

# Mental health in Spanish minors. Socioeducational variables

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## ABSTRACT

### Background

Research on minors' mental health is a current necessity as a way to detect, analyze and prevent possible mental disorders.

### Objective

The goal of this study was to analyze the influence of minors' stage of education and their parents' occupational social class as risk factors for their mental health.

### Method

We used the results obtained in the National Spanish Health Survey 2006, with a sample of 5,812 minors between four and 15 years of age. Measures associated with the independent variables were estimated through the measurement of mental health on the Strengths and Difficulties Questionnaire (SDQ-parents' version).

### Results

The relationship between mental health and the variables occupational social class 1 (more privileged) (O.R. 0.256) and social class 2 (middle class) (O.R. 0.523) was significant ( $p < 0.05$ ) in comparison with social class 3 (more disadvantaged). However, whether the minors were in pre-school (O.R. 1.138) or primary school (O.R. 1.162) was not significant ( $p > 0.05$ ) in comparison with secondary school.

### Discussion and Conclusion

It is concluded that high and middle occupational social classes are protective factors for minors' mental health in comparison to belonging to a low occupational social class. However, being a student in pre-school or in elementary school is not a risk factor for mental health in comparison to being a secondary school student.

**Key words:** Mental health, child welfare, social class, educational status.

## RESUMEN

### Antecedentes

La investigación de la salud mental en los menores de edad supone una necesidad actual como medida de detección, análisis y prevención de posibles trastornos mentales.

### Objetivo

Analizar la influencia de la clase social ocupacional de los padres y de la etapa educativa en la que se encuentran los menores, como factores de riesgo en la salud mental de los menores españoles.

### Método

Se utilizaron los resultados obtenidos en la Encuesta Nacional de Salud Española 2006, con una muestra de 5812 menores de cuatro a 15 años. Se estimaron las medidas de asociación con respecto a las variables independientes midiendo la salud mental mediante el Cuestionario de Capacidades y Dificultades (SDQ-versión padres).

### Resultados

La relación entre la salud mental y la variable clase social ocupacional 1 (más privilegiadas) (OR 0.256) y la clase social 2 (clase media) (OR 0.523) aportaron valores significativos ( $p < 0.05$ ) con respecto a la clase social 3, más desfavorecida. Sin embargo, la pertenencia de los menores a la E. Infantil (OR 1.138) o a la E. Primaria (OR 1.162) no aportó valores significativos ( $p > 0.05$ ) con respecto a la E. Secundaria.

### Discusión y conclusión

Se puede concluir que las clases sociales ocupacionales elevadas y medias son factores protectores con respecto a la salud mental de los menores en comparación con la pertenencia a una clase social ocupacional baja. Sin embargo, la pertenencia a la E. Infantil o a la E. Primaria no supone un factor de riesgo de salud mental en comparación con la pertenencia a la E. Secundaria.

**Palabras claves:** Salud mental, bienestar del niño, clase social, nivel educativo.

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## BACKGROUND

Socio-economic status and level of education have been variables of wide-ranging interest in research for analyzing people's health through the different stages of growth.<sup>1,2</sup> Various international studies have thrown into stark relief the relationship between high level of economic income and self-perception of good health in adults in both men and women of different countries.<sup>3,4</sup> This subject has become extremely relevant, demonstrating that economic differences can lead to differences in social status and social exclusion, which in itself can generate differences in overall health.<sup>5,6</sup> In fact, in North America, anxiety and depression disorders appear twice as much in groups of low income and low educational levels in comparison with those who have greater income and a higher level of education.<sup>7,8</sup>

If we focus on minors, families with a low socio-economic level are associated with low levels of health in adolescents until the age of 18; this association is significant at all ages, although it is more consistent during adolescence.<sup>9</sup> As such, minors who have parents with low income and a low socio-economic status may lead to increased likelihood of suffering health problems, and even influencing a greater probability of the appearance of risky behavior in adolescents.<sup>10</sup> If we focus specifically on the mental health of minors, it has been shown that between 3% and 18% of people suffer some type of mental disorder during childhood and adolescence,<sup>11-13</sup> and this figure ranges between 10% and 20% in Spain.<sup>14</sup> Faced with this data, it is important to understand whether the minors' level of education and their parents' occupational social class is related with the presence of mental health problems in Spanish minors.

To measure this pathology, the Strengths and Difficulties Questionnaire (SDQ)<sup>15</sup> was used. The SDQ is the most widely-used instrument in childhood mental health research since 1997.<sup>16,17</sup> It has been used for national health surveys in various countries,<sup>18</sup> demonstrating its psychometric properties in different cultures.<sup>19</sup> It can be used in three different ways, according to the person answering the questionnaire: teachers, parents, or self-reporting. It is a very widely-used screening tool compared to other more extensive diagnostic classics such as the CBCL or Conners Scale.<sup>16,20,21</sup> The Spanish version was validated by Rodríguez<sup>22</sup> and analyzed with the general population in other investigations.<sup>23</sup> As such, the aim of this study was to use the SDQ-parents to analyze the presence of mental health problems in Spanish minors aged four to 15 according to the influence of educational level corresponding to age, and the social occupational class of their parents.

## METHOD

### Study Design

The data used came from the National Spanish Health Survey 2006/2007 (ENSE-2006). A cross-sectional study was carried out which selected 5,812 minors, 50.8% of which were boys and 49.2% of which were girls, all aged between four and 15. Information was obtained through the SDQ-parents questionnaire and other sociodemographic questions (occupational social class of the main breadwinner, and level of education corresponding to the minor's age) brought together within the minors' questionnaire of the ENSE-2006. The study population of the ENSE-2006 was selected through a polyphasic stratified sample. The responses were obtained by means of the primary family breadwinner in 31,000 homes representative of 17 autonomous and extended communities throughout Spanish territory. More information can be found in the National Spanish Health Survey 2006.<sup>24</sup>

Unfortunately, the SDQ questionnaire has only been used in the Spanish Health Survey for 2006. As such, analysis of the ENSE-2006 database gives a unique and exclusive opportunity to be able to analyze the mental health of Spanish minors between four and 15 years of age by means of this internationally-utilized test.

### Variables

The SDQ-parents instrument, designed by Goodman at the London Institute of Psychiatry,<sup>15</sup> has been translated into 66 languages ([www.sdqinfo.com](http://www.sdqinfo.com)) and validated various times at international level.<sup>25-27</sup> It is a brief instrument, excellent for screening mental health disorders in minors<sup>17,25</sup> with outstanding internal consistency in all its scales.<sup>28</sup> It is made up of 25 items divided into five scales (emotional symptoms, behavioral problems, hyperactivity, peer problems, and prosocial behavior), with a variable score from 0 to 10 points per scale. The total score is obtained through the sum of four scales, without including the prosocial scale. This suppression of the fifth scale was done in order to obtain the total score of difficulties, exactly as established in the methodology of different investigations with the SDQ, the questionnaire's creator among them.<sup>29,30</sup> Once the responses had been quantified, the total score obtained by each minor for each scale and the total score between zero and 40 points were calculated. To analyze the variable of mental health, this was divided into two categories: suffering or not suffering from mental health problems according to a total score equal to or greater than 20 points (suffering) or less than 20 points (not suffering), obtained in the validation of the SDQ-parents for the Spanish population.<sup>22,23</sup> This information was complemented with a structured interview which covered the following variables: social occupational class of

the primary breadwinner and level of education of the minor according to their age.

Six social classes were considered, according to the Spanish adaptation of the classification by the British Registrar General.<sup>31</sup> For a more effective study of the variables, the authors grouped them into three social classes: Class 1 (grouping the most privileged social classes, I and II) Class 2 (grouping middle classes III and IVa), and Class 3 (grouping the least privileged in that record, IVb and V).

On the other hand, in terms of the minors' age, three corresponding levels of education were considered: Pre-school (minors aged four and five), Elementary school (minors between six and 12), and Secondary school (minors between 13 and 15).

### Statistical analysis

For the statistical analysis of the total score obtained in the SDQ-parents test and the variables of factors of occupational class and level of education, the analysis of variance technique (ANOVA) was used. For the analysis of the association between suffering mental health problems or not with respect to occupational level and level of education, the *odds ratio* (OR) and *relative risk* or *risk ratio* (RR) statistical tools were used. The latter of these analyses used social occupational Class 3 (least privileged) and Secondary education as comparative control classes. The program SPSS 19.0 was used for the statistical calculations.

## RESULTS

### Descriptive and Inferential Statistics

The frequential distribution of the study sample according to variables of occupational and educational level of the minors can be seen in Table 1. The variance analysis for one factor indicated the existence of different meanings between the measures in the total score of the SDQ-parents and the occupational classes ( $F = 44.260$ ;  $p < 0.05$ ). Differences in

means between all categories were found through various *post hoc* analyses (Bonferroni, Scheffè, Tamhane) taken in twos. However, no significant differences were obtained between the means in the total score on the SDQ-parents and the minors' level of education ( $F = 1.226$ ;  $p = 0.293 > 0.05$ ).

### Analysis of relative risks (RR) and odds ratio (OR)

Once the differences in means were analyzed, the RR and OR were analyzed, taking Occupational Social Class 3 and Secondary education as control classes for the variables of occupational class and level of education, respectively. In terms of the dependent variable of suffering mental health problems or not, the aforementioned classification was used according to a total score above (suffering) or below (not suffering) 20 points.

1. *Social occupational class.* Firstly, whether or not there was independence between social occupational class and mental health was contrasted. A Pearson's Chi-squared of 47.86 ( $p < 0.00$ ) was obtained, which indicated the existence of an association between the two variables. Once this association had been obtained, the RR and OR of the levels of the variables studied were measured. Between social class 1 (most privileged) and social class 3 (least privileged),  $RR = 0.476$  and  $OR = 0.309$  were obtained. At 95% confidence, the limits of the *ratios* did not contain the unit, and Pearson's  $\chi^2 = 36.79$  and Yates  $\chi^2 = 35.73$  Chi-squared confirmed the significance of these results ( $p = 0.000 < 0.05$ ). As such, the risk factor of Social class 1 was a protective factor with respect to class III for the presence of mental health problems (Table 2). Equally, comparing class 2 (middle class) with class 3 (less privileged) obtained  $RR = 0.750$  and  $OR = 0.476$ . At 95% confidence, the limits of the *ratios* did not contain the unit, and Pearson's  $\chi^2 = 29.11$  and Yates  $\chi^2 = 28.03$  Chi-squared obtained significant *p-value* ( $p = 0.000 < 0.05$ ). As such, the risk factor of Class 2 in comparison with Class 3 was a protective factor for mental health problems in minors (Table 2).

**Table 1.** Mean scores on the SDQ-parents according to occupational social class of the parents and the minors' level of education

Factors/variables	N	Mean score on SDQ-parents	Ds
Occupational class 1	1363 (23.5%)	5.78	5.71
Occupational class 2	3065 (52.7%)	6.94	6.23
Occupational class 3	1384 (23.8%)	8.04	6.96
Occupational class total score	5812 (100.0%)	6.93	6.34
Childhood education	883 (15.2%)	6.79	6.47
Elementary education	3208 (55.2%)	7.05	6.42
Secondary education	1721 (29.6%)	6.78	6.14
Education total score	5812 (100.0%)	6.93	6.34

**Table 2.** Relative risks and Odds Ratio in terms of the different variables studied

Risk factor	Categories	Rate	Observed	95% CI	Chi <sup>2</sup> Yates	Chi <sup>2</sup> Pearson	
Social class*	Class 1[1]	0.242	RR	0.476	0.353,0.642	35.73 p<0.000	36.79 p<0.000
	Class 3[2]	0.509	OR	0.309	0.207,0.460		
Social class*	Class 2[1]	0.523	RR	0.750	0.659,0.853	28.03 p<0.001	29.11 p<0.001
	Class 3[2]	0.697	OR	0.476	0.362,0.627		
Educational stage	Childhood [1]	0.384	RR	1.141	0.889,1.463	0.8 p=0.371	1.00 p=0.317
	Secondary [2]	0.337	OR	1.228	0.820,1.839		
Educational stage	Elementary [1]	0.693	RR	1.069	0.975,1.173	1.58 p=0.208	1.77 p=0.183
	Secondary [2]	0.648	OR	1.226	0.908,1.655		

Rate = proportion of the risk factor group with the presence of mental health problems.

Relative risk = Rate [1]/Rate [2].

Odds[1] = present [1]/absent [1].

Odds[2] = present [2]/absent [2].

Odds Ratio = Odds[1]/Odds[2].

2. *Minors' Level of Education.* The hypothesis of independence between the variables of level of education and mental health was accepted with a Pearson's Chi-squared of 1.907 ( $p = 0.385 > 0.05$ ). Furthermore, the RR and OR were calculated between the levels of the aforementioned variables, corroborating the previous hypothesis of no association between the two. When comparing the categories of elementary and secondary education, RR=1.141 and OR=1.228 were obtained. The limits of the *ratios* comprised value 1 and the Chi-squareds obtained a non-significant *p-value* ( $p = 0.317 > 0.05$ ). As such, the factor of being at an elementary stage of childhood education was not a risk factor compared to being at the secondary stage of education. Comparing secondary to elementary education obtained RR=1.069 and OR=1.226. The limits of the *ratios* (Risk and Odds) comprised value 1 and the Chi-squareds obtained a non-significant *p-value* ( $p = 0.183 > 0.05$ ). As such, the factor of being at an elementary stage of childhood education was not a risk factor compared to being at the secondary stage of education.

## Discussion and conclusion

The present work highlights the importance of analyzing the occupational social class of parents on the health of Spanish minors, as it is the work of the primary breadwinner with the lowest categories which is most strongly related to the presence of mental health problems in their minors. Conversely, families with jobs corresponding to middle and more privileged classes are a protective factor against the presence of mental health in their minors compared to the least privileged classes. This data, obtained from the general population of Spanish minors, is in line with other international investigations which demonstrate that young people from families with the poorest socio-economic status have worse physical and mental health than those young people with a high socio-economic level.<sup>10,32-36</sup> Neither sex, race, or age change this association; it is the parents' education and socio-economic

level which are the variables most strongly associated with the appearance of mental health problems in minors.<sup>35</sup>

As such, low socio-economic level associated with low categories of social level can bring with them not only negative mental health in adults, but it also directly affects the mental health of minors,<sup>3</sup> even including leading to poor parent-child relationships for longer periods.<sup>37</sup> It is the highest working categories which can influence as a protective factor for children's mental health, and there is a demonstrable association between the socio-working status of parents and the child's level of health, not only physically but at a mental level also.<sup>38</sup> In the same way, if a low working level is associated with low levels of income, the relationship obtained in some studies between a family's level of poverty and the presence of greater problems with anxiety and depression in adolescents and young people is understandable.<sup>39</sup> One possible intervention to reduce the effect of belonging to a low social class could be to drive improved education of parents who belong to such classes. It has been proven that parents' level of education is also a variable that has repercussions on the mental health of children even more than unemployment or working status itself.<sup>40,41</sup> Achieving an improvement in social class requires a multitude of external factors which are difficult to control through an intervention. However, it may be more effective to seek public interventions which guarantee routes to improving the educational level of parents, and reduce the risk of suffering mental health problems in children in their care. In other words, educational training would be a variable to work on in order to modulate the impact on minors' mental health of belonging to a low social class.<sup>35</sup> In the same way, it appears that the primary breadwinner's low level of education and low income are going to determine less probability of seeking a medical consultation to assess the mental health of a minor.<sup>42</sup> According to other international studies,<sup>43</sup> Public mental health policies which provide approaches to at-risk families are necessary in order to better be able to detect the need for psychological attention in minors and to be able to give them adequate care.

On the other hand, this study demonstrated that the minors' level of education according to age is not associated with the presence of mental health problems. As such, it is not a risk factor for the presence of mental health problems. This data differs from some national surveys which establish a higher total score on the SDQ in children aged four to nine, in comparison with those aged between 10 and 15.<sup>42</sup> One possible explanation is based on the relationship between age and the typology of disorders in minors. It has been proven that as young people get older, behavioral and elimination disorders appear less, and mood and eating disorders appear more.<sup>44</sup> However, according to other authors,<sup>45</sup> the majority of mental disorders are diagnosed after the age of 14, because of which the presence of mental health problems is more likely from that age.

One possible explanation for the discrepancies found in the different studies could be related to the detection rather than the presence of mental health problems. According to our data, these problems could be equal between the ages of four and 15. However, it is possible that the first diagnoses and assessments are made during this stage given the most obvious developmental characteristics of adolescence. As such, as demonstrated in this study, mental health problems in Spanish minors can be found at all stages of education equally, although in non-national populations or clinics with smaller samples, it may be easier to find a greater number of diagnoses during adolescence.

On the other hand, although educational level may not be an effect in childhood and adolescence, it has been shown that in adult life, people with a higher level of education do not only have less likelihood of having mental health problems,<sup>46</sup> but if they did have to face that situation, they would be more likely to attend a specialist to seek adequate treatment.<sup>47</sup> Similarly, parents with better academic achievement advise of fewer negative symptoms of mental health in their children.<sup>48</sup> In this way, those with a lower level of education are less likely to attend a psychiatrist, doctor, psychologist, or social worker regardless of income,<sup>49</sup> which may also affect the mental health of their children. As such, although level of education can be an important factor for having good mental health, it would seem that these differences do not appear in Spanish minors. However, studies demonstrate that it is later on, during adult life, that level of education influences understanding of mental health problems and the search for adequate treatment.<sup>50</sup>

Unfortunately, more risk variables have been found to be associated with mental health problems in minors.<sup>51</sup> These include mental health problems in parents, stressful life events for the minor (medical problems, issues at school, situations of child abuse, paternal conjugal problems etc.), low level of parents' education, and of course, the socioeconomic status analyzed in this study. Because of all of this, it is important to continue studying the health of minors and seek to ensure that inequalities in early life stop being pre-

dictors of poor health in adult life.<sup>52,53</sup> It will therefore be fundamental to have an in-depth understanding of each of the most influential variables in the appearance of mental health problems in minors. In this way, it will be possible to achieve adequate detection and preventative treatment which reduces other factors associated with mental health problems such as truancy from school, substance abuse, family violence, and suicide.<sup>54,55</sup>

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## Conflict of interest

The authors do not declare any conflicts of interest.

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