the parents' MCS would imply an increase of adolescents'/youths' emotional problem scores by 0.5 SD, which is considered a clinically important difference [38]. This finding, consistent with previous literature, is particularly important due to the a high prevalence of poor mental health in adults [39]. In our sample, poor SF-12 scores were present in about more than 10 % of the parents (most of them mothers). While the effect of mothers had been widely reported, there is a lack of studies measuring specific parent disorders and their effect on mental health in adolescents. Such studies would be expected to contribute identifying the disorders that have the highest influence, thereby facilitating targeting patients for potential preventive interventions.

Adolescents/youths reporting having experienced severe undesirable events or a combination of several LEs were at risk of hyperactivity problems. This association is especially true for boys, who show higher prevalence of these problems and seem to be more affected by undesirable events than girls [40]. This effect is reported to be improved when parental depression and negative environmental influences take place simultaneously [32]. While the relation between life events and depression is well documented, the typologies of LEs have not often been considered [32], and differential effects have not been properly assessed [41]. In our study, and in consonance with previous studies, only undesirable events had significant effects [40]. These results reinforce the necessity of protecting young ones when undesirable events are experienced [37].

Socioeconomic factors showed positive effects in the model, indicating that mental health would benefit from social and financial support. In our sample, the variable having most influence on adolescents'/youths' mental health was home life: it explained a considerable proportion of the variance, and it was a node from which other variables acted. This suggests that special attention should be devoted to home life. This involves family cohesion, parents' availability, and the perception of adolescents of being supported by them, in the prevention of mental health problems in adolescents/youths.

Consistent with previous reports, age was found to affect home life: as adolescents grow, their family relations tend to get worse. Including a broad age range (i.e., adolescence and youth) allowed us to identify vulnerable lifetime periods previously not sufficiently studied. Previous studies have mainly focused on pubertal transition [32, 42]. Our results also suggest post-adolescence as a vulnerable period. In the case of gender, the multigroup model test indicated that there were no gender differences in emotional and conduct problems [26, 43]. However, boys present more hyperactivity problems than girls [44]. Contrary to our expectations, females did not show any trend of association with any mental health problem. Nevertheless, girls are three times less likely than boys to exhibit symptoms of attention difficulties and hyperactivity [37]

and have better scores in relations with peers, which have been identified as a resilience factor in girls [37]. This is also the case in our study and suggests that females are more protected against risk factors.

The main difference found depending on the informant of the adolescents'/youths' mental health status is the modification (amplification) of the effect. This modification due to different informants is an important finding. Previous literature suggests that parents cannot assess their children well, and they also tend to overestimate problems when their children have mental health or other health-related problems [45, 46]. Our results shed light on respondent characteristics and suggest differences in perceptions, which can be important for treatment decisions. Considering that the use of mental health services usually follows parental demands, our results suggest the importance of taking into consideration adolescents' reports because home life has a bigger protective effect when adolescents' and youths' reports are used. This finding is consistent with the suggestion that family relations in home life are most relevant in the presence of risk factors where strained relations may act as stressors [47].

In summary, our results suggest that attention should be devoted to family support in order to prevent mental health problems in adolescents/youths. The present study highlights the importance of focusing on home life based on the promotion of family cohesion, parents' availability, and the perception of adolescents of being loved and supported, when trying to prevent mental health problems among the adolescents/youths. Both financial and social resources of the family are important protective factors. But there still remains the need to explore in more depth the reasons why the role of home life and peer support varies depending on the informant of mental health status.

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