

# Effects of a Psychological Intervention on Factors of Emotional Development During Adolescence\*

Maite Garaigordobil

Faculty of Psychology, University of the Basque Country, Spain

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**Abstract:** The aim of this research was to design a program of psychological intervention for adolescents and to assess its effects on factors of emotional development. The study used a pretest-intervention-posttest design with control groups and a sample of 174 subjects aged 12 to 14. There were 125 experimental subjects and 49 control subjects. Before and after the program, six instruments were administered to measure: empathy, anxiety, self-concept, image of classmates, and ability to analyze feelings. The intervention program applied to the experimental subjects consisted of one 2-h intervention session per week throughout an academic year. Two activities and their corresponding debates generally took place in each session. Each one of the 60 activities stimulates communication and friendly and cooperative interactions, and their objectives are to improve self-concept, promote identification, understanding and expression of emotions, and develop empathic feelings. Results suggest that the program had a highly positive effect on factors of emotional development. A decrease in state-trait anxiety was observed and there was improvement in the ability for empathy, in self-concept, in image of others, and in the ability to analyze feelings. The results are discussed in terms of the possible beneficial effects of this kind of experience on personality development during adolescence.

This paper evaluates the effects of a psychological intervention carried out with groups of adolescents. Studies aimed at stimulating socioaffective development have made some interesting proposals (Hicks, 1988; Vernon, 1998), but there is still a need for the creation of adapted programs and their assessment. For these reasons, the aim of the present research was to design a program of psychological intervention for stimulating emotional development in early adolescence, to be implemented once a week throughout one academic year, with assessment of its effects on several variables related to emotional development, such as self-concept, image of classmates, empathy, anxiety, and the ability to analyze feelings or emotional understanding.

This study is part of a wider research project carried out throughout the 1990s (Garaigordobil, 1992, 1993,

1995a, 1995b, 1995c, 1995d, 1996a, 1996b, 1999, Garaigordobil & Echebarria, 1995, Garaigordobil et al., 1996), in which several cooperative game programs for children aged 6 to 12 were designed, and their effects assessed. These earlier studies revealed empirical evidence of the positive contribution of interventions that encourage communication and cooperative interactions among group members with regard to variables of children's social and personal development, such as self-concept, intragroup communication, relations of acceptance among peers, cognitive strategies of social interaction, ability to cooperate, social abilities, and so on.

The study is placed in the context of recent work on health promotion and positive development in young people. It was carried out with young people in early adolescence, from age 12 to 14, a stage in development

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that sees the beginning of a period of profound changes and transformations, such as: (1) biological and psychosexual changes that result in lack of body harmony and anxieties associated with sexual identity; (2) psychological transformations as the adolescent experiences a childhood identity crisis and begins the process of building his/her adult identity; and (3) psychosocial changes due to the transfer of social orientation from parents to peer group, which begins to exert a strong influence on the adolescent. The relevant changes that take place during adolescence mean that it can be considered a critical period in which children have to deal not only with anxieties related to psychosexual and psychosocial changes, but also with the anxiety derived from the pressure for academic success, which normally increases in this period. All of these factors affect adolescents' emotions, with frequent changes of mood being observed (Connolly, Paikoff, & Buchanan, 1996; Csikszentmihalyi & Larson, 1984; Ortíz, 1999).

### Short Overview of Theories of Adolescence

A review of theories of adolescence shows that there is no unified and homogeneous conception of its psychological significance. Some theories consider adolescence as a stage of instability and emotional difficulties (psychoanalytic orientation, sociological approach), while others propose a view contrary to the idea of adolescence as a period of tensions and conflicts (Mead's cultural anthropology, Coleman's focal theory, Caspi & Moffitt's accentuation hypothesis). Within the second group, the accentuation hypothesis (Caspi & Moffitt, 1991), observes that the emergence of new behaviors and the reorganization of psychological structures has often been attributed to critical events and crises in the life course. In contrast to assumptions about qualitative change in puberty, the accentuation hypothesis considers that potentially disruptive transitions produce personality continuity, not change. The behavioral responses of adolescent girls to menarche were analyzed in a longitudinal study. The results supported an accentuation model: Stressful transitions accentuated behavioral problems among girls who were predisposed to behavioral problems earlier in childhood.

Adolescence is not necessarily a problematic stage, though it always involves, to a greater or lesser extent, difficulties implicit in developmental changes that adolescents must face. The intensity of these problems depends on the availability of emotional support, that is, the support of family, peers, and friends. The adolescent who receives support will be better equipped to confront and

deal with the challenges and changes of this stage. Interventions that foster or stimulate emotional development during adolescence are of great utility, as they promote communication in relation to matters that generate anxiety (sexuality, peer-group relationships, relationships with parents, academic success, drugs, self-concept, violence, divorce, etc.), and this has a positive effect on the adolescent's emotional balance. Such experiences can help to prevent later maladjustments (social isolation, anxiety, depression, antisocial behavior, etc.), equipping adolescents with skills for confronting different life situations and for identifying, analyzing, and expressing emotions in a positive way.

With a psychosocial approach, this study considers that the emotions are largely developed within social interactions. The social context is important because it offers opportunities to experience specific emotions, provides verbal labels for the emotions, defines rules of expression that indicate when to express the emotion and its intensity, and defines rules establishing what it is appropriate to feel in particular circumstances. With regard to empathy and emotional understanding and regulation, although cognitive processes mark the changes, these abilities are generated and developed within interpersonal relationships. An important function of emotions such as happiness, fear, sadness, or anger is that which is related to the regulation of social interactions, since they motivate the search for proximity, the offer of help to others, social avoidance, and confrontation with aggression.

The study of emotional development, that is, the identification and explanation of the changes observed in emotional expression, in the awareness of one's own affective states, in the understanding of the emotions, or in emotional regulation or in empathy, is one of the keys to understanding the development and functioning of the personality. Developmental psychologists, in studying the development of abilities related to understanding, emotional regulation, and empathy, have considered these abilities to be already consolidated by the time adolescence is reached. Indeed, developmental studies have observed in adolescence high levels in various aspects of emotional development. It is true that adolescents recognize that others have different thoughts and concerns, that they understand that others' emotions can depend on personal factors, and that they are able to consider multiple explanations for others' emotions, but it is also true that due to their egocentrism they are so concerned with themselves that they frequently tend not to consider the perspectives of others (Ortiz, 1999).

Considering that there is an increase in anxiety in adolescence due to the changes that must be confronted, anxiety has been introduced as an assessment variable. Also, self-perception and environmental perception can

affect emotional balance positively or negatively and influence behavior. A good self-concept and a good perception of others stimulate positive emotions and favor emotional balance. Therefore, self-concept and image of group members have also been included as assessment variables. Furthermore, since the program's objectives are to develop skills for identifying and analyzing emotions, as well as for developing empathy, these abilities are also evaluated.

### Enhancement Programs for Adolescents

The current paper is based on the conclusions drawn in studies that reveal the positive role in adolescents' emotional development played by positive, friendly, cooperative interaction among peers. Adolescence is a period of profound changes (Noller & Callan, 1991), in which the peer group will be highly influential in the development of the adolescent (Bijstra & Jackson, 1998; Hatcher et al., 1994; Hopkins, 1986; Vernon, 1998). A previous study assessing this program (Garaigordobil, 2000, 2001, 2002) revealed its significant positive impact on social and personal development. Results showed that experimental subjects significantly increased their friendly and prosocial group relationships, their assertive, leadership behaviors, and their cognitive strategies for assertiveness in social interaction with peers. Also, experimental subjects showed a significant decrease in prejudiced cognitions about other sociocultural groups, in antisocial behavior, and in anxiety-shyness social interaction behaviors.

Studies that have analyzed the effects of such programs administered during adolescence have found similar results. Vernon's (1998) study suggests that the passport program has positive effects on socioemotional development. The program stimulates emotional, cognitive, and social development, and the 64 activities teach young people effective strategies for dealing with problems specific to their age group. Each activity includes a short statement about development perspective and specific objects, a step-by-step lesson, and content and personalization questions. Each activity also has a creative, developmentally-appropriate stimulus procedure that addresses the objectives and provides an opportunity for young people to learn more about developmental issues characteristic of their age group, and to master skills for dealing with such issues. At the end there is a follow-up activity, which reinforces the concepts in a variety of ways, including the use of actual skills practice.

From a Rogerian point of view, Hatcher et al. (1994) demonstrate the efficacy of a program in the development of the ability for empathy. From a conceptual point of view based on the principles of social learning, Bijstra

and Jackson (1998) assessed a training program for developing social skills that had positive effects, with a decrease in anxiety and an increase in social interaction and self-esteem. The positive role played by peer interaction in emotional development has been pointed out in a number of studies with various theoretical approaches. From an ethological perspective (Hartup, 1985, Hartup & Sancilio, 1986), it has been postulated that interaction among peers has a decisive role in socioemotional adaptation because it stimulates the development of social skills and helps to socialize aggressiveness. Other studies based on learning theories conclude that the training of social skills in the school group may have a highly positive influence on variables of sociopersonal development (Michelson et al., 1983).

The general hypothesis of this study is that the intervention program designed will have a positive impact on factors related to emotional development. More precisely, the study proposes five hypotheses with regard to the program: (1) It increases the ability to analyze feelings, a fact which is apparent in the greater knowledge of the reasons for several negative emotions, their consequences, and ways of coping with them; (2) it improves self-concept and self-esteem, on increasing the ability to define oneself positively and reducing self-devaluation; (3) it increases the ability for empathy, or the affective and cognitive skills for noticing and taking into account the emotional states of others; (4) it improves the image of classmates, so that they are defined more positively; and (5) it decreases state-anxiety and trait-anxiety.

Furthermore, it is hypothesized that the program will stimulate a major improvement in subjects who showed low development, that is, who showed high state-trait anxiety, low self-concept/self-esteem, low concept of classmates, and low ability for empathy and analysis of negative feelings before the intervention. Finally, it is proposed that neither age nor gender will affect the changes promoted by the program. The program affects emotional development due to two factors: (1) the structural characteristics of the program's activities; and (2) the important metacognitive value of the phase of debate and discussion that takes place at the end of each activity.

## Method

### Participants

The sample consisted of 174 Spanish adolescents aged 12 to 14 ( $M = 12.9$ ,  $SD = .56$ ) from two private schools in the Basque Country of northern Spain. The subjects were randomly distributed to experimental and control conditions, with 125 designated as experimental (4

groups) and 49 as control (2 groups). All the groups were from schools whose pupils came from a medium-level sociocultural and economic background. There were 94 males (54.1%) and 80 females (45.9%). Subjects were white, Catholic, and middle-class; 50% of parents were educated to university level, 30% to high-school level, and 20% to primary level. After selecting two schools at random from all the private schools in the Basque Country, a meeting with the schools' headteachers and teachers of the corresponding age group took place. After the general presentation of the project, they decided unanimously to agree to participate in the study. The decision was made with the acceptance of the parents of the adolescents involved, after a meeting in which they were given information on the project. There was no rejection of participation, nor pretest-posttest attrition.

### Design and Procedure

The study used a quasi-experimental, multigroup design and repeated pretest-posttest measurements with control groups. Four experimental groups were compared with two control groups. The intervention program was the independent variable, while ability to analyze feelings, self-concept/self-esteem, image of classmates, anxiety, and empathy were the dependent variables. The research was carried out in three phases. First, a pretest assessment was carried out at the beginning of the academic year, in which several assessment instruments were administered to the experimental and control adolescents in order to measure the variables upon which, according to our hypotheses, the program would have an effect. Second, an intervention program was implemented with the experimental groups. It consisted of a 2-h session once a week throughout the academic year. The control subjects carried out group tutorial activities that were included in the school curriculum, thus avoiding the Hawthorne effect, since the control subjects received a different kind of training and the same level of attention. Finally, at the end of the year, a posttest assessment was carried out in which the same assessment instruments as in the pretest phase were applied. Moreover, a questionnaire for assessing the program was included in this last phase, with the aim of obtaining the subjective perception of the adolescents who took part.

In order to carry out the study, there was a research team consisting of the teachers, who implemented the program in the four experimental groups, the school psychologists, and four 5th-year psychology students who carried out pretest-posttest assessment tasks and observed the intervention sessions. This team attended systematic training seminars. The training was applied in relation to both the program (conceptual aspects, meth-

odological matters, etc.) and its assessment (application and marking of the assessment instruments). The marking was carried out with no knowledge of the condition or the hypotheses.

### Materials

In order to evaluate the effects of the program, five assessment instruments were collectively administered to the groups of adolescents before and after implementing the program. The application of the pretest-posttest assessment battery was carried out in 3 sessions. The first session included the application of the questionnaire for the assessment of the ability to analyze feelings. The second session was for the administration of the state-trait anxiety inventory and the inventory of empathy. In the third session the self-concept scale and the adjective checklist for assessing the image of classmates were applied. Finally, a program assessment questionnaire was applied in the last session of the program.

*STAIC. State-Trait Anxiety Inventory for Children (Spielberger et al., 1973/1990).* This test measures state-anxiety (S-A) and trait-anxiety (T-A). The S-A measurement deals with temporary states of anxiety – that is, it is concerned with feelings of apprehension, stress, and worry that are subjectively and consciously noticed, and whose intensity fluctuates. The T-A measurement aims to assess relatively stable differences in the tendency toward anxiety – that is, differences between children in their tendency to present states of anxiety. The inventory is a 40-item self-report in which the adolescent gives information about how often he/she thinks or feels what the sentence describes. The S-A scale is composed of 20 items such as “I feel calm,” “I am worried,” “I feel happy,” “I feel sad,” and so on, and these responses are used to explore anxiety level at the moment of the evaluation. Responses are scored as 1 = not at all, 2 = a little, and 3 = a lot. The T-A scale is composed of 20 items such as “I can't sleep well at night,” “I have too many problems in my life,” “I feel less happy than others,” and so on, and these responses are used to measure anxiety level in general. Responses are scored as 1 = hardly ever, 2 = sometimes, 3 = frequently. The raw score in each scale is obtained by adding or deducting points depending on the positive or negative direction of the items. In order to measure the reliability in a Spanish version of the test, the two-half procedure (odd-even) was applied to state and trait. A reliability study was carried out with a Spanish sample of 1013 subjects. The coefficients of the Spearman-Brown formulation (.89 and .85) and the Kuder-Richardson formula *KR-20* (.91 and .87) obtained were satisfactory. To analyze reliability with the original

sample, a test-retest (S-A: males .31 and females .47) (T-A: males .65 and females .71) was carried out, and Kuder-Richardson's formula KR-20 was obtained (S-A = .82 and .87; T-A = .78 and .81). The coefficients obtained in the two cultures were consistent.

*Inventory of Empathy Assessment* (based on Merhabian & Epstein's inventory of dispositional empathy, 1972). This consists of 22 sentences referring to empathic feelings by means of which the ability for empathy is measured. The empathy concept includes a cognitive and an emotional perspective. In terms of the cognitive role-taking approach, an empathic person can assume the role of another and understand and accurately predict that person's thoughts, feelings, and actions. From another perspective, empathy is defined as a vicarious emotional response to the perceived emotional experiences of others. The inventory's task consists in reading a series of statements and indicating whether the adolescent usually does, thinks, or feels what the sentence states. A global score for empathy is based on adolescents' agreement (= 1) or disagreement (= 0) with items tapping attributes including emotional expression and attitudes (e.g., "sometimes I cry when I watch TV"), sympathy (e.g., "It make me sad to see a boy who is rejected by the group"), and empathy (e.g., "seeing a girl crying makes me feel like crying"). In order to validate the adaptation used, and with a normative sample of 174 adolescents, Pearson's correlation coefficient was calculated between the scores obtained in this questionnaire and the scores of the IVE-J scale of impulsiveness, desire for adventure, and empathy (Eysenck & Eysenck, 1980). Highly significant, positive correlations were obtained with regard to the variable of empathy between the two ( $r = .65$ ). Convergent validity analyses were carried out, and the results show significant, positive correlations of empathy with behaviors of kindness toward others ( $r = .26$ ), assertive behaviors in peer interaction ( $r = .32$ ), positive cognitions in relation to several different socio-cultural groups ( $r = .22$ ), and prosocial behavior ( $r = .52$ ). Furthermore, significant, negative relations were observed between empathy and antisocial behavior ( $r = -.16$ ), withdrawal behavior ( $r = -.29$ ), and aggressive behavior ( $r = -.27$ ). These results validated the adaptation carried out. In a study with the Spanish version, a test-retest application was carried out with a 6-month interval. Cronbach's  $\alpha$  coefficient (.74) and Spearman-Brown's method (.75) were used, and results suggest an acceptable test-retest reliability of the version (Garaigordobil, 2000). Studies carried out with the test's original version were designed to explore the validity of a measure of emotional empathy in two different social situations, involving aggression and helping behavior. The measure was highly reliable, and showed discriminant validity with the Crowne

and Marlowe (1960) social desirability scale. In two experiments, highly empathic subjects were less aggressive toward slow-learning students in the more immediate condition. Mediation analysis showed that helping behavior was a function of the empathic tendency ( $\beta = 0.31$ ).

*AC. Self-Concept Scale* (Martorell et al., 1993). This scale allows the evaluation of negative self-concept (negative hypersensitivity or self-depreciation), positive self-concept (aspects related to self-importance in relation to others) and self-concept/self-esteem. The negative self-concept scale (N) is made up of 18 items, such as "my companions make fun of me," the positive self-concept (P) has 7 items, such as "my teachers think I am a good student," and the self-concept/self-esteem scale (SS) includes 13 items, such as "I am very popular with my friends" and "when I set out to do something, I go through with it even if things get difficult." The task consists in reading 38 statements and indicating the frequency with which he/she does, thinks, or feels what the sentences state. Responses are scored in a direct way (1 = hardly ever, 2 = sometimes, 3 = frequently, 4 = always), raw scores being obtained for each scale. The test's manual presents psychometric studies that confirm its validity and reliability. These studies were carried out with a normative sample of 449 subjects aged 9 to 16. Cronbach's  $\alpha$  coefficient was used for the reliability study. The values of the coefficients were .88 for the scale N, .86 for the scale P, and .85 for the scale SS. Thus, the internal consistency was quite acceptable. With regard to temporal stability, a two month test-retest period was used, and an average value of .75 obtained. More precisely, the coefficients were .75, .80, and .71, respectively. This fact reveals the stability of the scale. In another study, the correlations between AC and other instruments (EPQ-J, Eysenck & Eysenck, 1975; IVE-J, Eysenck & Eysenck, 1980) revealed significant relationships between negative self-concept and neuroticism, as well as relationships between positive self-concept, empathy, and extraversion.

*Adjective check-list for assessing the image of classmates* (Garaigordobil, 2000). The test consists of 60 adjectives, 30 positive (sincere, friendly, generous, tolerant, etc.) and 30 negative (egotistical, aggressive, competitive, etc.) used for assessing the image of classmates. The adolescent has to mark the adjectives that define the image he/she has of his/her classmates. All classmates are to be considered, and not only significant peers. In order to mark the test, one point is given to each positive adjective and one point to each negative adjective. The difference between the two is the raw score for the test. In analyzing the test, correlations (Pearson) were found

between the scores of the adjective check-list for assessing self-concept and the scores of the list for assessing the image of classmates. The results revealed significant, direct relationships between positive self-concept and positive concept of others ( $r = .44$ ), as well as global concept of others ( $r = .29$ ). This fact suggests that adolescents who chose many positive adjectives to assess themselves also chose them to define their classmates. The results also showed that there were significant direct relationships between negative self-concept and negative concept of others ( $r = .33$ ), as well as direct, significant relationships between global self-concept and global concept of the members of the group ( $r = .24$ ). These results suggest that adolescents who had a good self-concept also had a good concept of their classmates, whereas those who had a poor self-concept had a negative image of others. Cronbach's  $\alpha$  (.70) and Spearman-Brown (.78) coefficients were used for the reliability study. The results suggest that internal consistency was acceptable.

*Questionnaire for the assessment of the ability to analyze feelings (Garaigordobil, 2000).* This is an open questionnaire that explores the adolescent's ability to analyze four negative emotions: Sadness, envy, anger, and fear. The analysis is carried out on three levels: Causes, consequences, and ways of facing up to them. The questionnaire is applied in three phases. In the first, the adolescents must analyze the causes of these emotions by describing all the factors that can lead to them. In the second phase, they analyze the consequences of the emotions. In the third phase, they must suggest ways of dealing with the emotions. They have 30 min to carry out the analysis. For example, with regard to sad feelings, they suggest as causes "the death of a close friend or relative or failing exams," as consequences "isolation or aggressiveness," and as ways of dealing with them "talking to friends or studying more for the next exam." To mark the test, one point is given for each answer that is appropriately oriented to the content. Repeated responses do not score, and nor do responses that are incorrect from the point of view of content. A raw score is obtained for each subscale (causes, consequences, solution) and a global score for ability to analyze feelings. In order to analyze the validity of the instrument, we calculated Pearson's correlation coefficients of the scores obtained in this questionnaire with various social behaviors and personality traits. The results reveal that there were significant, positive correlations between the ability to analyze the causes of these feelings and self-control behaviors ( $r = .19$ ), number of cognitive strategies for social interaction ( $r = .24$ ), empathy ( $r = .16$ ), and prosocial behavior ( $r = .18$ ), and negative correlations with withdrawal behaviors ( $r = -.22$ ). The results also show significant, positive correlations between the ability to deal with these nega-

tive feelings or emotions and hetero-assertiveness ( $r = .17$ ) and the available cognitive strategies for social interaction ( $r = .28$ ). For the reliability study, Cronbach's  $\alpha$  (.77) and Spearman-Brown (.89) coefficients were used. The results suggest acceptable internal consistency.

*Program assessment questionnaire (Garaigordobil, 2000).* Apart from administering these instruments before and after carrying out the program, a questionnaire for the assessment of the program was applied in the posttest phase with the aim of discovering the adolescents' subjective perception with regard to the program. By using a scale of estimates (not at all – a little – quite a bit – a lot), this questionnaire explores the adolescents' subjective perception of change with regard to several variables used in the intervention.

### Intervention Procedures

The intervention was administered to 4 experimental groups with approximately 30 students in each group, chosen at random. The program was incorporated into the school curriculum, as part of the subject "ethics and human development," and timetabled in the same way as other subjects, such as mathematics or physical education. Experimental subjects had the program on Tuesday afternoons, while control subjects had their usual tutorial activities. The intervention consisted of 2-h sessions once a week throughout the academic year. Two activities and their corresponding debates were generally carried out. Sessions were directed by the teachers-tutors, who gave instructions for the activities, observed while the group carried out the tasks, gave help when the group asked for it, and guided the discussions or debates after the activities.

The intervention promotes positive communication between peers in relation to topics that generate anxieties and that affect the emotional life of adolescents. The program is made up of seven intervention modules, each module including between 8 and 10 activities. The modules are: (1) self-knowledge/self-concept: to improve the self-concept and concept of others; (2) group communication: to encourage positive communication and friendly interactions; (3) expression-understanding of feelings: to facilitate the identification, understanding, and expression of emotions, and to encourage empathy with the emotional states of other human beings; (4) help-cooperation relationships: to develop the ability to cooperate; (5) perceptions-stereotypes: to identify perceptions and prejudices; (6) discrimination: to analyze different types of discrimination; and (7) conflict solving: to learn techniques for analyzing and solving socioemotional con-

flicts. The program's activities attempt to consolidate a style of human interaction structured on the basis of relations of aid, cooperation, and dialog, and an interaction style that avoids aggression directed toward others. With these parameters, the program stimulates the personal growth of each adolescent within the group. The 60 activities of the program include a wide range of issues that are common sources of concern for adolescents, such as sexual interaction with the opposite sex, discrimination due to various factors and forms of dealing with it, self-concept, peer-group acceptance, drugs-alcohol, divorce, aggression and human violence, expression of positive and negative emotions, respect for differences, solidarity, tolerance and dialog, and so on.

The program uses several group dynamics techniques in order to carry out the activities (communication games, cooperation games, drama, drawings, small groups for discussion, brain-storming, incomplete sentences, case-study, role-playing, etc.), and other techniques for encouraging and controlling discussions or debates (guided discussion, etc.). Two important techniques of the program are the games and the drawings. Communication games are included to structure situations of tolerant dialog in relation to various topics. The cooperative games are designed to stimulate prosocial interactions between group members and the dramatic games to promote emotional expression. Games and drawings are techniques that stimulate the expression of thoughts, feelings, and experiences, and they have a positive influence on emotional development. Another technique of the program is that of small discussion groups, with teams of five or six members interchanging different ideas on a subject, solving a problem, or making decisions, after which they must present their results to the rest of the group, which finally arrives at some conclusions on the subject. Brainstorming is a technique that stimulates imaginative capacity in the processing of original ideas and the search for effective alternative solutions to problems. First, they describe the problem or theme. For a period of 5 or 10 min the group members present ideas for solving the problem. These ideas are then discussed and evaluated for around 10 min, and finally the group members choose the three most suitable. The technique of incomplete phrases allows the identification of the group members' concepts with regard to diverse subjects. Basically, it consists of rapid completion of one or more incomplete phrases whose content refers to the subjects to be analyzed. Subsequently, the answers are analyzed in order to discover the concept underlying them. The case study technique facilitates training in the analysis of situations and facts. A case is a detailed description of a real situation that is to be analyzed and discussed. The objective is for group members to study the case, giving their points of view and

Chart 1. Products of the activity "anger," in which situations that stimulate anger are identified.

- The killing of animals.
- Social inequalities and discrimination.
- A natural disaster.
- Death by starvation.
- When people are whispering in each other's ears, you ask them what they are laughing at, and they tell you they are not laughing at anything.
- When you are talking to somebody else and he/she is not paying attention to you.
- When the visiting team scores a goal in the last minute.
- People making noise with the fork on the plate.
- When I am kept in because of my brother/sister.
- When my brother/sister comes into my room and takes my things without my permission.
- When I studied a lot and then failed.
- When I was thrown fully-clothed into the swimming pool.
- When I was cheated in a shop.
- When I lost a race.
- When my cousin told me that we would go skiing the following day and it was all a lie.
- When I am in love with a boy and he is in love with another girl.
- When I wasn't the one who stole the sweets and I was blamed for it.
- When women are ill-treated.
- When people lie to me, hit me, insult me, steal something from me, etc.
- Deaths in Algeria/Terrorist attacks/People being killed.
- Sexism/Feminism.
- When I fail an exam.
- When somebody hurts one of my relatives.
- When I saw a photograph of a penguin covered in oil and about to die.
- Environmental pollution.
- When somebody doesn't believe what I say.
- Getting up at six o'clock in the morning.
- Taking out the garbage.

freely discussing the various aspects of the situation. Finally, the role-play technique consists in representing a real-life situation by assuming roles, so that the situation can be visualized and therefore better understood by the group. After the representation there is a discussion phase so that the appropriate conclusions can be drawn.

The use of the intervention program with the experimental groups involved a series of constant variables that shaped the methodological framework of the intervention. These constant variables were: (1) intersessional constancy, which involved carrying out one session per week; (2) space-time constancy, with all sessions being held in a large, barrier-free physical space on the same day of the week and at the same time; (3) constancy of the adults who implemented the program, since the ses-

sions were led by the teacher-tutor of the group with the help of a collaborator who observed the sessions; and (4) constancy of the structure of the session, since the sessions always followed the same procedure. First, the members of the group sat on the floor forming a circle while the objectives and instructions of the activity were explained. The group then carried out the activity, usually in small teams. At the end of the activity, the members of the group sat on the floor, again forming a circle, and the teams presented their conclusions, after which there was a discussion or debate on the activity performed. This debate phase was a time for thought and dialog (guided by the teacher), in which the results of the activity carried out by the group were analyzed. By following this structure, approximately two activities were carried out in each intervention session. As an example, a session of the program and its activities are described below.

The first activity is called "Anger," and it aims to (1) analyze the reasons for and consequences of aggressive feelings and look at the correct ways to express these emotions; and (2) encourage group communication. First, the members of the group sit forming a circle and list specific situations that generate anger, irritation, or aggressiveness. Next, each participant draws on a sheet of paper any event that has stimulated such feelings in him/her and writes a sentence below the drawing to clarify its meaning. The event must refer to a specific, personal situation in which the member of the group felt that way. When everybody has finished, the drawings are shown and explained to the rest of the group. The adolescents then reflect on the behaviors that can be generated by that feeling – that is, the consequences of anger. Finally, some of the specific situations that provoked an-

ger are chosen and the members of the group have to suggest ways of facing up to them. Participants are encouraged to list different ways of expressing irritation and to identify whether those ways of expressing that emotion are assertive, passive, or aggressive. The debate revolves around the reasons for having feelings of anger, their consequences, and ways of dealing with them. An example of the product of this activity is shown in Chart 1.

"Tan Gram" is the name of the second activity, which aims to: (1) encourage relationships of help and cooperation; and (2) stimulate group communication for decision-making by general consent. The group is divided into teams of four participants, and each team is given the game "Tan Gram." The game's 28 geometrical plastic figures are distributed among the team members. The task consists in making figures by combining the pieces of all the participants. There must be no pieces left at the end. The players communicate with one another in order to decide which figure or figures they are going to make, and to decide on the procedure of making them with the cooperation of everyone. This decision must be made by general consent. After spending 30–40 min making the figures cooperatively, the teams observe what their classmates have made. They then comment on the procedure followed by each group in playing the game and a debate is opened up in relation to the advantages and disadvantages of cooperation.

In order to apply this program, the teachers were given a program manual (Garaigordobil, 2000). The manual presented the theoretical bases of the program and the methodology for its application, as well as a description of the 60 activities. For each activity, the objectives, in-

Chart 2. Relationships between variables considered in the five hypotheses of the study, the seven intervention modules, the specific activities and the group dynamics techniques.

Dependent variables	Intervention modules	Activities examples	Group dynamics techniques
Ability to analyze feelings	Self-knowledge/self-concept Group communication Expression-understanding of feelings Help-cooperation relationships Conflict-solving	Anger Range of feelings	Drawings Drama Incomplete sentences Brainstorming Guided discussion
Self-concept Self-esteem	Self-knowledge/self-concept Help-cooperation relationships Perceptions-stereotypes	The focus Encounters	Communication games Drawings Guided discussion
Ability for empathy	Self-knowledge/self-concept Help-cooperation relationships Expression-understanding of feelings Conflict-solving	Location of objects Murals	Cooperation games Drawings Small groups for discussion Guided discussion
Image of group classmates	Self-knowledge/self-concept Perceptions-stereotypes Conflict-solving	Discrimination situations Rejection	Small group for discussion Case-study Guided discussion
Anxiety	Self-knowledge/self-concept Group communication Expression-understanding of feelings Conflict-solving	International restaurant The bag of feelings	Small group for discussion Drama Brainstorming Guided discussion

Table 1. Means and standard deviations in experimental and control groups in the pretest, posttest phase and in the pretest-posttest difference for all the variables and analyses of variance and covariance.

Variables	Experimental group (n = 125)						Control group (n = 49)						Experimental-control (n = 174)	
	Pretest		Posttest		Pre-post Difference		Pretest		Posttest		Pre-post Difference		ANOVA Pre-test F(1, 172)	ANOVA Pre-post F(1, 172)
State-Anxiety	28.18	5.62	26.58	4.81	-1.59	5.85	26.59	4.29	28.80	6.00	2.20	6.05	3.16	11.38**
Trait-Anxiety	33.75	5.15	33.50	5.65	-26	4.91	32.55	5.64	35.53	6.86	2.98	5.73	1.81	11.89**
Empathy	15.40	3.38	16.39	3.52	.99	3.18	15.92	4.22	15.61	4.56	-.31	3.67	0.71	4.61*
Negative self-concept	27.81	5.45	28.13	5.79	.28	4.84	28.47	7.27	30.00	7.86	1.53	7.59	0.41	2.81
Positive self-concept	20.12	3.16	20.72	3.08	.59	3.30	19.59	3.32	19.67	4.23	.08	3.60	0.95	2.20
Self-concept/self-esteem	29.49	5.02	31.70	5.43	2.21	5.01	29.10	5.45	29.76	5.96	.65	6.10	0.20	4.49*
Positive concept of classmates	15.16	6.38	16.12	6.50	.96	5.72	13.94	6.45	11.47	5.59	-2.47	6.62	1.28	20.33***
Negative concept of classmates	5.07	3.92	6.17	3.97	1.10	4.14	6.14	4.03	6.63	4.24	.49	5.11	2.58	0.00
Global concept of classmates	10.09	7.93	9.95	8.14	-14	7.09	7.80	8.51	4.84	7.36	-2.96	8.59	2.82	11.86***
Feelings causes	10.02	3.12	14.46	6.17	4.45	5.59	8.59	2.13	8.00	3.01	-.59	2.90	8.62**	38.24***
Feelings consequences	6.22	2.53	10.49	4.11	4.26	4.16	7.02	2.15	6.22	2.49	-.80	3.10	3.77	55.17***
Feelings solving	5.66	2.63	9.24	3.47	3.58	3.63	5.88	2.21	5.82	1.98	-.06	2.87	0.25	47.11***
Feelings total	21.90	5.92	34.19	11.18	12.29	9.58	21.41	4.75	20.04	6.47	-1.37	7.10	0.27	82.85***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ 

instructions and procedure, questions for discussion, materials, time, and group organization were described. The training of teachers was carried out through group seminars that took place every two weeks. Training activities included: (1) analysis and discussion of the theoretical bases of the program; (2) practical self-experimentation with the program's activities; (3) analysis of situations promoted by the activities; and (4) analysis of the products of the activities (drawings, murals, lists of answers, etc.).

Chart 2 may help to give a clearer idea of the relationship between intervention and expected results. This chart describes the connections between variables considered in the five hypothesis of the study, the seven intervention modules, the specific activities, and the group dynamics techniques carried out.

## Results

### Effects of the Program on the Dependent Variables

With the aim of assessing change in the variables examined, means and standard deviations of each variable for experimental and control subjects were obtained with regard to pretest and posttest phases and the posttest-pretest difference (see Table 1). Furthermore, analyses of variance (MANOVA, ANOVA) were carried out. When significant differences between experimental and control groups were found in the pretest, covariance analyses (MANCOVA, ANCOVA) of the differences posttest-pretest were carried out using pretest measures as covariates. The covariance analyses reveal whether the program has led to a significant change, regardless of pretest differences.

Before carrying out the ANCOVA analyses to assess the effects of the program on dependent measures, a preliminary evaluation of data was made to test whether the main underlying assumptions required for proceeding with the ANCOVA were satisfied. The assumption of independence of treatment and covariates was tested by means of a variance analysis. Using the covariates as dependent variables and the treatment as independent variable, the ANOVA results confirmed the assumption in all pretest variables ( $p > .05$ ), with the exception of the ability to analyze the causes of negative feelings, in which statistically significant differences were obtained ( $p < .05$ ). Thus, the assumption of homogeneity of within-group regression slopes was verified. To test whether the regression slopes associated with the treatment and control group were the same, we checked whether there was an interaction between the independent variable and

each covariate. The results made it clear that the assumption of homogeneous regression slopes was satisfied in all cases ( $p > .05$ ), with the exception of the fluency of ideas related to the analysis of feelings ( $p < .05$ ).

The MANOVA carried out jointly for the 13 variables of the pretest phase revealed significant differences between the experimental and control groups, Hotelling's  $T = .29$ ,  $F(1, 172) = 3.96$ ,  $p < .001$ . The MANCOVA results of the differences posttest-pretest (using pretest measures as covariates) were significant, Hotelling's  $T = .77$ ,  $F(1, 172) = 10.21$ ,  $p < .001$ . Effect size was very large ( $\eta^2 = .435$ ). These results show that there are significant posttest-pretest differences between the experimental and control groups, a fact that reveals the positive effect of the program on factors of emotional development ( $p < .05$ ).

#### *Changes in State-Trait Anxiety*

The MANOVA results show that there were no significant differences between experimental and control groups with regard to the anxiety variable in the pretest phase, Hotelling's  $T = .02$ ,  $F(1, 172) = 1.82$ ,  $p > .05$ . However, the posttest-pretest difference was significant, Hotelling's  $T = .12$ ,  $F(1, 172) = 10.24$ ,  $p < .001$ . Effect size was large ( $\eta^2 = .107$ ). The ANCOVA results show that posttest-pretest differences between experimental and control groups were significant with regard to state-anxiety and trait-anxiety (see Table 1). On comparing the changes in group mean found in the experimental and control groups, it is observed that, in relation to state-anxiety, experimental subjects decrease their average score ( $M = -1.59$ ), whereas control subjects show a considerable increase ( $M = 2.20$ ). With regard to trait-anxiety, experimental subjects slightly decrease their average score ( $M = -.26$ ), while control subjects show a considerable increase ( $M = 2.98$ ). The results obtained suggest that the program had a positive effect, as both state-anxiety (temporary states of anxiety, stress, worry, nervousness, etc.) and trait-anxiety (more stable tendency toward anxiety, anxious personality, etc.) decreased.

#### *Changes in Empathy*

The ANOVA results show that, although there were no significant differences between experimental and control subjects in the pretest phase, the differences posttest-pretest were significant in the variable empathy (see Table 1). When comparing the change in the two conditions, we observe that the experimental subjects showed an increase in their ability for empathy ( $M = .99$ ), whereas control subjects presented a slight decrease in this variable ( $M = -.31$ ). These results suggest that the program exerted a significantly positive effect, since the ability for empathy, or the affective and cognitive ability to no-

tice and be concerned about others' emotional states, increased.

#### *Changes in Self-Concept/Self-Esteem*

The ANOVA results confirm that, in the pretest phase, there were no significant differences between groups with regard to negative self-concept, positive self-concept, and self-concept/self-esteem. Nevertheless, the ANCOVA results of the difference posttest-pretest showed significant differences with regard to self-concept/self-esteem (see Table 1). On comparing the changes found in the group mean in the experimental and control subjects (see Table 1), it is observed that, with regard to negative self-concept, experimental subjects slightly increase their score ( $M = .28$ ) and control subjects show a more considerable increase ( $M = 1.35$ ). In relation to positive self-concept, experimental subjects slightly increase their score ( $M = .59$ ), whereas that of control subjects hardly varies ( $M = .08$ ). In self-concept/self-esteem, experimental subjects increase their score much more ( $M = 2.21$ ) than control subjects ( $M = .65$ ). These data highlight the fact that the program had a significantly positive effect, since the adolescents' self-concept/self-esteem improved.

#### *Changes in the Concept of Classmates*

The MANOVA results confirm that for all three variables measured, experimental and control subjects were homogeneous in the pretest phase, Hotelling's  $T = .01$ ,  $F(1, 172) = 1.65$ ,  $p > .05$ . However, in the differences posttest-pretest there were significant differences between the two conditions, Hotelling's  $T = .07$ ,  $F(1, 172) = 6.14$ ,  $p < .01$ . Effect size was moderate ( $\eta^2 = .019$ ). As can be seen in Table 1, the ANOVA results for each variable show that the two groups were homogeneous in the pretest phase. However, the ANCOVA results of the posttest-pretest differences in the two conditions confirm that the changes in global concept and in positive image were significant (see Table 1). On comparing the change found in the group mean in the two conditions, it is observed that experimental subjects show an increase in the number of positive adjectives they choose for defining the members of their group ( $M = .96$ ), in contrast to control subjects, whose score greatly decreases ( $M = -2.47$ ). Global concept of classmates slightly decreases in the experimental subjects ( $M = -.14$ ), and the control subjects' image of their classmates deteriorates even more ( $M = -2.96$ ). These results suggest that the program stimulated an increase in the number of positive adjectives selected for defining the members of the group.

Table 2. Pretest-posttest differences means, standard deviations and analyses of variance in each profile for the variables on which the program had significant effects.

	Profile 1			Profile 2			Profile 3			ANOVA Pretest-posttest F(2,123)
	n	M	SD	n	M	SD	n	M	SD	
State-Anxiety***	79	0.68	4.57	29	-3.07	4.79	18	-9.06	5.55	32.33***
Trait-Anxiety**	33	2.03	4.25	81	-0.90	4.70	11	-2.36	6.22	5.69**
Empathy***	25	2.72	4.42	78	0.88	2.72	22	-0.59	2.02	7.10***
Self-concept-/self-esteem***	33	5.03	3.94	60	2.03	4.80	31	-0.45	4.99	11.24***
Positive concept of classmates***	37	3.27	5.82	55	1.29	5.46	33	-2.18	4.67	9.14***
Global concept of classmates***	31	2.97	7.63	58	0.00	6.60	36	-3.42	5.58	8.73***
Feelings causes	30	4.77	2.74	56	4.98	5.21	39	3.44	7.46	0.94
Feelings consequences** *	52	5.17	3.43	53	4.49	4.43	20	1.30	3.96	7.01***
Feelings solving** *	47	5.11	3.09	46	3.04	3.37	32	2.09	4.01	8.14***
Feelings total	36	13.11	8.30	57	12.14	9.28	32	11.63	11.53	0.21

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

#### Changes in the Ability to Analyze Feelings

The MANOVA results confirm that for all variables measured, experimental and control subjects were not homogeneous in the pretest phase, Hotelling's  $T = .15$ ,  $F(1, 172) = 6.65$ ,  $p < .001$ . The MANCOVA results of the posttest-pretest differences, using pretest scores as covariates, showed significant differences between the two conditions, Hotelling's  $T = .50$ ,  $F(1, 172) = 21.23$ ,  $p < .001$ . Effect size was very large ( $\eta^2 = .33$ ). The ANOVA results reveal that, in the pretest phase, there were significant differences between experimental and control subjects in the *causes* variable and in the *consequences* variable, whereas no significant differences were found in the ways of dealing with emotions or the fluency of ideas related to the analysis of feelings. The ANCOVA results confirmed that the posttest-pretest differences in experimental and control subjects were significant in all the variables (see Table 1). On comparing the change occurring in the two conditions, with regard to the ability to analyze the causes of situations that stimulate various feelings, experimental subjects show a significant increase in the group mean ( $M = 4.44$ ), whereas control subjects show a slight decrease ( $M = -.59$ ). With regard to the ability to analyze the consequences of feelings, experimental subjects present a significant increase ( $M = 4.26$ ), while control subjects present a slight decrease ( $M = -.79$ ). With regard to the ability to analyze ways of dealing with various feelings, experimental subjects slightly increased their score ( $M = 3.57$ ), whereas control subjects presented a score quite similar to that of the pretest phase ( $M = -.06$ ). With regard to fluency of ideas for analyzing feelings, experimental subjects significantly increased their group mean ( $M = 12.28$ ), in contrast to control subjects, whose group mean slightly decreased ( $M = -1.36$ ).

These results reveal a significant impact of the program on the ability to analyze feelings, that is, to consider the factors or situations that stimulate them, their consequences and ways of dealing with emotions such as anger, sadness, envy, or fear.

In sum, the analyses of covariance results showed significant differences for 10 of the measured variables. The MANCOVA results of the posttest-pretest differences carried out for these 10 variables (using pretest measures as covariates) revealed significant differences between the experimental and control groups, Hotelling's  $T = .76$ ,  $F(1, 172) = 12.26$ ,  $p < .001$ . Effect size was very large ( $\eta^2 = .43$ ). The adjustment for multiple comparisons (Bonferroni) and the  $t$  test carried out showed the same significant variables. All the analyses confirmed the program's effects on these 10 variables.

#### Changes in Subjects with Low Development

One hypothesis of the study suggests that the program stimulates a significant improvement in subjects who had developmental difficulties before the intervention. Subjects were initially classified according to their pretest score in the dependent variables, in order to decide for which experimental subjects the program was most effective. Using the pretest scores, subjects were classified in three profiles. Profile 1 (P1, subjects with low scores in the variable, that is, percentile scores under 30), Profile 2 (P2, mean scores, or percentile scores between 30 and 70), and Profile 3 (P3, high scores, or percentile scores over 70). Subsequently, in relation to the 10 variables in which significantly positive effects of the program were found, the differences of the posttest-pretest means were calcu-

lated according to the profile (see Table 2), and variance analyses were carried out in order to assess the change in each profile. Moreover, *post hoc* adjustments (Tukey test) were carried out for the profiles.

The analyses of the change in each profile (Tukey test) confirmed that in the variables *anxiety state* and *self-concept*, significant differences were found between the two pairs of means in the three profiles ( $p < .001$ ). In the anxiety trait and empathy variables, significant differences were found for P1 with P2 and P3, for P2 with P1, and for P3 with P1 and P2 ( $p < .05$ ), but there were no differences between P2 and P3. In the concept of classmates, differences were found between P1 and P3 ( $p < .001$ ), and between P2 and P3 ( $p < .05$ ), but there were no differences between P1 and P2. In the ability to analyze the consequences of feelings, significant differences were found between P1 and P3 ( $p < .001$ ), as well as between P2 and P3 ( $p < .001$ ), while in the ability to analyze ways of coping with feelings, differences were found between P1 and P2 ( $p < .05$ ), as well as between P1 and P3 ( $p < .001$ ).

As can be seen in Table 2, the ANOVA results confirm significant differences among profiles in all variables ( $p < .01$ ), except in the total ability to analyze negative feelings and their causes. The results obtained suggest that the program had a significantly positive effect on experimental subjects who, before the intervention, showed: (1) high state-trait anxiety; (2) low self-concept/self-esteem and low concept of classmates; and (3) low capacity for empathy and for analyzing consequences and dealing with negative feelings. These data suggest that this experience proved particularly positive for those adolescents who, before the intervention, showed some developmental problems – that is, late-maturing adolescents.

### Influence of Gender and Age on Effects of the Program

Multivariate analyses were carried out with the aim of assessing the influence of age or gender on the significant posttest-pretest changes. The MANOVA results with pretest scores (dependent variables  $\times$  gender) showed significant differences, Hotelling's  $T = .35$ ,  $F(1, 122) = 3.57$ ,  $p < .001$ . The ANOVA results confirmed significant differences in empathy,  $F(1, 122) = 24.22$ ,  $p < .001$ , and in the ability to analyze feelings,  $F(1, 122) = 7.34$ ,  $p < .05$ , with girls scoring higher. The ANOVA results of the posttest-pretest difference revealed that experimental subjects showed significant posttest-pretest differences in the ability to analyze feelings,  $F(1, 122) = 22.01$ ,  $p < .001$ . In all subscales women showed a higher increase (causes,  $M = 6.67$ ; consequences,  $M = 5.44$ ; dealing with,  $M = 4.45$ ; total ability to analyze feelings,  $M = 16.56$ ) than boys (causes,  $M = 2.80$ ; consequences,  $M = 3.39$ ; dealing with,  $M = 2.90$ ; total ability,  $M = 9.09$ ). Thus, the program stimulated a significant increase in the ability to analyze feelings in females, who in the pretest had higher scores than males. In the other variables there were no significant posttest-pretest differences between genders.

The MANOVA results with pretest scores (dependent variables  $\times$  age) revealed significant differences, Hotelling's  $T = .53$ ,  $F(1, 122) = 5.42$ ,  $p < .001$ . The ANOVA results showed significant differences in state anxiety,  $F(1, 123) = 5.48$ ,  $p < .05$ , in the ability to analyze causes of feelings,  $F(1, 122) = 7.55$ ,  $p < .05$ , in the ability to deal with emotions,  $F(1, 122) = 13.67$ ,  $p < .001$ , in self-concept/self-esteem,  $F(1, 122) = 8.12$ ,  $p < .05$ , and in the concept of classmates,  $F(1, 122) = 13.30$ ,  $p < .001$ . To

Table 3. Order of subobjectives of the program according to percentage change reported by the adolescents.

%	Description of the items
77.80	I have heard other ways of thinking, other points of view different from mine during the debates
71.40	I have learned to discuss problems and conflicts with others
69.80	I cooperate more with others
69.90	I have learned to reflect on the causes of feelings and situations that produce them (sadness, anger, fear, envy, etc)
65.80	I listen more carefully when my classmates are talking
65.10	I am more aware of others' feelings
64.30	I respect more the opinions of other people
63.50	I am more helpful to others
63.50	I express my opinions to the rest more often and communicate with them more openly
59.50	I dare to express my opinion even though the rest of my classmates do not agree
58.70	I have a more positive image of my classmates
58.70	I reject my classmates less
58.70	I take part more actively and positively with the intention of helping my classmates when they have a problem
50.00	I have won respect and my classmates listen to me more attentively
49.20	I have a more positive self-image
49.20	I have learned appropriate ways of expressing feelings such as sadness, anger, fear, and so on
42.00	I express my feelings in class more openly

analyze whether the program had a significant influence depending on age, a MANOVA of the posttest-pretest differences was carried out. Results showed that the change was quite similar in the two age groups (12–13 and 13–14), Hotelling's  $T = .13$ ,  $F(1, 122) = 1.39$ ,  $p > .05$ .

### Complementary Effects of the Program

With the aim of analyzing the subjective information given by the adolescents taking part in the intervention, we carried out an analysis of the percentages of the answers given in the program's assessment questionnaire (see Table 3). Table 3 shows that the subjective opinions of the experimental adolescents are associated with the experimental results in the dependent variables, since a considerable percentage of subjects claim to have changed "a little," "quite a bit," or "a lot" with regard to subobjectives of the program such as: (1) I have discovered other ways of thinking, points of view different from mine, during the debates; (2) I have learned to reflect on the causes of feelings and situations that produce them; (3) I listen more carefully when my classmates are talking; (4) I am more aware of others' feelings; (5) I have a more positive self-image and a better concept of my classmates; or (6) I have learned appropriate ways of expressing feelings such as sadness, anger, or fear. These changes are related to dependent variables that were positively influenced by the program, such as empathy, ability to analyze feelings, self-concept, and concept of others.

### Discussion

The results obtained in the assessment of the program suggest a positive effect of the intervention on various factors related to emotional development. Results reveal that the program had a significantly positive effect on emotional regulation as it stimulated a decrease in state-anxiety (temporary states of anxiety, stress, worry, nervousness, etc.) and trait-anxiety (more stable tendency toward anxiety, anxious personality, etc.). Adolescence is a stage of marked anxiety due to internal changes and social interaction, which, even though strongly desired, is a source of conflicts, stress, etc. Therefore, the very features of this stage could provide an explanation of the fact that anxiety increases in the first part of this developmental period, as can be observed in control subjects. In this context, the program appears to have neutralized the increase and stimulated a significant decrease. This decrease may be related to various activities of the pro-

gram which, by means of drama, drawing, dialog, communication, and so on, stimulate emotional expression and stress relief. Furthermore, we expected the program to reduce anxiety, since it allows the adolescents to talk about many topics that are sources of anxiety for them (sexuality, group conflicts, social relationships, drugs, etc.). Thus, we can suggest that talking about matters that generate anxiety, and considering different points of view on them, may reduce the anxiety they produce.

The results of the study revealed an increase in: (1) those processes related to the ability for empathy, or the affective and cognitive ability to notice and be concerned about the emotional states of others, and (2) the ability to analyze various negative feelings (anger, sadness, fear, and envy), which is reflected in an increase in the ability to identify factors that stimulate them, their consequences, and ways of dealing with them. This positive impact of the program on the ability to empathize and to analyze negative feelings may be influenced by a group of activities included in the program, which stimulate the identification, understanding, and expression of various emotions. Due to the fact that the program promotes tolerant and respectful interpersonal relationships, it stimulates the affective and cognitive consideration of others' emotional situations. This leads to the activation of these capacities and, as the results show, they are significantly developed by the program, which, thus, contributes to the adolescents' emotional maturation.

With regard to prosocial interpretation, the program exerted a positive effect on the concept of the group members, as it stimulated an increase in the number of positive adjectives selected for defining them. The increase in this ability may be related to a group of activities of the program aimed at getting to know others better and at seeing the positive characteristics of the members of one's group. It was also noticed that the intervention had a significant impact on global concept, although in this case the program merely neutralizes a deterioration in the variable. This deterioration of the concept of classmates may be explained by the increase in peer interaction occurring at this stage of development, which, despite its positive dimension – the bonds of friendship created –, also has a negative aspect due to the stress caused by social interactions.

Also, the results suggest an increase in self-concept/self-esteem that may be associated with a group of activities of the program that stimulate verbalization of positive characteristics of the group members. It is also worth mentioning that the data show an increase in negative self-concept in both experimental and control subjects. This increase may be related to a developmental characteristic of this stage: nonexpressed strong self-criticism and expressed hypercriticism of outside reality, that is, adult society, which includes teachers, parents,

and so on. Nevertheless, experimental subjects increased their negative self-concept to a lesser degree in both tests. Various activities for the improvement of self-image, in which positive aspects of the individuals of the group are highlighted, may have exerted an inhibiting effect on self-criticism.

In sum, the program had positive effects on factors related to emotional development, such as self-concept/self-esteem, empathy, ability to analyze negative feelings, image of others, and anxiety. These results confirm the five hypotheses proposed with regard to the positive effects of the intervention. Furthermore, the program proved particularly positive for those adolescents who, before the intervention, showed high state-trait anxiety, low self-concept/self-esteem, low concept of classmates, and low ability for empathy and analysis of negative feelings. Also confirmed was the sixth hypothesis, which proposed that the program would be more useful for adolescents that presented problems in the pre-test. In general, there were no significant effects for age or gender, with significant differences being found only in the ability to analyze feelings, in which females improved more.

These data validate the effectiveness of the program with regard to the factors related to emotional development, and point in the same direction as other research (Bijstra & Jackson, 1998; Garaigordobil, 1993, 1996a,b, 1999; Hatcher et al., 1994; Sterling, 1990; Vernon, 1998) that highlights the positive effects of this kind of intervention, which combines various techniques of group dynamics in the context of activities that stimulate communication, empathy, cooperation, self-confidence and confidence in others, respect for differences, and so on. This study has some implications for groups in educational environments, and reveals that the program designed may facilitate personality development during adolescence, and may act in a preventive way. Furthermore, the results of the study suggest that positive peer interaction may play a vital role in the development of adolescents, and support theories emphasizing the value of this kind of interaction for human development. Among the factors that can be considered as generating observable gains, we can consider, for example: (1) the structural characteristics of the program's activities, which produce situations of respectful communication and cooperative interaction, creating positive interpersonal and affective situations; and (2) the important metacognitive value of the phase of debate and discussion that takes place at the end of each activity, stimulating reflection on various personal and social factors (self-concept, social behavior, emotions, etc.).

The results obtained suggest the direction indicated by theories that consider early adolescence as a stage of emotional instability, in which anxiety increases. If we

observe the evolution of control subjects we can see an increase in anxiety, a decrease in empathy and in the ability to analyze feelings, and a worsening of the image of classmates.

This study has various limitations. Due to the difficulty of finding standardized instruments for exploring the ability to analyze feelings, an "ad hoc" instrument was designed. Nevertheless, the analyses of reliability and of convergent validity revealed satisfactory coefficients, though at the same time, the results of assumptions of independence and homogeneity that were made suggest that the effect on the ability to analyze feelings should be treated with caution. Another limitation of this study is related to the sample characteristics. Subjects belong to a medium-level sociocultural and economic background, so that the results can be generalized only to this kind of population. Future studies might assess the program with groups from lower-level sociocultural and economic backgrounds, as well as measuring its effects on other developmental variables. Also, the subjects in the sample had no significant emotional problems, so that we might suggest assessing the program's effects with groups of adolescents that do present emotional problems.

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Maite Garaigordobil  
Faculty of Psychology  
Basque Country University  
Avenida de Tolosa 70  
E-20018 San Sebastián  
Spain  
Tel. +34 943 018000 or +34 943 210549  
Fax +34 943 311055  
E-mail ptpgalam@ss.ehu.es