

**Cava, M.J., Musitu, G. & Murgui, S. (2007). Individual and social risk factors related to overt victimization in a sample of Spanish adolescents. *Psychological Reports, 101, 275-290.***

---

**INDIVIDUAL AND SOCIAL RISK FACTORS RELATED TO OVERT  
VICTIMIZATION IN A SAMPLE OF SPANISH ADOLESCENTS <sup>1,2</sup>**

**Maria Jesus Cava, Gonzalo Musitu, Sergio Murgui**

*University of Valencia*

**Summary.-** This study analyzes the role of adolescents' self-esteem, loneliness, sociometric status, and perceptions of family and classroom environment on overt victimization by peers in a sample of 1319 Spanish adolescents (48% boys and 52% girls), ages 11 to 16 years ( $M=13.7$ ,  $SD=1.5$ ). The findings from structural equation modeling suggest that adolescents' self-esteem, loneliness, and sociometric status had a significant direct effect on overt victimization by peer; and adolescents' perceptions of family and classroom environment had a significant indirect effect on peer overt victimization mediated by self-esteem, loneliness, and sociometric status. The findings are discussed with the consideration of these variables as individual and social risk factors for overt victimization by peer.

<sup>1</sup> Adress correspondence to Maria Jesus Cava, Departamento de Psicología Social, Facultad de Psicología, University of Valencia, Avda. Blasco Ibañez, 21, 46010 Valencia, Spain or e-mail (Maria.J.Cava@uv.es).

<sup>2</sup> This investigation was supported by Ministry of Education and Science of Spain Research Grant SEJ2004-01742: "Violence at School and School Integration: Application and Evaluation of an Intervention Program".

In recent decades, increasing research has been done on bullying and victimization. School bullying first became a topic of psychological research with the work of Olweus in Scandinavia in the 1970s (Olweus, 1978). Since then, surveys have been conducted in many countries around the world, all showing that bullying is a significant problem for a large number of children (Smith, Morita, Junger-Tas, Olweus, Catalano, & Slee, 1999; Eslea, Menesini, Morita, O'Moore, Mora-Merchan, Pereira, & Smith, 2004).

More recently, the focus of research has moved from studies of the nature and incidence of bullying to researching the causes, consequences, and correlates of victimization (Hodges & Perry, 1996). Peer victimization has been defined as, "The experience among children of being a target of the aggressive behaviour of other children, who are not siblings and not necessarily age-mates" (Hawker & Boulton, 2000, p.441) and has been associated with depression, anxiety, low self-esteem, loneliness, common health symptoms, and school absenteeism (Boulton & Smith, 1994; Hodges, Malone, & Perry, 1997; Egan & Perry, 1998; Hodges & Perry, 1999; Estevez, Musitu, & Herrero, 2005; Estevez, Herrero, Martínez, & Musitu, 2006). Recognition of the serious negative consequences that peer victimization may have for victims' well-being has prompted researchers to investigate the factors that place children or adolescents at risk for maltreatment by peer. In these studies, it has been suggested that some social adjustment difficulties could increase the probability of victimization (e.g., Kochenderfer-Ladd, 2004; Fox & Boulton, 2006).

Children with low self-regard are at risk of increased victimization (Egan & Perry, 1998). Research has shown that victims tend to be anxious and have low self-esteem (Olweus, 1978) and are prone to blame their victimization on their own personality (Graham & Juvonen, 1998). These characteristics could be a consequence of victimization, but could be also a risk factor if bullies perceive them as convenient targets. Garandeau and Cillesen (2006) highlighted the importance of the peer group dynamics in relation to victimization, and the bully's tendency for choosing easy targets. Children and adolescents with low self-esteem and self-blaming tendencies are unlikely to defend themselves against a bully and the rest of the peer group, and these characteristics could convert them to a "good" target. Also, low self-esteem could be related to some social behaviors, such as submissive-withdrawn behaviors, that have been related to persistent victimization (Boulton, 1999).

On the other hand, children rejected by peers and without friends have been also considered at risk for peer victimization (Hodges et al., 1997; Hodges & Perry, 1999; Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1999); it has been suggested that being socially isolated could be a risk factor. However, friendship and social preference in peer groups are different constructs. Friendship is defined as an intimate,

supportive relationship between two peers, whereas social preference refers to the collective attitude of the peers group toward a particular child (Bukowski & Hoza, 1989). Friendship typically has been considered as a contributor to the well-being of victimized children and having many friends has been considered as a protective factor against victimization by peer (Hodges & Perry, 1999). However, some studies have pointed out that not all friendship relations are positive and indeed some children are also victimized within a nonpositive friendship (Crick & Nelson (2002).

In the case of social preference, or sociometric status measures in general, all previous research has found that children victimized by peers have high rejection scores and low popularity scores (Crick & Bigbee, 1998). Victims are over-represented in the sociometric “rejected” category, that is, they receive many “like least” and few “like most” nominations from classmates (Boulton & Smith, 1994). Such peer rejection has been considered the strongest correlate of victimization (Bukowski & Sippola, 2001; Salmivalli & Isaacs, 2005), while popularity in a peer group has been associated with low peer victimization (Coleman & Byrd, 2003). Although some children’s previous adaptative difficulties could explain both low sociometric status and peer victimization, to be rejected by peers can increase the probability of victimization because a rejected child is more unlikely to receive help from other peers. Garandeau and Cillesen (2006) have highlighted the interest of bullies to target only one or few persons. The aggression might seem justified to most witnesses if there is only one victim who appears responsible for the victimization.

Other children and adolescents’ characteristics detected by bullies could be related to feelings of loneliness. Certainly, some previous studies have associated loneliness and peer victimization (Ladd & Tropp-Gordon, 2003; Storch, Phil, Nock, Masia-Warner, & Barlas, 2003). Although loneliness has been considered mainly a consequence of victimization, loneliness might also be a child’s or adolescent’s characteristic detected by bullies that could increase the probability of peer victimization.

On the basis of these findings, our first objective was to analyze the role of self-esteem, sociometric status, and loneliness in relation to overt victimization in a sample of Spanish adolescents. It was hypothesized that adolescents with low self-esteem, low sociometric status, and high feelings of loneliness would report more overt victimization by peers. Previous research on victimization by peer has distinguished between overt victimization and relational victimization (Crick & Grotpeter, 1996; Mynard & Joseph, 2000; Crick & Nelson, 2002). Overt victimization occurs when children or adolescents are physically attacked or called names, and relational victimization occurs when children and adolescents are socially ostracized or have rumors spread about them. Overt victimization and relational victimization have different contributions to future

victims' maladjustment (Crick & Nelson, 2002), and probably risk factors related to them are not exactly the same. In this study, social and individual risk factors for overt victimization by peer have been considered.

The second objective of this study was to add previous research about peer victimization by considering these adolescents' characteristics in two important social environments, family and school. The importance of perceived social context for explaining an individual behavior is now accepted, similar to the positions of Lewin (1936) and Bronfenbrenner (1977). However, no studies have considered both the influences of an adolescent's perceptions of family and school environment in relation to victimization by peer. Regarding the family environment, researchers have suggested that a negative environment, that is, a family environment characterized by high family conflict and low parental affection and support, is a risk factor for peer victimization and violent behavior at school (Gerard & Buehler, 1999; Johnson, LaVoie, & Mahoney, 2001; Lucia & Breslau, 2006), but relatively little is known about how this influence functions. Probably, the family environment affects victimization by peer through its influence on the adolescents' social competence and popularity at school (Johnson et al., 2001; Marturano, Ferrerira, & Bacarji, 2005), their feelings of loneliness (Larose & Boivin, 1998), and their self-esteem (Musitu & Garcia, 2004). A secure attachment to parents, based on a supportive relationship, could help children and adolescents to develop a sense of security in themselves and also encourage them to explore new social contexts (Bowlby, 1969; Ainsworth, Blehar, Walters, & Wall, 1978; Larose & Boivin, 1998).

Regarding adolescents' perceptions of the classroom environment, fewer studies have been done, and many of these studies have been centered on the influence of the classroom environment on students' academic motivation and achievement (e.g., Meece, Anderman, & Anderman, 2006). However, adolescents' perception of the classroom environment is also likely to be related to his or her social adjustment in the classroom. These perceptions could be a consequence of both the academic achievement and the social position of the adolescent in the classroom, but these perceptions, once consolidated, could also be related to participation and involvement in the classroom, and social adjustment, feelings of loneliness, and self-esteem. So, although the present understanding of what factors in the classroom environment encourage rejection and victimization by peers is limited at best, the analysis of the adolescents' perception of the classroom environment could provide a more contextualized approach (Donohue, Perry, & Weinstein, 2003).

In this study, the role of adolescents' perceptions of family and classroom environments in relation to peer overt victimization was analyzed, considering their possible direct and also indirect effects through adolescents' self-esteem, loneliness, and

sociometric status. It was hypothesized that family and classroom environments would have significant direct and indirect effects on overt victimization by peer. On the other hand, in the analysis of these effects, it is important to keep in mind the possible mediating effects of adolescents' self-esteem, loneliness, and sociometric status. It was hypothesized that total or partial mediator effects would be observed for adolescents' self-esteem, loneliness, and sociometric status.

## **Method**

### *Participants*

Participants in the study were 1319 Spanish adolescents attending secondary education at the time of the study (there are four grades in obligatory secondary education in Spain) and also a small percentage of students in the last grade of primary education (sixth grade). Ages ranged from 11 to 16 years old ( $M=13.7$ ,  $SD=1.5$ ), distributed approximately equally by sex in the sample: 48% were boys and 52% were girls. The percentages of students in the sixth grade of primary education, and in first, second, third and fourth of secondary education were 9.4%, 25.7%, 22.3%, 22.5%, and 20.1%, respectively. Ten schools from Valencia, Alicante and Castellón (Spain) participated in the study because of availability and based on the school staffs' willingness to engage in voluntary participation. In this study, 56 classrooms participated, with an average of 23 students in each.

### *Procedure*

Initially ten schools from rural and urban areas of Alicante, Valencia and Castellón were selected to participate in this study. The school staff was informed about the objectives of the study during an approximately two-hour presentation. Three schools refused to participate given difficulties in internal organization during the required time for data collection, and were replaced by other similar schools. A letter describing the study and applying for consent was sent to the parents. Participants were told that the purpose of the study was to get a better knowledge of their lives in the school and their relationships with their parents. Stressed was the importance of the sincerity of their answers and the possibility of refusing to take part in the study. Nobody refused to participate. Students filled out the scales during two 60-min. sessions conducted within their classrooms, with an interval of three days between the two sessions. During the first session, students completed the Self-esteem Scale, Loneliness Scale, Classroom Environment Scale, and two other measures that are not part of this study. During the second session, students completed Family Environment Scale, Peer

Victimization Scale, Sociometric Questionnaire, and three other measures that are not part of this study. All measures were administered in the presence of a trained psychologist.

### *Measures*

Self-esteem was measured by the Rosenberg Self-esteem Scale (Rosenberg, 1965, 1989), using the Spanish-language version by Echeburua (1995). Previous studies have shown good internal consistency (Cronbach  $\alpha = .88$ ) of this Spanish-language version (Baños & Guillen, 2000). This scale is a widely used self-esteem measure, and it is composed of 10 items dealing with a person's sense of worthiness and personal value (e.g., "I feel that I have a number of good qualities"). These items are answered on a four-point scale, ranging from 1: Strongly disagree to 4: Strongly agree. Cronbach alpha was .78 in the present sample.

Loneliness was measured by Version 3 of the UCLA Loneliness Scale (Russell, 1996; Spanish-language version of Exposito & Moya, 1999). This 20-item self-report scale measures feelings of loneliness experienced in interpersonal relationships (e.g. "I am unhappy being so withdrawn"). The scale has excellent psychometric qualities, including high test-retest reliability ( $r=.85$ ; Hartshorne, 1993), good internal consistency (Cronbach  $\alpha=.94$ ; Johnson, LaVoie, Spenceri, & Mahoney-Wernli, 2001), and good convergent, concurrent, and discriminant validity, and is commonly related to measures of social support and personal adjustment (Pierce, Sarason, & Sarason, 1991). The response format is from 1: Never to 4: Often. In this study, Cronbach alpha for this scale was .90.

Sociometric Status was assessed using the peer nomination method (Jiang & Cillesen, 2005). Participants were asked to nominate three classmates they liked most and three classmates they liked least. Following Coie, Dodge, and Coppotelli's procedure (1982), an index of social preference was formed by subtracting the rejection score (number of times a student was negatively nominated by all other peers in his or her classroom) from the acceptance score (number of times a student was positively nominated by all other peers in his or her classroom), and standardizing the resulting score. This index of social preference was used as a measure of the adolescent's sociometric status in the classroom. In the sociometric literature, stability is usually found to be lower for younger children than for older children. Other reliability criteria, such as the widely used internal consistency index (Cronbach  $\alpha$ ), are rarely used due to theoretical difficulties when conceptualizing sociometric measurement within a classical psychometric framework (see, Terry, 2000).

Family Cohesion and Expressiveness were measured by two subscales of the Family Environment Scale (Moos & Moos, 1981; Spanish-language version of Fernández-Ballesteros & Sierra, 1989). The scale is a 90-item true-false measure that has 10 subscales: Cohesion, Expressiveness, Conflict, Independence, Achievement, Intellectual-Cultural Orientation, Active-Recreational Orientation, Moral-Recreational Emphasis, Organization, and Control. This scale was designed to assess, with these ten subscales, three dimensions of family environment: Relationship, Personal Growth, and System Maintenance. In this study the relationship between adolescents and their parents was of interest, and only the subscales of Family Cohesion, which is conceptualized as the commitment and support family members provide for one another (e.g., "Family members really help and support one another"), and Family Expressiveness, which is conceptualized as the extension in which family members are encouraged to express their feelings directly (e.g., "Family members often keep their feelings to themselves") were considered. Each of these subscales comprises nine true-false items. In this study, the internal consistencies (Cronbach  $\alpha$ ) of the Cohesion and Expressiveness subscales were .81 and .65, respectively.

Classroom Involvement and Affiliation were measured by two subscales of the Classroom Environment Scale (Moos & Trickett, 1973; Spanish-language version of Fernández-Ballesteros & Sierra, 1989). The scale can be used both to evaluate the classroom itself, as well as to indicate how a student views the classroom and his or her place in it. It is a 90-item true-false measure, whose items are grouped into nine subscales with three dimensions: Relationship (with three subscales, Involvement, Affiliation, and Teacher Support), Personal Growth/Goal Orientation (with two subscales, Task Orientation, and Competition), and System Maintenance and Change (with four subscales: Order and Organization, Rule Clarity, Teacher Control, and Innovation). In this study, the relationship between classmates was of interest, and so only subscales of Involvement, conceptualized as the students' attentiveness, interest and participation in class activities (e.g., "Students put a lot of energy into what they do here"), and Affiliation, conceptualized as the concern and friendship students feel for one another (e.g., "Students in this class get to know each other really well") were considered. In this study, the internal consistencies (Cronbach  $\alpha$ ) of the Involvement and Affiliation subscales were both .60.

Overt Victimization by Peers was measured by a scale of self-reported victimization constructed for this study and mainly based on the Multidimensional Peer-Victimization Scale of Mynard and Joseph (2000) and the Social Experience Questionnaire-Self-Report (Crick & Grotpeter, 1996). Taking into account that previous research on victimization by peer has distinguished between overt forms (physical and verbal assault) and relational forms (social ostracism) of peer victimization (Crick &

Grotmeter, 1996; Mynard & Joseph, 2000; Crick & Nelson, 2002), the constructed scale included 10 items for Peer Overt Victimization and 10 items for Peer Relational Victimization. In this scale, adolescents indicated how often during the last school year they had experienced the 20 victimizing experiences described in these 20 items. The response format was from 1: Never to 4: Often. A principal component analysis with Oblimin rotation was conducted on all 20 items. Oblimin rotation was used because different forms of peer victimization were expected to be related.

The principal component analysis yielded a 3-factor structure: Relational Victimization, Overt Physical Victimization, and Overt Verbal Victimization. Items with factor loadings of .50 or above were selected. Two items were removed from the scale because they had a low factor loading on all three factors. The obtained 3-factor solution explained 62.2 % of the variance. The first factor explained 49.3% of the variance and grouped 10 items referring to relational victimization (see Appendix). The second factor (composed of 4 items) explained 7.1% of the variance and was related to physical overt forms of peer victimization, and the third factor (composed of 4 items) explained 5.9% of the variance and was related to verbal overt forms of peer victimization. The internal consistencies (Cronbach  $\alpha$ ) of the three subscales were .92, .71, and .89 for Relational Victimization, Physical Overt Victimization, and Verbal Overt Victimization, respectively.

## **Results**

Preliminary correlational analyses among all study variables were carried out (see Table 1). Variables concerning the adolescents' perceptions of Family and Classroom Environment were significantly associated with adolescents' Self-esteem, Loneliness, and Sociometric Status. Adolescents reporting more positive Family and Classroom Environment were likely to report higher Self-Esteem, lower Loneliness, and higher Sociometric Status. All these variables correlated in expected directions with Verbal and Physical Overt Victimization.



Table 1  
Bivariate Correlations, Means and Standard Deviations for Structural Model Variables (N = 896)

| Variable                        | 1     | 2     | 3    | 4     | 5     | 6     | 7     | 8     | 9    |
|---------------------------------|-------|-------|------|-------|-------|-------|-------|-------|------|
| 1. Self-esteem                  |       |       |      |       |       |       |       |       |      |
| 2. Loneliness                   | -.50  |       |      |       |       |       |       |       |      |
| 3. Sociometric Status           | .15   | -.25  |      |       |       |       |       |       |      |
| Family Environment Scale        |       |       |      |       |       |       |       |       |      |
| 4. Cohesion                     | .25   | -.21  | .07  |       |       |       |       |       |      |
| 5. Expressiveness               | .25   | -.21  | .04  | .46   |       |       |       |       |      |
| Classroom Environment Scale     |       |       |      |       |       |       |       |       |      |
| 6. Involvement                  | .08   | -.18  | .02  | .07   | .04   |       |       |       |      |
| 7. Affiliation                  | .16   | -.25  | .16  | .35   | .21   | .35   |       |       |      |
| 8. Verbal Overt Victimization   | -.25  | .30   | -.21 | -.09  | -.08  | -.13  | -.20  |       |      |
| 9. Physical Overt Victimization | -.19  | .24   | -.24 | -.12  | -.07  | -.08  | -.15  | .64   |      |
| <i>M</i>                        | 29.75 | 38.42 | .02  | 15.58 | 14.16 | 14.05 | 16.17 | 12.39 | 5.75 |
| <i>SD</i>                       | 4.82  | 8.66  | .32  | 2.44  | 1.79  | 2.14  | 2.07  | 4.37  | 2.11 |

Note.-  $r \geq .07, p < .01$ ;  $r \geq .05, p < .05$ ; Bonferroni adjustment at  $p = .05, r > .30$  ( $r^2 = .90$ ).

The measurement model was tested using EQS version 6.1 (Bentler, 1995). This model included six latent factors: Family Environment (measured with two indicators: Family Cohesion and Expressiveness), Classroom Environment (measured with two indicators: Classroom Involvement and Affiliation), Self-esteem (measured with a single indicator of Self-esteem), Loneliness (measured with a single indicator of Loneliness), Sociometric Status (measured with a single indicator of Social Preference), and Overt Victimization (measured with two indicators: Verbal Overt Victimization and Physical Overt Victimization). This measurement model allowed latent factors to covary while imposing the restriction of no cross-loadings as well as no correlated errors among measures of the same construct nor among measures of different constructs. The data were analyzed using the robust version of the following fit indexes: the chi-square statistic divided by its degrees of freedom [S-B  $\chi_{15}^2$  ( $N = 1319$ ) = 27.96,  $p < .05$ ;  $\chi^2/df=1.8$ ]; the robust comparative fit index (robust CFI=.99); the Bentler-Bonett Nonnormed fit index (NNFI=.98); the Bollen fit index (IFI=.99); and the root mean square error of approximation (RMSEA=.03). A model fit the observed data well when the ratio between the chi-square statistic and the degrees of freedom is less than 3, the fit indexes are .90 or more, and the RMSEA is less than .05 (Bentler, 1990; Mueller, 1996; Hu & Bentler, 1999). The fit of this measurement model was good.

The hypothesized model (see Fig. 1) was also tested using EQS version 6.1 (Bentler, 1995) and the data were also analyzed using a robust version of fit indexes (see below). There is currently a broad consensus that no single measure of a model's overall fit should be relied on exclusively, and researchers are advised to use a variety of indices from different families of measures (e.g., Bentler, 1990; Hu & Bentler, 1999). Following these recommendations, these fit indexes were used: the chi-square statistic divided by its degrees of freedom [S-B  $\chi_{19}^2$  ( $N = 1319$ ) = 37.67,  $p < .001$ ;  $\chi^2/df = 1.98$ ]; the robust comparative fit index (robust CFI=.99); the Bentler-Bonett Nonnormed fit index (NNFI=.97); the Bollen fit index (IFI=.99); and the root mean square error of approximation (RMSEA=.03). The hypothesized model showed a good fit. This model explained 16.4% of variance in overt victimization, with an effect size of 0.19. This effect size is considered small, but acceptable (Cohen, 1988).

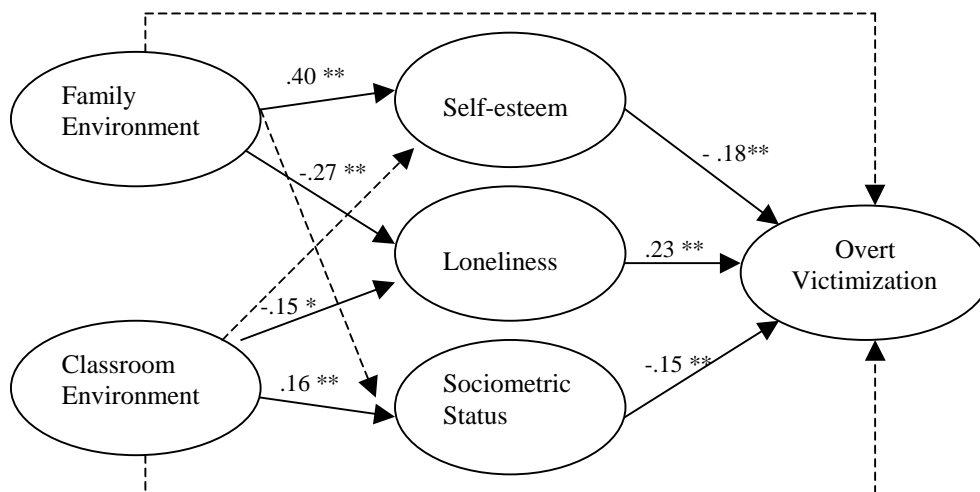


FIG. 1. Hypothesized structural model. Solid lines represent significant paths (\* $p < .01$ , \*\* $p < .001$ ). Correlations between factors are omitted. Model fit:  $\chi_{19}^2 = 37.67$ ,  $p < .05$ ;  $\chi^2/df = 1.98$ ; robust CFI=.99; NNFI=.97; IFI=.99; RMSEA=.03.

Fig. 1 shows standardized path coefficients and their confidence intervals. Results indicated a significant direct effect of adolescents' Self-esteem ( $\beta = -.18$ ,  $p < .001$ ), Loneliness ( $\beta = .23$ ,  $p < .001$ ), and Sociometric Status ( $\beta = -.15$ ,  $p < .001$ ) on Overt Victimization. Moreover, results also showed significant effects of adolescents' perceptions of Family and Classroom Environment, through these variables. On the one hand, adolescents' perceptions of Family Environment were closely associated with adolescents' Self-esteem ( $\beta = .40$ ,  $p < .001$ ) and Loneliness ( $\beta = -.27$ ,  $p < .001$ ), variables which were in turn directly and significant related to Overt Victimization. On

the other hand, adolescents' perceptions of Classroom Environment were significantly related to adolescents' Loneliness ( $\beta = -.15, p < .01$ ) and Sociometric Status ( $\beta = .16, p < .001$ ), which were also significantly associated with Overt Victimization. The effect of Family Environment on Sociometric Status was not significant, nor the effect of Classroom Environment on Self-esteem. The indirect effects of Family and Classroom Environment on Overt Victimization through their relations with Self-esteem, Loneliness, and Sociometric Status were tested. The analysis of these effects showed an indirect significant effect of Family Environment on Overt Victimization ( $\beta = -.12, p < .01$ ) and also an indirect significant effect of Classroom Environment on Overt Victimization ( $\beta = -.07, p < .01$ ).

The possible mediator role of Self-esteem, Loneliness, and Sociometric Status in the effects of Family and Classroom Environment on Peer Overt Victimization was analyzed following the considerations suggested by Baron and Kenny (1986). Following these considerations, the direct effects of Family and Classroom Environment on Peer Overt Victimization, without the inclusion in the model of Self-esteem, Loneliness, and Sociometric Status, were tested. In this direct effects model, including only Family Environment, Classroom Environment, and Overt Victimization, both Family Environment ( $\beta = -.15, p < .01$ ) and Classroom Environment ( $\beta = -.19, p < .01$ ) had a significant negative direct effect on Overt Victimization. The fit indexes of this model were: chi-square divided by degrees of freedom [S-B  $\chi_6^2 (N = 1319) = 19.69, p < .01$ ;  $\chi^2/df=3.28$ ]; the robust comparative fit index (robust CFI=.98); the Bentler-Bonett Nonnormed fit index (NNFI=.98); the Bollen fit index (IFI=.99); and the root mean square error of approximation (RMSEA=.04).

The direct effects of Self-esteem, Loneliness, and Sociometric Status on Overt Victimization were analyzed in a following step. Results showed a significant direct effect of Self-esteem ( $\beta = -.15, p < .001$ ), Loneliness ( $\beta = .22, p < .001$ ), and Sociometric Status ( $\beta = -.18, p < .001$ ) on Overt Victimization. The fit indexes of this model were: S-B  $\chi_{19}^2 (N = 1319) = 37.07 (p < .01; \chi^2/df=1.95)$ ; robust CFI=.98; NNFI=.97; IFI=.99; and RMSEA=.03. Next, the direct effects of Family and Classroom Environment on Self-esteem, Loneliness, and Sociometric Status were tested in another direct effects model. Results indicated significant direct effects of Family Environment on Self-esteem ( $\beta = .39, p < .001$ ), and Loneliness ( $\beta = -.28, p < .001$ ), and no significant direct effect on Sociometric Status ( $\beta = -.01, ns$ ). Results also showed significant direct effects of Classroom Environment on Loneliness ( $\beta = -.16, p < .01$ ), and Sociometric Status ( $\beta = .17, p < .01$ ), and no significant direct effects on Self-esteem ( $\beta = .01, ns$ ). The fit indexes of this model were S-B  $\chi_7^2 (N = 1319) = 13.01 (p < .01, \chi^2/df=1.85)$ ; robust CFI=.99; NNFI=.98; IFI=.99; and RMSEA=.03.

In the hypothesized model (Fig. 1), direct effects of Family and Classroom Environment on Overt Victimization were not observed when Self-esteem, Loneliness, and Sociometric Status were placed in a mediator role in these relations. All the analyses support direct effects of Self-esteem, Loneliness, and Sociometric Status on Overt Victimization, and also the possible mediator role of these variables in the relation of Family and Classroom Environment and Overt Victimization.

### **Discussion**

The present study analyzed individual and social variables in relation to peer overt victimization in a sample of Spanish adolescents. A first goal of this study was to examine the role of adolescents' self-esteem, loneliness, and sociometric status on peer overt victimization. The SEM analysis indicated that these variables were directly related to peer overt victimization. As expected, adolescents with low self-esteem, high loneliness, and low sociometric status reported more overt victimization by peers. These findings are consistent with previous studies in which these variables have been observed as risk factors for peer victimization (Hodges & Perry, 1999; Salmivalli & Isaacs, 2005).

Although these variables could be consequences of peer victimization, some studies have suggested that they might be previous characteristics detected by bullies (e.g. Hodges & Perry, 1999). Along these lines, Salmivalli and Isaacs (2005) proposed that negative self-perceptions may lead to increasing victimization because negative self-perceptions are associated with depression, hopelessness, and less assertive and agentic styles of interacting. It is possible that both low self-esteem and high loneliness lead to behaviors that signal vulnerability and submissiveness, making these adolescents easy targets of peer abuse. Signs of suffering and submission are expected and valued by the aggressors (Boldizar, Perry, & Perry, 1989).

In previous studies, rejection of peers or low sociometric status has been also related to victimization (Ladd & Troop-Gordon, 2003; Buhs, 2005; Buhs, Ladd, & Herald, 2006). The findings of the current study suggest that adolescents with low social preference in a peer group are more likely to be overtly victimized by peers. These adolescents are more socially isolated in their peer groups and are more unlikely to receive the help of other peers in a situation of victimization (Garandeau & Cillessen, 2006). This characteristic could be perceived by bullies and increase the probability of being victimized. Garandeau and Cillessen (2006) have highlighted that bullying consists of repeated actions aimed at causing either physical or psychological harm to an individual who is not in a position to defend himself, and almost never involves just a dyad. More frequently, when bullying takes place in a school class, most students

know about it and are present when it happens (O'Connell, Pepler, & Craig, 1999). In this context, to be rejected or ignored by peers is a social risk factor for victimization. The results of the present study confirm the relevance of adolescents' low sociometric status in relation to overt victimization. It would be desirable in future research to examine the role of these variables on relational victimization as well.

Another goal of this study was to add to previous research by considering the above characteristics inside two important social environments, family and school. As expected, findings showed that these variables were related to overt victimization through the mediating roles of self-esteem, loneliness, and sociometric status. To date, few studies have considered these environments in relation to victimization by peers, and the present study suggests that adolescents' perceptions of these environments may play an important role in peer overt victimization. Also, results suggested that the influence of family environment is stronger than the influence of the classroom environment. The relevance of family environment in relation to adolescents' adjustment has been highlighted previously (Gerard & Buehler, 1999; Johnson, LaVoie, & Mahoney, 2001; Lucia & Breslau, 2006), and these findings confirm it.

Probably, a negative family environment could decrease the personal and social resources of the adolescents. Larose and Boivin (1998) found that attachment to parents was an important personal resource through which adolescents derive a sense of security that facilitates independence from the family and exploration of new social environments. In adolescence, the sense of security was attributed less to the physical presence of parents and more to affective and cognitive aspects such as trust, perceived mutual respect, expectations of sensitivity, and belief that the adolescents themselves deserve empathy from their parents (Armsden & Greenberg, 1987). In the present study, adolescents who had a perception of the family environment as a place in which family members were encouraged to express feelings directly and in which there was family support reported higher self-esteem and lower loneliness. These two variables were, in turn, directly related to overt victimization and the results of this study confirmed their mediator role in this relationship. However, the effect of family environment on sociometric status was not significant. This result may be related to a possibly more important influence on this variable of the adolescents' perception of the classroom environment.

For classroom environment, the findings showed that adolescents with a more positive perception of this environment, that is, adolescents with a perception of high interest and participation in the class activities of the students and high affiliation between students, had higher sociometric status in the class and reported lower feelings of loneliness. The influence of classroom environment on self-esteem was not

significant. Possibly, a multidimensional measure of self-esteem could have detected some influence in the dimensions of social and academic self-esteem.

Previously, the relationship of classroom environment to students' characteristics (Barth, Dunlap, Dane, Lochman, & Wells, 2004) and teachers' instructional practices (Donohue et al., 2003) have been analyzed; but the perceptions of students have not been considered as a risk factor for victimization by peer. The findings of this study indicated that students' perceptions of classroom environment could play a significant role in overt victimization by peers, through its association with variables directly related with victimization. It may be that a negative perception of classroom environment was the result of previous negative experiences with peers in the classroom, but also it may be related to attributional bias. These questions should be analyzed in future studies.

In summary, this study suggested the association of adolescents' low self-esteem, high loneliness, and low sociometric status to overt victimization by peers. Students have different likelihoods of being victimized and these variables could be considered as risk factors. The tendency of bullies to select easy targets for their aggressions may be related to these risk factors. Future research should analyze the role of the peer group, and especially of the witnesses, in relation to these risk factors. In addition, the results of the present study have highlighted the relevance of adolescents' perceptions of family and classroom environment on overt victimization. Findings have shown a closer relation of family environment with adolescents' self-esteem and loneliness, and also a closer relation of classroom environment with adolescents' loneliness and sociometric status. Future research could analyze these specific relationships and prevention programs could take into account that negative perceptions of family and classroom environments may be associated with risk factors for overt victimization. The associations of these factors to relational victimization should be also analyzed in future studies.

Finally, several limitations of this study are acknowledged. Although data in the present study were collected from different sources, adolescents and their classmates, most of the measures used are self-report, so response bias might affect the validity. It would be desirable, therefore, in future research to obtain additional data from parents and teachers as well. Moreover, as the present study used a cross-sectional design, caution about making causal inferences from the results should be maintained. Certainly, due to the correlational nature of this study, causality cannot be established. It may in fact be that victims display low self-esteem, high loneliness, and low sociometric status as a consequence of overt victimization. Further clarification of these relationships would require a longitudinal study.

## References

- Ainsworth, M. D., Blehar, M., Walters, E., & Wall, S. (1978) *Patterns of attachment*. Hillsdale, NJ: Erlbaum.
- Armsden, G. C., & Greenberg, M. T. (1987) The inventory of parent and peer attachment –individual-differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence*, 16(5), 427-454.
- Baños, R. M., & Guillen, V. (2000) Psychometric characteristics in normal and social phobic samples for a Spanish version of the Rosenberg Self-Esteem Scale. *Psychological Reports*, 87(1), 269-274.
- Baron, R. M., & Kenny, D. A. (1986) The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Barth, J. M., Dunlap, S. T., Dane, H., Lochman, J. E., & Wells, K. C. (2004) Classroom environment influences on aggression, peer relations, and academic focus. *Journal of School Psychology*, 42, 115-133.
- Bentler, P. M. (1990) Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246.
- Bentler, P. M. (1995) *EQS structural equations program manual*. Encino, CA: Multivariate Software.
- Boldizar, J., Perry, D., & Perry, L. (1989) Outcome values and aggression. *Child Development*, 60, 571-579.
- Boulton, M. J. (1999) Concurrent and longitudinal relations between children's playground behavior and social preference, victimization, and bullying. *Child Development*, 70, 944-954.
- Boulton, M. J., & Smith, P. K. (1994) Bully/victim problems in middle-school children: stability, self-perceived competence, peer perceptions and peer acceptance. *British Journal of Developmental Psychology*, 12, 315-329.
- Bowlby, J. (1969). *Attachment and loss*. New York: Basic Books.
- Bronfenbrenner, U. (1977) Toward an ecology of human development. *American Psychologist*, 32, 513-531.
- Buhs, E. S. (2005) Peer rejection, negative peer treatment, and school adjustment: self-concept and classroom engagement as mediating processes. *Journal of Social Psychology*, 43, 407-424.

- Buhs, E. S., Ladd, G. W., & Herald, S. L. (2006) Peer exclusion and victimization: processes that mediate the relation between peer group rejection and children's classroom engagement and achievement?. *Journal of Educational Psychology*, 98(1), 1-13.
- Bukowski, W. M., & Hoza, B. (1989) Popularity and friendship: Issues in theory, measurement, and outcome. In T. J. Berndt, & G. W. Ladd (Eds.), *Peer relationships in child development*. New York: Wiley. Pp. 15-45.
- Bukowski, W. M., & Sippola, L. K. (2001) Groups, individuals, and victimization. In J. Juvonen, & S. Graham (Eds.), *Peer harassment in school*. New York: Guilford. Pp. 355-377.
- Cohen, J. (1988) *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.
- Coie, J. D., Dodge, K. A., & Coppotelli, H. (1982) Dimensions and types of social status: a cross-age perspective. *Developmental Psychology*, 18(4), 557-570.
- Coleman, P. K., & Byrd, C. P. (2003) Interpersonal correlates of peer victimization among young adolescents. *Journal of Youth and Adolescence*, 32(4), 301-314.
- Crick, N. R., & Bigbee, M. A. (1998) Relational and overt forms of peer victimization: a multi-informant approach. *Journal of Consulting and Clinical Psychology*, 66, 337-347.
- Crick, N. R., & Grotpeter, J. K. (1996) Children's treatment by peers: victims of relational and overt aggression. *Development and Psychopathology*, 8, 367-380.
- Crick, N. R., & Nelson, D. A. (2002) Relational and physical victimization within friendships: nobody told me there'd be friends like these. *Journal of Abnormal Child Psychology*, 30(6), 599-607.
- Donohue, K. M., Perry, K. E., & Weinstein, R. S. (2003) Teachers' classroom practices and children's rejection by their peers. *Applied Developmental Psychology*, 24, 91-118.
- Echeburua, E. (1995) *Manual práctico de evaluación y tratamiento de la fobia social*. Barcelona: Martínez Roca.
- Egan, S. K., & Perry, D. G. (1998) Does low self-regard invite victimization? *Developmental Psychology*, 34(2), 299-309.
- Eslea, M., Menesini, E., Morita, Y., O'Moore, M., Mora-Merchan, J. A., Pereira, B., & Smith, P. K. (2004) Friendship and loneliness among bullies and victims: data from seven countries. *Aggressive Behavior*, 30(1), 71-83.



- Estévez, E., Herrero, J., Martínez, B., & Musitu, G. (2006) Aggressive and non-aggressive rejected students: an analysis of their differences. *Psychology in the Schools*, 43(3), 387-400.
- Estévez, E., Musitu, G., & Herrero, J. (2005) The influence of violent behavior and victimization at school on psychological distress: the role of parents and teachers. *Adolescence*, 40(157), 183-196.
- Exposito, F., & Moya, M. C. (1999) Soledad y apoyo social. *Revista de Psicología Social*, 2-3, 319-339.
- Fernández-Ballesteros, R., & Sierra, B. (1989) *Escalas de Clima Social FES, WES, CIES y CES*. Madrid: TEA.
- Fox, C. L., & Boulton, M. J. (2006) Friendship as a moderator of the relationship between social skills problems and peer victimization. *Aggressive Behavior*, 32, 110-121.
- Garandeau, C. F., & Cillessen, A. H. N. (2006) From indirect aggression to invisible aggression: a conceptual view on bullying and peer group manipulation. *Aggression and Violent Behavior*, 11, 612-625.
- Gerard, J. M., & Buehler, C. (1999) Multiple risk factors in the family environment and youth problem behaviors. *Journal of Marriage and the Family*, 61(2), 343-361.
- Graham, S., & Juvonen, J. (1998) Self-blame and peer victimization in middle school: An attributional analysis. *Developmental Psychology*, 34, 587-599.
- Hartshorne, T. S. (1993) Psychometric properties and confirmatory factor-analysis of the UCLA Loneliness Scale. *Journal of Personality Assessment*, 61(1), 182-195.
- Hawker, D. S. J., & Boulton, M. J. (2000) Twenty years' research on peer victimization and psychosocial maladjustment: a meta-analytic review of cross-sectional studies. *Journal of Child Psychology and Psychiatry*, 41, 441-455.
- Hodges, E. V. E., & Perry, D. G. (1996) Victims of peer abuse: an overview. *Journal of Emotional and Behavioural Problems*, 5, 23-28
- Hodges, E. V. E., & Perry, D. G. (1999) Personal and interpersonal antecedents and consequences of victimization by peers. *Journal of Personality and Social Psychology*, 76, 677-685.
- Hodges, E. V. E., Malone, M. J., & Perry, D. G. (1997) Individual risk and social risk as interacting determinants of victimization in the peer group. *Developmental Psychology*, 33, 1032-1039.

- Hu, L., & Bentler, P. M. (1999) Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55.
- Jiang, X. L., & Cillesen, A. H. N. (2005) Stability of continuous measures of sociometric status: a meta-analysis. *Developmental Review*, 25(1), 1-25.
- Johnson, H. D., LaVoie, J. C., & Mahoney, M. (2001) Interparental conflict and family cohesion predictors of loneliness, social anxiety, and social avoidance in late adolescence. *Journal of Adolescent Research*, 16(3), 304-318.
- Johnson, H. D., LaVoie, J. C., Spenceri, M. C., & Mahoney-Wernli, M. A. (2001) Peer conflict avoidance: associations with loneliness, social anxiety, and social avoidance. *Psychological Reports*, 88(1), 227-235.
- Kochenderfer-Ladd, B. (2004) Peer victimization: the role of emotions in adaptative and maladaptative coping. *Social Development*, 13(3), 329-349.
- Ladd, G. W., & Troop-Gordon, W. (2003) The role of chronic peer difficulties in the development of children's psychological adjustment problems. *Child Development*, 74(5), 1344-1367.
- Larose, S., & Boivin, M. (1998) Attachment to parents, social support expectations, and socioemotional adjustment during the high school-college transition. *Journal of Research on Adolescence*, 8(1), 1-27.
- Lewin, K. (1936) *Principles of topological psychology*. New York: McGraw-Hill.
- Lucia, V. C., & Breslau, N. (2006) Family cohesion and children's behavior problems: a longitudinal investigation. *Psychiatry Research*, 141(2), 141-149.
- Marturano, E. M., Ferrerira, M. D. T., & Bacarji, K. M. G. (2005) An evaluation scale of family environment for identification of children at risk of school failure. *Psychological Reports*, 96(2), 307-321.
- Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006) Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology*, 57, 487-503.
- Moos, R. H., & Moos, B. S. (1981) *Family Environment Scale manual*. Palo Alto, CA: Consulting Psychologist Press.
- Moos, R. H., & Trickett, E. J. (1973) *Classroom Environment Scale manual*. Palo Alto, CA: Consulting Psychologist Press.
- Mueller, R. O. (1996) *Basic principles of structural equation modelling*. New York: Springer-Verlag.

- Musitu, G., & Garcia, F. (2004). Consequences of the family socialization in the Spanish culture. *Psicothema*, 16(2), 288-293.
- Mynard, H., & Joseph, S. (2000) Development of the Multidimensional Peer-Victimization Scale. *Aggressive Behavior*, 26, 169-178.
- O'Connell, P., Pepler, D., & Craig, W. (1999) Peer involvement in bullying: insights and challenges for intervention. *Journal of Adolescence*, 22, 437-452.
- Olweus, D. (1978) *Aggression in the schools: bullies and whipping boys*. Washington DC: Hemisphere.
- Pierce, G. R., Sarason, I. G., & Sarason, B. R. (1991) General and relationship-based perceptions of social support: are 2 constructs better than one? *Journal of Personality and Social Psychology*, 61(6), 1028-1039.
- Rosenberg, M. (1965) *Society and the adolescent self-image*. Princeton, NJ: Princeton Univer. Press.
- Rosenberg, M. (1989) *Society and the adolescent self-image*. (Rev. ed.) Middletown, CT: Wesleyan Univer. Press.
- Russell, D. W. (1996) UCLA Loneliness Scale (Version 3): reliability, validity, and factor structure. *Journal of Personality Assessment*, 66, 20-40.
- Salmivalli, C., & Isaacs, J. (2005) Prospective relations among victimization, rejection, friendlessness, and children's self- and peer-perceptions. *Child Development*, 76(6), 1161-1171.
- Schwartz, D., McFadyen-Ketchum, S., Dodge, K. A., Pettit, G. S., & Bates, J.E. (1999) Early behaviour problems as a predictor of later peer group victimization: moderators and mediators in the pathways of social risk. *Journal of Abnormal Child Psychology*, 27, 191-201.
- Smith, P. K., Morita, Y., Junger-Tas, J., Olweus, D., Catalano, R., & Slee, P. (1999) *The nature of school bullying: a cross-national perspective*. London: Routledge.
- Storch, E. A., Phil, M., Nock, M. K., Masia-Warner, C., & Barlas, M. E. (2003) Peer victimization and social-psychological adjustment in Hispanic and African-American children. *Journal of Child and Family Studies*, 12(4), 439-452.
- Terry, R. (2000) Recent advances in measurement theory and the use of sociometric techniques. In A. H. N. Cillesen & W. M. Bukowski (Eds.), *Recent advances in the measurement of acceptance and rejection in the peer system*. San Francisco, CA: Jossey-Bass. Pp.75-93.

## APPENDIX

*Factor Structure of Peer Victimization Scale*

| Item  | Factor: Victimization |          |        |
|---|-----------------------|----------|--------|
|   | Relational            | Physical | Verbal |
| 18. Algún compañero/a le ha dicho a los demás que no se relacionen conmigo (Some classmate has told other kids not to come with me).  | .81                   |          |        |
| 6. Algún compañero/a me ha apartado de mi grupo de amigos -para jugar o participar en alguna actividad- si está enfadado conmigo (Some classmate has separated me from my friends -for playing or doing some activity- when he or she got angry with me). | .76                   |          |        |
| 11. Algún compañero/a me ha tratado con indiferencia o me ha dejado de lado para conseguir lo que quería (Some classmate has ignored me for getting something that he or she wanted).   | .76                   |          |        |
| 15. Algún compañero/a me ha tratado con indiferencia o me ha dejado de lado a propósito para que me sienta mal (Some classmate has ignored me on purpose to make me feel bad).  | .76                   |          |        |
| 13. Algún compañero/a ha contado rumores sobre mí y me ha criticado a las espaldas (Some classmate has criticized me behind my back).   | .73                   |          |        |
| 16. Algún compañero/a ha compartido mis secretos con otros (Some classmate has shared my secrets with other kids).  | .70                   |          |        |
| 9. Algún compañero/a me ha tratado con indiferencia o me ha dejado de lado cuando está enfadado conmigo (Some classmate has ignored me when he or she got angry with me).   | .66                   |          |        |
| 3. Algún compañero/a ha contado mentiras sobre mí para que los demás no quieran venir conmigo (Some classmate has told lies about me to try to make others not want come with me).  | .66                   |          |        |
| 8. Algún compañero/a me ha ignorado o tratado con indiferencia (Some classmate has ignored me).   | .62                   |          |        |
| 17. Algún compañero/a me ha acusado de algo que yo no he hecho (Some classmate has accused me of something I didn't do).  | .57                   |          |        |
| 2. Algún compañero/a me ha dado una paliza (Some classmate has beat me up)  |                       | .80      |        |
| 1. Algún compañero/a me ha pegado o golpeado (Some classmate has hit me).   |                       | .62      |        |
| 10. Algún compañero/a me ha amenazado (Some classmate has threatened me).   |                       | .58      |        |
| 14. Algún compañero/a me ha robado (Some classmate has stolen something from me).   |                       | .56      |        |
| 4. Algún compañero/a se ha metido conmigo (Some classmate has teased me).   |                       |          | .74    |
| 7. Algún compañero/a me ha insultado (Some classmate has insulted me).  |                       |          | .73    |
| 12. Algún compañero/a se ha burlado de mí (Some classmate has made fun of me).  |                       |          | .63    |
| 5. Algún compañero/a me ha gritado (Some classmate has jeered at me).   |                       |          | .59    |
| % Explained variance  | 49.26                 | 7.05     | 5.87   |

*Note.*- Factor loadings smaller than .35 not shown. Kaiser-Meyer-Olkin measure of sampling adequacy =.958; Barlett test of sphericity (153,  $\chi^2 = 11746.29$ ,  $p < .0001$ )