RISK FACTORS IN ADOLESCENCE

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Risk factors in adolescence. The main objective of this research was to detect psychosocial and educational needs in the population aged between 12 and 18 from the city of Móstoles (Madrid Province, Spain). Data were collected from three groups of individuals: Aged 12-14 (n = 1363), Aged 15-18 (n = 1780) and 17-18 outside the school system (n = 113). The dimensions explored were related to a great variety of problems of adolescence: violence and aggression, eating patterns, self-esteem, racism, sexism, lack of solidarity, attitudes towards school and learning, academic achievement, relationships with parents and relationships between young people. Also studied were aspects related to leisure time and the consumption of addictive substances. A typology of young people was obtained in order to establish, through cluster analysis, needs groups that would be the object of future intervention. Three major categories were obtained, one of which could be considered as characteristic of adolescents at risk, and with the greatest need of intervention.

El objetivo principal de esta investigación fue la detección de necesidades psicosociales y educativas en la población de 12 a 18 años de Móstoles. Se recogieron datos de tres grupos de sujetos: de 12 a 14 años (n=1363), de 15 a 18 años (n=1780) y de 17-18 años no escolarizados (n=113). Las dimensiones exploradas se referían a una gran diversidad de problemáticas de la adolescencia: violencia y agresividad, alimentación, autoestima, racismo, sexismo, insolidaridad, actitudes hacia la escuela y el aprendizaje, rendimiento académico, relaciones con los padres y relaciones entre los jóvenes. También se estudiaron aspectos referidos a ocio y tiempo libre y consumos de sustancias adictivas. Se obtuvo una tipología de jóvenes, para establecer mediante análisis de conglomerados, grupos de necesidades, objeto de futuras invervenciones, resultando tres grandes categorías, una de los cuales podría considerarse como característica de los adolescentes en riesgo y con mayor necesidad de intervenciones.

INTRODUCTION

This study is focused on the analysis of patterns of relationships between diverse problematic behaviours of adolescent subjects, some of which are considered as risk factors. There are two reasons for concentrating our study on the age range 12 to 18 years, which includes the stages considered as pre-adolescence and adolescence. First, this is a period in which most of the population is in full-time education, which facilitates the application of programmes of prevention and intervention; second, most researchers agree that this is a crucial period for the constitution of the social and personal identity, a transitional stage between *childhood* and *maturity* that, given its adaptive demands, produces tensions both personal and social. *Adolescence* is more a process of transition than a stage with fixed temporal limits (Morón, 1990). Adolescence involves the learning and initiation of a great variety of critical behaviours for health and well-

being that may condition in a notable way the person's adult life (Jessor, 1984; Moraleda, 1992). A review of studies of adolescents published in Spain allows the identification of certain problems that constitute the basis of our research. Adolescence and its processes affect family dynamics, increasing conflicts. The quality of family relationships and self-esteem constitute crucial variables in most of the studies on disadaptive behaviours in adolescence (Alberdi, 1995; Herrero et al., 1990; Montraveta, 1994; Musitu and Lila, 1993; Ochaíta, 1995; Ochaíta and Espinosa, 1995; Williamson et al., 1993). The rebellion against the adult world characteristic of adolescence is also manifested in the school environment, affecting academic performance (Castejón, Navas and Sampascual, 1996; Funes, 1996; Glenn, 1993; González-Pineda et al., 1997; González Touron, 1992: Mestre et al., 1992; Pardo y Olea, 1993; Vidal Foch, 1996;). Similarly, one of the characteristics of this period is the appearance of non-conventional behaviours, which sometimes constitute antisocial behaviour (Romero et al., 1993; Urra, 1994, 1995). Given these problems, it is not surprising that this is a period of especial concern to politicians and those working in

community social services, and that the planning of preventive programmes becomes an important priority.

It is within this framework that the present study on psychoeducational and social problems in the adolescent (12-18 years) population of Móstoles takes place. This work was commissioned by the local Education Department and co-financed by the Municipal Council and the Council for Education and Culture of the Madrid Autonomous Region. The results of the research will be used for the planning of intervention programmes for dealing with the most important problems, which will be developed by the Municipal Psychopedagogical Team.

Although the study used both qualitative and quantitative methodologies, the results presented here refer exclusively to the survey data.

METHOD
Participants
The population studied was that of adolescents (12 to 18-year-olds) in the city of Móstoles. Due to difficulties with the sampling framework, we excluded subjects aged 17 and 18 that did not attend school, and obtained subjects for this age group from an incidental sample taken from training workshops and other municipal centres. In the present work the results refer only to adolescents within the school system. The population was divided into two large groups: 12 to 14-year-olds from two different education programmes (E.G.B and the recently-introduced E.S.O), and 16 to 18-year-olds from technical education centres (F.P.) or various levels of the normal school system. A sampling by clusters was carried out in each of the groups, with a maximum sampling error of 5% and a confidence level of 95%, the primary sampling units being all the groups from the public, grant-aided and private schools in the municipa-

Figure 1
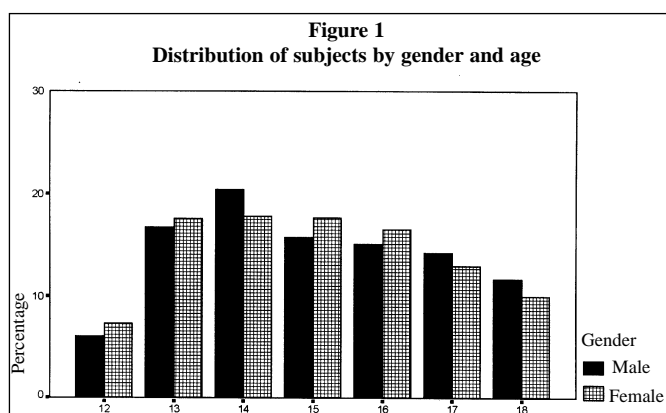**Distribution of subjects by gender and age**

lity. The information necessary for the sampling was provided by the local Education Department. All subjects present on the day the questionnaires were applied completed them, and all schools in which there were selected groups participated in the study. Only three groups were eliminated due to the fact that classes took place in the evenings, which meant that the majority of their students were over 18. These were replaced by the corresponding substitute groups. The number of subjects was n=1363 for the 12 to 14-year-olds and n=1781 for those aged 15 to 18. Figure 1 shows the distribution by gender in each of the age groups.

As it can be observed in the figure, the distribution by gender is balanced in all the age groups.

In addition to the two samples of adolescents, two samples of parents were selected, using the same procedure, since it was the adolescents themselves that were charged with taking the questionnaires to their parents in an envelope containing a second, franked envelope addressed to the Municipal Psychopedagogical Service. Return rate of the questionnaires by parents was relatively high, given the postal procedure involved –around 30%, with n=443 parents of 12 to 14-year-olds responding and n=439 parents of 15 to 18-year-olds. There were no important biases in terms of non-response according to educational level, only the "no formal education" group of parents being under-represented.

Procedure
Guided by a review of the literature on adolescence, the interviews with key indicators and the discussion groups with adolescents, parents and other relevant adults, questionnaires were prepared for adolescents and parents, with two versions according to age, though they were 98% coincident. The adolescents' questionnaires included several *a priori* dimensions: family relationships, education and relationships with teachers, attitudes (sexism, racism and intolerance), eating-related behaviours, self-esteem, aggression and violence, leisure activities, use of tobacco, alcohol and other drugs, sexuality, risk behaviours and other variables related to the local council and its services The questions referring to leisure activities, consumption of alcohol and other substances, sexuality, risk behaviours and sociodemographic variables were formulated with closed response options. The questions referring to the remaining dimen-

sions were presented on 0-5 Likert-type scales, and were subjected to factorial analysis to reduce dimensionality.

The dimensions explored in the parents' questionnaire concerned mainly education and relations with the school, opinions on violence, attitudes, family relationships, the child's eating behaviours and other variables related to the council and its services, as well as sociodemographic variables. The questions presented with Likert-type scales were also subjected to factorial analysis.

The questionnaires were administered collectively in the selected classrooms, after agreeing on a day and time with the school authorities. In all cases they were applied by experienced psychologists. Students from the selected groups took the parents' questionnaire home. Once completed, it was to be returned by mail to the Municipal Psychopedagogical Service in the franked envelope. Time allowed for adolescents to complete the questionnaires ranged between 30 and 60 minutes.

Variables analysed

The variables analysed come mainly from the results of the factorial analyses (not described here), in addition to those referring to academic performance, leisure activities and consumption of alcohol and other substances. The selected dimensions are those most frequently studied in research on problems in adolescence. Those referring to adolescents were: self-esteem, fear of failure, racism, sexism and lack of solidarity, relationships between young people, concern about weight, positive relationships with the family, authoritarian relations, excessive discipline, positive attitude toward school and studies, self-efficacy, lack of interest and motivation, opinions on violence in the environment, justification of aggressive behaviours and several dimensions related to peer relationships. In addition to these dimensions established by means of factorial analysis, the others mentioned above were also used.

A factorial analysis of the scale-based items in the parents' questionnaire indicated four dimensions: attention, care and communication with regard to children, authoritarian relationships, positive evaluation of young people and intolerance.

Data analysis

In the first place Pearson correlations were calculated between the different dimensions. These correlations were calculated separately for the two age groups.

Secondly, since not all adolescents approach this life stage in the same way, it seemed relevant to classify subjects in groups with the object of identifying those that demonstrated greater needs of attention and advice in this critical period. Data were analysed using *k-means* cluster analysis. Solutions were tried with different numbers of groups, but the solution with three groups was selected as the most relevant for the aims of the study and the easiest to interpret. The variables used in the classification were those derived through the factorial analysis, academic performance and questions related to frequency of consumption of alcohol and other substances.

Finally, we analysed some relationships between belonging to a group and other relevant variables, in order to better characterise the groups. The related variables were those referring to family relationships expressed by parents, parents' attitude and parents' educational level. Relationships with subjects' gender and age were also analysed. In the case of the quantitative variables an analysis of variance was used, and for the qualitative ones the relationships were analyzed by means of the chi^2 test.

RESULTS AND DISCUSSION
1. Correlations between variables

We do not present here the complete correlation matrices, since, due to the sample size, there are a large number of statistically significant correlations ($p < 0.001$). Only the most relevant ones (superior to 0.20) are discussed.

Correlations in the 12-14 years age group

Most notable are the correlations between the factor *"justification of violence"* and other factors that may define the profile of what we refer to, in social terms, as a "conflictive person". This dimension correlates positively with attitudes such as *racism* (0.28), *sexism* (0.31) and *lack of solidarity* (0.35), as well as with some dimensions of family relationships, such as *authoritarian relationships* (0.52) and *rigid discipline* (0.24). Justification of violent behaviour correlates negatively with *self-efficacy* (-0.23), *positive attitude toward school and studies* (-0.33) and positive and supportive relationships with parents (-0.37).

The system of relationships found allows us to define

the violent profile as a person that demonstrates racist opinions, is lacking in solidarity, is sexist, has been brought up in a family context of rigid discipline and authoritarianism, does not perform particularly well, and shows negative attitudes toward school and toward relationships with parents.

On the other hand, it is important to highlight the positive correlation between a positive attitude toward school and studies and a good relationship with parents (who also have a good opinion of the child) (0.32). Self-esteem correlates positively and strongly with self-efficacy (0.54) and with good relations with (and evaluation by) parents (0.23). This concurs with data on the development of self-esteem in adolescents. Meanwhile, self-esteem correlates negatively with fear of failure (-0.35).

Correlations in the 14 to 18 years age group
The results are quite similar to those presented in the previous section. *Justification of violence* correlates positively with *racism* (0.29), *sexism* (0.33), *lack of solidarity* (0.35), *lack of interest/motivation with regard to studies* (0.29) and *authoritarian relationship with parents* (0.43). As in the previous group, this aspect correlates negatively with *positive attitude towards school and studies* (-0.25) and with *good relations with (and evaluation by) parents* (-0.23).

Self-esteem correlates strongly and positively with *self-efficacy* (0.55) and with *easy relations with peers* (0.22), and negatively with *fear of failure* (-0.27). Some degree of correlation has also been found with family relationships. Authoritarian upbringing in the family context correlates positively with *racism* (0.24), *sexism* (0.31) and *lack of solidarity* (0.24).

2. Results of the cluster analysis
We present the results of the solution that classifies the subjects in three groups. All of the variables presented

Figure 2
Profiles of the three groups in frequency of alcohol and cannabis consumption

Figure 3
Profiles of the three groups in attitudes to and relationships with parents

Figure 4
Profiles of the three groups in remaining classification variables

Table 1
Means of the three groups in the classification variables

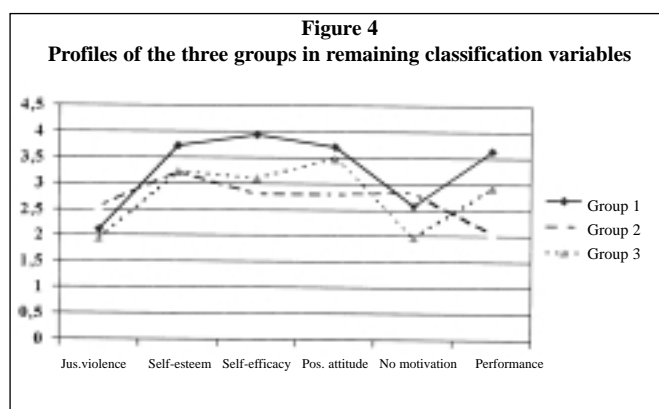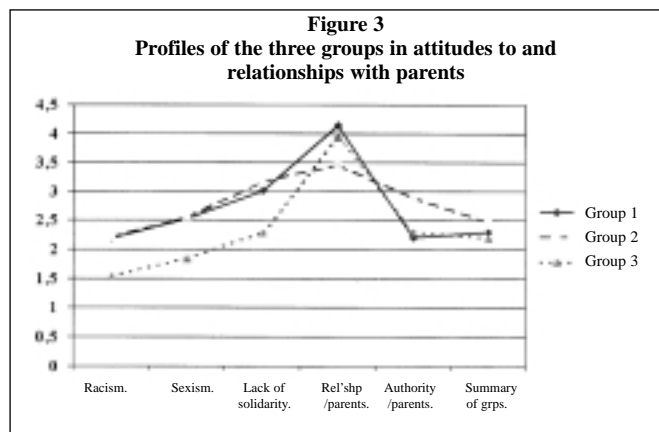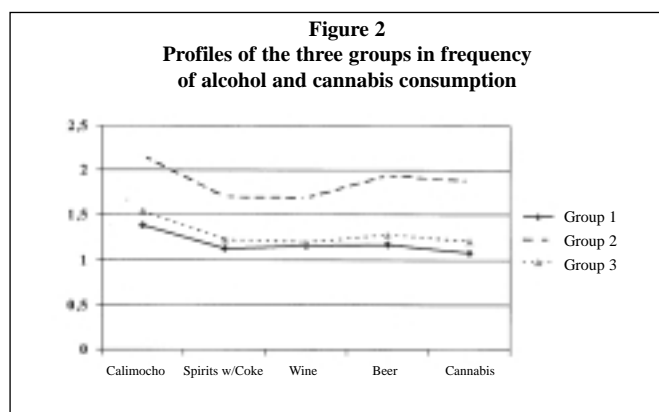| Variables	Group 1	Group 2	Group 3
Justification of violence	2.13	2.58	1.93
Fear of failure	2.05	2.37	2.26
Self-esteem	3.72	3.23	3.22
Racism	2.19	2.20	1.54
Sexism	2.53	2.56	1.84
Lack of solidarity	3.02	3.18	2.28
Self-efficacy	3.94	2.80	3.10
Positive attitude to studies	3.71	2.81	3.48
Not motivated for studies	2.58	2.86	1.97
Positive rel'ship w/parents	4.13	3.46	3.94
Authoritarian rel'ships	2.22	2.89	2.30
Discipline	2.85	2.71	2.79
Friends	3.63	3.45	3.52
Follow group	2.29	2.46	2.19
Participation group	3.51	3.38	3.64
Academic performance	3.64	2.06	2.93
Calimocho*	1.39	2.16	1.55
Spirits with Coca-Cola	1.13	1.70	1.23
Wine	1.16	1.68	1.20
Short spirits	1.15	1.82	1.29
Beer	1.18	1.94	1.28
Cannabis	1.09	1.88	1.21

*Calimocho is a drink made by mixing red wine and Coca-Cola.

Note: Scores in the dimensions are factorial scores. transformed from the original scale from items 1 to 5. Scores relating to consumption are on a scale of frequency of consumption.

contribute significantly to the separation of the groups, according to the results of the analysis of variance (p < 0.001). The classification produced three groups, with 1,067, 968 and 1,097 cases, respectively. Table 1 shows the means of each one of the groups in the study variables.

Figures 2, 3 and 4 represent graphically the profiles of the three groups for frequency of consumption of alcohol and cannabis, attitudes to and relationships with parents and other classification variables.

As can be seen in Table 1 and Figures 2, 3 and 4, which show the profiles, the group of interest to preventive programmes is Group 2, since it is this group that presents risk behaviours in greater measure than the other two: higher frequency of consumption of addictive substances, justification of violence, lack of motivation to study, poorer academic performance, and lower self-efficacy. This group also appears to have poorer relationships with the family and to be more racist and intolerant.

Subsequent analysis of the relationships between belonging to a group and the variables obtained from the parents' questionnaire allowed us to better identify some aspects of this risk group: lack of confidence in young people/authoritarianism, attention and communication, and intolerance. Table 2 shows the means of each one of the groups. Differences obtained with F contrast were found to be significant (p < 0.001). An *a posteriori* Bonferroni contrast established a significance level of p < 0 05.

As it can be observed in the table, Group 2, in which risk behaviours are concentrated, has parents that are characterised by higher scores in *authoritarian relationships* and *intolerance*. Although all the parents present high mean scores in the factor *attention, care and communication with regard to children*, the parents of this group score significantly lower than the parents of subjects from the other two groups.

Through chi^2 tests we explored the relationships between belonging to a group and some sociodemographic variables, such as gender, age, and parents' educational level and employment situation. To avoid reducing the sample size, data referring to the last two variables were obtained from the adolescents responses, after confirmation of the high congruence in these questions between their responses and those of parents. Below we present only the most relevant results.

The only important relationships were those found with the variables gender and age (p < 0.0001). With regard to the variable gender, the examination of residues allows us to indicate that the proportion of males in Group 2 is significantly higher than expected, with the same occurring for females in Group 3, the group with the lowest scores in the risk factors. We can state, therefore, that in the group we have referred to as the risk group there are more males, in accordance with the findings of most published works, which find more conflictive behaviour patterns in male adolescents.

With regard to age, there is a significantly higher proportion of males aged 15 to 18 in Group 2, which indicates the presence of more conflictive behaviours among older subjects.

The relationships analysed with other variables were also statistically significant, due to the high number of subjects, but the values of the correlations are insignificant in terms of size. The only interesting result is that which refers to father's educational level, a high proportion of Group 2 cases being found among the fathers with no formal education.

CONCLUSIONS

The data from the present study confirm that which is stressed by the principal researchers in the field of adolescence: adolescence, more than a fixed stage, is a process during which the adolescent adapts to new life situations. The final result of this process is not prefixed, and it is not a linear process, but rather a fluctuating one.

Nevertheless, it is possible to detect a group of adolescents that shares a series of behaviours and attitudes that can be identified as "risk", and that should be the object of special attention on the part of professionals and authorities. These young people initiate a process of social exclusion, in which deficiencies in a variety of spheres combine: family, social, educational, work, health, etc. For this reason it is necessary to adopt a planned appro-

Table 2			
Means of parents' dimensions in the three groups			
Parents' variables	Group 1	Group 2	Group 3	Difference
Lack of confidence/authoritarianism	2.56	2.85	2.64	2>1 y 3
Attention/Communication	4.14	3.99	4.05	2<1 y 3
Intolerance	2.32	2.38	2.18	2 y 1>3

ach, with intense coordination of all available social resources.

In addition to implementing programmes for specific problems: intolerance, drugs, prevention of risk behaviours, school failure, and so on, it is necessary to use follow-up programmes that monitor these risk groups during their adolescent stage. Moreover, integrated programmes should be designed with special attention focused on the mentioned groups.

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