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An Attachment Parenting Intervention to Prevent Adolescents' Problem Behaviors: A Pilot Study in Italy

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Abstract
Background In spite of the proven effectiveness of parenting based programs to prevent adolescent risk behaviors, such programs are rarely implemented in Mediterranean countries.
Objective This pilot study was aimed at assessing the feasibility and the effects of a parenting based universal prevention program (Connect) in Italy.
Methods Our sample comprised 147 mothers and 147 youths, aged 11–14 (M = 12.46, SD = .72). We adopted a quasi-experimental design. Forty percent of the parents in the sample were in the intervention condition (receiving 10 one hour lessons a week). ANCOVAs and Cohen's d coefficients were used to compute intervention effects.
Results The results showed that, despite difficulty in recruiting parents, the program held promising effects regarding the prevention of alcohol use at a universal level (Cohen's d = .55); the intervention also marginally decreased the level of non-empathic answers from parents, at least in the short term (Cohen's d = .32).
Conclusions This study highlighted the importance of focusing on families to prevent problem behaviors in adolescence. It also points to the need for new strategies to engage parents in universal prevention.

Keywords Parenting intervention · Tobacco use · Alcohol use · Early adolescence · Attachment

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Introduction

During the last 20 years, there have been many advances in the field of prevention. A number of prevention programs have demonstrated effects in reducing substance use and antisocial behaviours among adolescents (for reviews, see Cuijpers 2003; Ferrer-Wreder et al. 2003). Preventive interventions that target the family unit or only the parents have shown promising effect sizes and duration of effects (for a review, see Austin et al. 2005). Likewise, universal problem behavior prevention programs (e.g. programs that are aimed at preventing the problem in the entire population independently from the initial risk level) have also demonstrated a number of positive findings (Cuijpers 2003; Dishion et al. 2002; Foxcroft et al. 2003; Koutakis et al. 2008; Spoth et al. 2008). Indeed, there is quite clear evidence that family-oriented programs are effective in decreasing adolescent alcohol consumption (e.g. Foxcroft et al. 2003: Koutakis et al. 2008), substance use (Dishion et al. 2002; Mason et al. 2003; Spoth et al. 2008), and delinquency (Mason et al. 2003).

However, despite such promising results, some limitations to the findings of family based intervention studies must be acknowledged. First, a majority of these intervention studies have focused on problematic youths or high-risk families. As Spoth et al. (2002) have pointed out, there are very few prevention programs that target behaviorally normative families. In part, this may be due to difficulties in recruiting parents (see Heinrichs et al. 2005). The few studies that have demonstrated effects on both at-risk and behaviorally normative families (Dishion et al. 2002; Spoth et al. 2006) suggest that universal family and parenting programs may have great potential for the reduction of health risk behaviors. In addition, there is a lack of universal programs that have been implemented outside the USA. Specifically, there is a total lack of family and parenting evidence-based programs that aim to prevent substance use in the Mediterranean countries.

Mediterranean countries present historical and societal conditions that differ from those in North America and northern Europe, conditions which may influence the implementation of family or parenting programs. Spain, Italy, Portugal, and Greece, have historically been regarded as "strong-family" areas, by contrast with "weak-family" areas, such as the Scandinavian countries, Germany, and Great Britain (Kohli et al. 2005; Reher 1998). "Strong-family" countries are characterized by close and intense familial relationships and strong emotional bonds. Children in these countries typically live with their families until early adulthood, due in part to later age of marriage, a low rate of pre-marital cohabitation, and difficulties in finding employment (Reher 1998). In some cases, these factors have been reported to delay the transition to adulthood (Bonino et al. 2006). Because of the long period spent in a family setting, it could be likely that parenting practices are more influential in "strong-family" countries than in "weak-family" countries.

"Strong-family" countries may, however, present a problem to prevention programmers. It may be that the great value assigned to the family in these countries results in reluctance to participate in programs that focus on family functioning. Indeed, seeking help from outside the family network is often considered a last resort, and one that may cause embarrassment or humiliation, because it can be seen as a sign that the family is not functioning well (Coffano 2010). Research is needed to establish whether universal prevention is appropriate for public-health promotion in "strong-family" countries.

In the present study, we assessed the introduction of a 10-week manual-based, parenting based universal prevention program in Italy. We tested: (1) the extent to which

parents were willing to attend a 10-week course that focused on parenting; and (2) whether parents that took part in the program appreciated the experience. We thus implemented the Connect program, which is a manual-based, attachment-focused program for parents. In line with research showing that supportive parenting is a protective factor for youth development (e. g. Barber et al. 2005; Giannotta et al. 2011), the goal of the program is to enhance parental sensitivity, attunement, empathy and effective dyadic affect regulation (for a more detailed description of the program, see Moretti and Obsuth 2009). These elements are the building blocks of secure attachment and the prerequisite for good parenting (Bowlby 1973; for a better description of the program see Moretti and Obsuth 2009; Obsuth et al. 2006). The Connect program has been shown to be effective in increasing parenting competence and satisfaction, and in reducing adolescent aggressive behaviors, and internalizing and externalizing problems, among high-risk youth, both in the short term and 1 year after intervention (Moretti and Obsuth 2009; Obsuth et al. 2006). Despite the initial implementation of Connect among high-risk youths only, we chose to use the program for the universal prevention of risk behaviors. The principles that underlie the core attachment components of the program are universal by nature (Moretti and Obsuth 2009). Moreover, they were developed to be adaptable to a range of behavioral problems, from those experienced in normative samples to those experienced with clinical ones.

In line with the intention to find suitable programs for European countries that are culturally distinct from the northern European ones, we decided to use the Connect program with Italian parents. The program has two features that might be particularly appropriate in an Italian context. First, Connect does not adopt a prescriptive approach to parenting, which—as shown by Ortega et al. (2012)—makes it more likely to be accepted by Italian parents. Second, Connect focuses on the affective part of family relationships, which is very important to Italian families, since emotional bonds are traditionally strong and important (Claes 1998; Claes et al. 2003). Many Connect principles aim to avoid escalations in conflicts and negative reactions in the family relationship. Thus, an intervention that is able to target the emotional side of a relationship, and which gives parents a chance to reflect on their own reactions and the consequences of these, seems to be suitable for working preventively with Italian families.

The second part of this pilot study was aimed at assessing the short-term effects of the intervention on parental and adolescent behaviors. A recent systematic review of prevention programs within Italy revealed a lack of evidence-based programs that address risk behavior problems among adolescents (see Coffano 2010). It was clear from this review that a majority of the prevention programs conducted in Italy are not theory-based, and that they rarely receive formal evaluation. Thus, the second part of the study had two aims: first, to evaluate the possibility of conducting a scientific evaluation of the Connect intervention; and, second, to assess changes in parents' and children behaviors' as a result of participating in the program. Considering that the aim of the study was to find a suitable and potentially effective problem-behavior prevention tool to be implemented in Italy, we reported effects that are in line with the average effect sizes of universal prevention programs aimed at adolescents in general (Tobler et al. 2000). In line with the principles of the program (see Moretti and Obsuth 2009) we hypothesized that the Connect program would increase perceived efficacy among parents and satisfaction in parenting, and would decrease negative parental reactions to children. In addition, we expected a decrease in child-conduct problems, substance use, and deviance.

Method

Participants

Both mothers and fathers were invited to take part in the intervention program. However, given that the number of fathers that participated in the program were so few, we only considered mothers in our analyses. The initial sample of individuals who filled in the questionnaire before starting the course consisted of 65 mothers. Some of them (21) dropped out immediately after the first session. The remaining individuals, who participated in the pre- and post-test measures, consisted of 44 mothers. All of them attended at least 70 % of the program, and filled in the post-test questionnaire. In the schools where the program was presented, the control group was selected randomly among each school's classrooms. The control group was composed of 82 mothers, a number that fell to 66 at post-test (see the Results section for analyses of attrition). Considering the sample as a whole, a majority (78 %) of the mothers had graduated from high school. At pre-test, 79 % of the participants were married. Eighty-seven percent of the fathers and 52 % of the mothers were employed full-time. The child sample consisted of 147 students in middle school ($M = 12.40$ years, $SD = .75$, 40 % treatment group), 50 % girls. There were no significant differences between the treatment and control groups with respect to number of family members, parents' level of education or parents' type of employment (full-time or part-time), children's gender and age. In Fig. 1, we reported a CONSORT flow diagram to illustrate the rate of dropping out at each phase of the program.

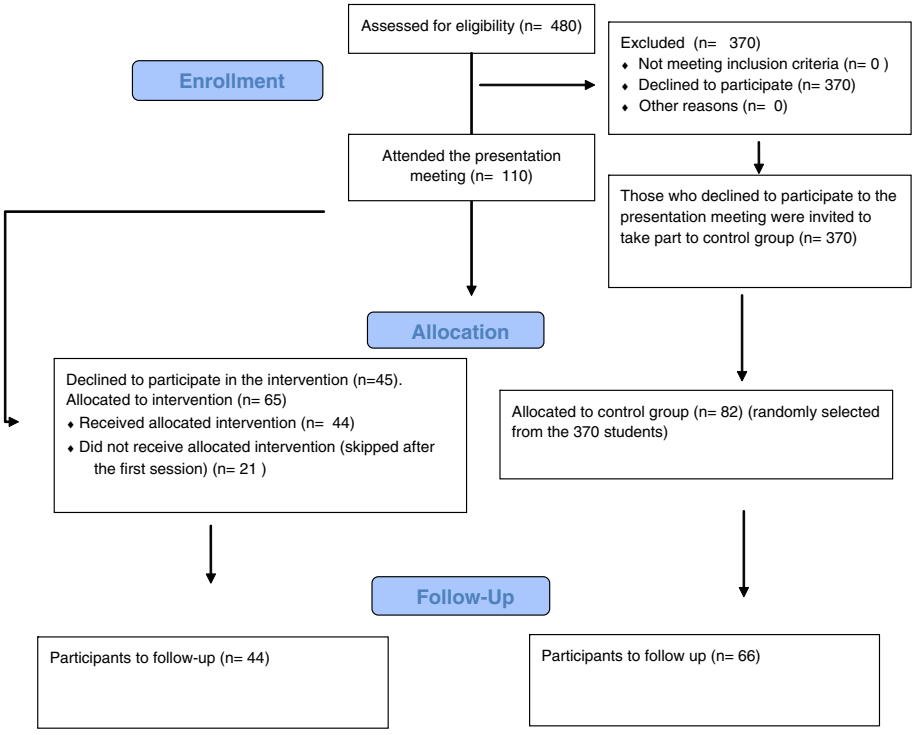

Fig. 1 Flow diagram of families' progress through the trial

In order to ascertain that our intervention reached a normative rather than an at-risk population (as is required for universal prevention), we used the the Eyberg Child Behavior Inventory (ECBI) to measure conduct problems, and compared the scores of our sample with the scores provided by Colvin et al. (1998). Comparisons with these indices showed that our sample was normative.

Measures

Satisfaction with the Program

Parents were asked to fill in a short questionnaire at the end of the program. We used a modified version of the *Treatment Engagement and Client Satisfaction Scale* (Moretti and Obsuth 2009). Nine questions were used to assess the extent to which program elements were perceived as useful (e.g., learning about attachment; the relationships between attachment and child's and parent's behaviors; role plays; parent handouts), on a scale ranging from (1) 'Not helpful' to (4) 'Very helpful'. Five items were used to assess the helpfulness of the program in understanding relationships between parents and children. The remaining questions addressed appreciation of working in a group and expectations of the program. Finally, in the questionnaire, participants were invited, to make comments and suggestions regarding possible modifications of the program in two open-ended questions.

Parents' Reports

The *Parenting Sense of Competence Scale* (PSOC; Johnston and Mash 1989) is a 17-item parental self-esteem scale. Following the Italian adaptation of the scale (see Hsu and Lavelli 2005), we removed the final item. Participants rated each of the remaining items on a 6-point scale ranging from (1) 'Strongly disagree' to (6) 'Strongly agree' (6). The PSOC is composed of two subscales assessing two aspects of parenting: satisfaction with parenting, and efficacy in parenting. Higher scores indicate higher levels of parents' satisfaction and efficacy. Alphas in this sample for these subscales were .74 and .78 at T1, and .74 and .84 at T2, respectively. This scale has been previously tested on an Italian sample, showing good reliability and validity (Hsu and Lavelli 2005) .

The Eyberg Child Behavior Inventory (ECBI; Eyberg and Ross 1978) is a 36-item parent rating scale that assesses children's (ages 2–16) behavior problems. It is composed of an intensity scale, which assesses the frequency of each problem behavior and a problem scale, which indicates the extent to which parents consider their children's behaviors problematic. Higher scores on the intensity scale indicate greater problem behaviors, while higher scores on the problem scale indicate that the behaviors are not considered to be a problem in the family. The ECBI has earlier been shown to have high reliability, and has adequate concurrent validity in relation to the Child Behavior Checklist (CBCL; Boggs et al. 1990). Alphas in this sample were .92 at T1 and .92 at T2 for the intensity scale, and .92 at both T1 and T2 for the problem scale.

The *Parental Behavioral Control Scale* (Kerr and Stattin 2000) is a 5-item scale that assesses parents' degree of monitoring. A 5-point response scale was used for all items. The overall ratings were as follows: (1) 'Almost never', (2) 'Rarely', (3) 'Sometimes', (4) 'Often', (5) 'Very often'. The scale has been validated in an Italian context (Kiesner et al. 2009). It assesses the extent to which children need to have permission to go out with

friends, to finish their homework before going out, and to have permission to spend their money. Alphas in this sample for this scale were .73 at T1, and .74 at T2.

Parental reactions. Parents' reactions to their children's misbehaviors were assessed on three scales: *Attempted to understand, angry outburst,* and *coldness-rejection* (Tilton-Weaver et al. 2010). The stem question for these scales is 'What happens if your child does something you dislike?', which is followed by statements with three response options, ranging from 'Never' to 'Most often'. *Attempted to understand* (e.g., Honestly want to understand why he/she did what he/she did*)* and *Angry outburst* (e.g., Become very angry and have an outburst) were composed of five items each, whereas *Coldness-rejection* was composed of seven items (e.g., Ignore him/her if he/she tries to explain). We conducted a confirmatory factor analysis to investigate whether the items were interpretable along these three dimensions in the Italian sample. The model yielded an acceptable fit ($\chi^2 = 182.62$, $df = 112$, $p < .001$, CFI = .92, TLI = .90; RMSEA = .05), suggesting that the items load well on the three factors. Internal reliability in this sample was acceptable (*Attempted to understand* .67 at T1, and .70 at T2; *Angry outburst* .78 at T1, and .71 at T2; and *Coldness-rejection* .68 at T1, and .61 at T2).

Children's Reports

Alcohol use. Alcohol use was measured by three items that assess the frequency of beer, wine, and alcohol-pops (bottled ready to drink mixed cocktails) consumption during the last 30 days, using a 5-point anchored scale, from 'Never' to 'Everyday'. We also used three items that assess the lifetime consumption of beer, wine, and alcohol pops, using a 3-point anchored scale: (1) 'No', (2) 'Yes', (3) 'More than once'. The items are similar to the ones used by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) to assess alcohol consumption in Italy and in other European countries (Hibell et al. 2009).

Cigarette use. To assess cigarette use, we used one item that measured lifetime smoking prevalence: Have you ever smoked a cigarette? (1) 'Never', (2) 'Once', (3) 'More than once'.

Study Design and Procedure

The study was approved by the Ethical Committee for Research of the University of Turin. In accordance with Italian law, we asked parents by mail to give permission for their children to participate in the study. The youths also gave consent to participate. Both parents and children were assured of the anonymity of their questionnaire responses. Questionnaires were sent and returned by mail. Considering possible issues of confidentiality of our participants, we devised a system to ensure our youth participants that their parents would have not had access to their questionnaires. We inserted two stickers in the original envelop in which the survey was distributed. Also inserted were instructions which stated that one of the stickers was a gift for them and the other one was meant for them to seal the envelop with the completed questionnaire. This sealed envelop was finally included in a bigger one containing also the parents' questionnaire. Parents in both the treatment and control groups were provided with small gifts for participation in the study at post-test.

After a first phase of adaptation of the program (see below), a notice about the program was disseminated in nine middle schools. The intervention was presented to the middle schools during after-school hours. Parents were invited to listen to a presentation of the

program objectives. After presentation of the intervention, parents were asked to participate, and those who accepted were requested to fill in questionnaires in Italian for themselves and their children. The parents who participated in the intervention were asked to attend 10 one-hour sessions in small groups (8–14 families). The final 2 h were grouped into one session. The program leaders were psychologists trained by the original creator of program, and repeatedly supervised during implementation, so as to ensure fidelity to the program objectives. The program was adapted and implemented in Italian. The control group was recruited in the same schools as those of the participants in the study. We randomly chose parents and children from classrooms that were not exposed to the presentation of the intervention. We adopted a quasi-experimental design as the randomization concerns only the selection of the students of the control group (see Fig. 1).

Connect. The program consists in ten 1-hour sessions. Each session is focused on an attachment principle, reflecting essential aspects of the parent-teen relationship and common parenting tasks. Facilitators are expected to use a variety of experiential activities, including role-plays and reflection exercises to explain each principle and build parenting knowledge and skills. The program is aimed at reinforcing parenting abilities that are necessary to build up a parent–child relationships based on a secure attachment: parental sensitivity; partnership and mutuality; parental reflective function; and dyadic affect regulation.

Connect was implemented in Italian and the last two sessions were taught in the same day. To give an example, the first session focuses on the first principle, which is "every behavior has a meaning". The goals of the session as they are stated in the manual are "(1) to create a sense of safety within the group; (2) to provide an orientation to the structure and format of the group sessions; (3) to recognize that all behaviors is a form of communication about attachment; (4) to recognize that all behaviors has an impact on our relationships with others; (5) to recognize that the same behavior may have different meanings" (p. 37, Moretti et al. 2005). As said above, the goals are achieved by group leaders through a series of role plays, reflection exercises, and discussions with the parents.

Instrument Testing

We conducted some cultural adaptation of program content to an Italian context, while maintaining the original goals of the program. First, we conducted interviews with four families, asking about the appropriateness of the role plays for Italian parents. Minor program modifications were made at this point. For example, we changed some parent-and-child interactions examples in order to make the role plays more suitable for normative youth in Italy (e.g. children swearing was attenuated, brutal responses from children were softened, and in some cases the social context of the role play were modified. Second, we conducted a preliminary study with 10 parents to ascertain whether these modifications were appropriate, and whether the program was well received by the parents. All the parents were satisfied with program and found it to be very useful. A final focus-group discussion revealed that the parents found the program to be in harmony with their needs, and with their worries related to the adolescent period. Finally, continuous exchange between the program leaders and the original creator of the program was maintained, which allowed us to check that any modification did not alter the original scope and aim of the program.

Statistical Analyses

In order to analyze the effects of the intervention on program outcomes we conducted ANCOVAs for each parental outcome (parental sense of satisfaction, parental sense of efficacy, parental control, attempted to understand, emotional outburst, coldness and rejection, ECBI frequency, ECBI problem), and each child outcome (tobacco use, beer frequency in the last 30-days, wine frequency in the last 30 days, alcohol-pops frequency in the last 30 days). The parental and child outcomes at follow-up were used as the dependent variables. Intervention condition was entered as the independent variable, and the parental and child outcomes at baseline were entered as covariates. Rausch et al. (2003) have suggested this method to account for group differences due to a lack of randomization. An index of magnitude of intervention effects, Cohen's d, was reported. According to convention (Cohen 1988), effects higher than 0.15 are considered small, effects higher than 0.39 medium, and effects higher than 0.75 large. In our analysis of intervention effects, given that our sample size was small, we decided to report only the effects that were higher than .20, which is the average effect size found for universal preventive interventions with adolescents, at least in school-based interventions (Tobler et al. 2000). Moreover, considering the number of analyses we performed, we attempted to avoid Type I error reporting confidence intervals for effect sizes, as further evidence that effects were not found by chance (Cumming and Finch 2001). Finally, in order to establish if the program worked at a primary-preventive level with regard to alcohol use, we computed dichotomous variables for each alcoholic beverage, allocating 0 to students who had never drunk at T1, and 1 to those who had drunk at T1. We ran Chi-square analyses to establish whether the proportion of individuals who had started drinking by T2 was higher in the control group than in the treatment group.

Results

Attrition and Descriptives

The attrition rate for the treatment group was 32 %, while for the control group it was 27 %. We conducted UNIANOVAs to assess whether there were differences on the dependent variables at pre-test between the parents in the treatment and the control groups. We also examined whether dropouts were different from participants who stayed in the study, and also whether dropouts in the control group were different from those who dropped out in the treatment group.

We entered outcomes at baseline as dependent variables, and the intervention condition, a dummy variable for missing values at t2, and the interaction between missing values and the intervention condition as independent variables. Parents in the treatment and control groups did not differ at baseline on parental satisfaction, parental control, attempted to understand, coldness and rejection, and perception of frequency of children's problematic behaviors (Table 1). However, parents in the treatment group scored lower on parental efficacy, and on emotional outburst, than parents in the control group, and also perceived their children's behaviors as more problematic than the control parents (Table 1). There were no differences on the study measures between the parents who dropped out in the control group and those who dropped out in the treatment group.

Turning to the children's reports (Table 1), there were no differences at baseline between the treatment and control groups in tobacco use and alcohol consumption (beer,

Table 1 Means and *F* values in the UNIANOVAs

	Missing	M (SD) Treatment	M (SD) Control	Intervention	Missing	Intervention × missing
Parents' reports						
PSOC satisfaction T1	Yes	2.74 (.69)	2.84 (.99)	F (1,144) = .002, n.s.	F (1,144) = .88, n.s.	F(1,144) = .41, n.s.
	No	2.96 (.68)	2.88 (.78)			
PSOC efficacy T1	Yes	3.92 (.67)	4.42 (.77)	F (1,144) = 14.18, $p < .001$	F (1,144) = 2.12, n.s.	F(1,144) = .45, n.s.
	No	3.78 (.65)	4.20 (.66)			
Parental control T1	Yes	4.64 (.39)	4.53 (.50)	F (1,136) = 1.12, n.s.	F (1, 136) = .95, n.s.	F(1, 136) = .01, n.s.
	No	4.54 (.62)	4.42 (.68)			
Attempted to understand T1	Yes	5.47 (.67)	5.34 (1.23)	F(1,142) = 01, n.s.	F(1,142) = .03, n.s.	F(1,142) = .44, n.s.
	No	5.39 (1.03)	5.50 (.99)			
Emotional outburst T1	Yes	3.11 (1.22)	3.92 (1.63)	F(1,142) = 4.43, $p < .05$	F(1,142) = .51, n.s.	F(1,142) = 1.94, n.s.
	No	3.27 (1.11)	3.43 (1.25)			
Coldness-rejection T1	Yes	2.42 (.67)	2.71 (1.14)	F(1,141) = 1.68, n.s.	F(1,141) = .01, n.s.	F(1,141) = .19, n.s.
	No	2.51 (.89)	2.66 (.96)			
ECBI intensity T1	Yes	89.98 (25.07)	85.88 (24.79)	F(3,139) = .59, n.s.	F(3,139) = 1.24, n.s.	F(3,139) = .91, n.s.
	No	95.01(25.89)	86.67 (28.04)			
ECBI problem T1	Yes	57.75 (9.56)	62.98 (9.69)	F(3,128) = 4.25, $p < .05$	F(3,138) = .09, n.s.	F(3,138) = .77, n.s.
	No	58.78 (8.62)	60.89 (9.83)			
Children's reports						
Tobacco use T1	Yes	1.00 (.00)	1.08 (.28)	F(3,129) = .11, n.s.	F(3,129) = 5.50, $p < .05$	F(3,129) = 1.14, n.s.
	No	1.36 (.66)	1.21 (.53)			
Beer frequency T1	Yes	1.19 (.64)	1.46 (.88)	F(3,125) = .10, n.s.	F(3,125) = .10, n.s.	F(3,125) = 2.19, n.s.
	No	1.46 (.78)	1.29 (.65)			
Wine frequency T1	Yes	1.43 (.87)	1.31 (.63)	F(3,125) = .24, n.s.	F(3,125) = 1.91, n.s.	F(3,125) = 1.41, n.s.
	No	1.46 (.72)	1.75 (.94)			
Pops frequency T1	Yes	1.00 (.31)	1.15 (.55)	F(3,125) = 1.83, n.s.	F(3,125) = .10, n.s.	F(3,125) = .50, n.s.
	No	1.08 (.27)	1.13 (.38)			

wine, and alcohol pops). Likewise, there were no differences between the children whose parents dropped out and the children of the parents who remained in the study. However, more children with higher rates of tobacco use were lost in control group rather than in the treatment group (see Table 1). Nonetheless, the differences between the dropouts and the participants who stayed in the study were few, and were unlikely to have influenced the reported effects of the intervention.

Program Satisfaction

The program was quite well received among the parents. Altogether, 90 % of the parents declared that the program was useful or very useful for acquiring knowledge about attachment and about adolescents' and their own behaviors. Also, 90 % of parents found the role plays useful to very useful as a means of grasping the concepts underling the program, which indicated that cultural adaptation had been satisfactory. Moreover, 90–95 % of the parents found the program useful to very useful for understanding their relationships with their children, and they all declared that the program met their expectations. Finally, in the open questions, parents confirmed that participation in the groups had been a positive experience, not least because of the good climate among parents and leaders. Some of the parents suggested that children should also be included in the groups.

Intervention Effects

The ANCOVAs (see Table 2) showed no intervention effect on parental satisfaction, efficacy, attempted to understand, emotional outburst or parental control, or on the ECBI intensity and problem scales. However, parents in the treatment group ($M = 2.40$, $SD = .12$) decreased their reactions of coldness and rejection from pre-test to post-test slightly more than parents in the control group ($M = 2.67$, $SD = .10$, intervention*time $F(2,96) = 2.47$, $p = .11$, $ES = .32$, $CI = -.66/.00$, level of confidence = 90). This result approached but did not reach significance, although the effect size was above the average for universal preventive interventions with adolescents.

Regarding the children's reports on their own behaviors (Table 2), the youths in the treatment group decreased their frequency of beer ($M = 1.36$, $SD = .12$, intervention*time $F(2,97) = 5.21$, $p = .05$, $ES = -55$, $CI = -.95/-.14$, level of confidence = 95) and wine consumption ($M = 1.46$, $SD = .13$, intervention*time $F(2,95) = 4.39$, $p < .05$, $ES = -44$, $CI = -.85/-.03$, level of confidence = 95) more than youths in the control group (respectively, $M = 1.75$, $SD = .09$, $M = 1.78$, $SD = .10$). The effect size was medium. No effect was found on tobacco use and alcohol pops consumption.

Chi-square analyses were performed on the sub-sample of adolescents who had not drunk alcohol or smoked at pre-test. The purpose was to test whether the intervention reduced the proportion of users (no/yes), compared with those in the control condition at post-test, among those who were non-users at pre-test. It was found that fewer children in the treatment group, compared with the control group, had started drinking beer by T2 ($\chi^2 = 4.02$, Fisher's exact test one-tailed $p < .05$). No significant effect of the treatment condition on wine consumption ($\chi^2 = .03$, n.s.), alcohol pops consumption ($\chi^2 = 2.33$, n.s.), or cigarette use ($\chi^2 = .07$, n.s.) was detected.

Table 2 Means and effect sizes for all the dependent variables

Dependent variable	Treatment group T2 M/ES Adjusted for T1 values	Control group T2 M/ES Adjusted for T1 values	Intervention	Cohen's d
Parenting				
PSOC satisfaction	2.72/.09	2.83/.04	$F(2,101) = .91$ n.s.	n.e.
PSOC efficacy	4.09/.09	4.08/.08	$F(2,100) = .01$, n.s.	n.e.
Parental solicitation	3.74/.08	3.72/.07	$F(2,86) = .01$, n.s.	n.e.
Parental control	4.51/.07	4.52/.06	$F(2,86) = .01$, n.s.	n.e.
Attempted to understand	5.46/.13	5.45/.11	$F(2,96) = .01$, n.s.	n.e.
Emotional outburst	3.24/.15	3.21/.12	$F(2,96) = .02$, n.s.	n.e.
Coldness-rejection	2.40/.12	2.67/.10	$F(2,96) = 2.47$, $p = .11$	−.32
ECBI intensity	83.59/2.97	83.23/2.62	$F(2,95) = .01$, n.s.	n.e.
ECBI problem	58.99/1.20	59.92/1.02	$F(2,80) = .35$, n.s.	n.e.
Children behaviors				
Tobacco use	1.31/.07	1.35/.06	$F(2,105) = .64$, n.s.	n.e.
Beer frequency in the last 30-days	1.36/.12	1.75/.09	$F(2,97) = 5.21$, $p = .05$	−.55
Wine frequency in the last 30 days	1.46/.13	1.78/.10	$F(2,95) = 4.39$, $p < .05$	−.44
Pops frequency in the last 30 days	1.17/.10	1.23/.08	$F(2,96) = .28$, n.s.	n.e.

Discussion

The purpose of this pilot study was to test the feasibility and effectiveness of an attachment-based intervention aimed at parents to reduce risk behaviors among youths. Our specific goal was to test a parenting program in a Mediterranean country. First of all, we found that the program was feasible and quite well received by Italian mothers. Moreover, we found that it affected both parents' and children's behaviors in the short run. Specifically, mothers in the treatment group showed a tendency toward reduction of their reactions of coldness and rejection compared to mothers in the control group at completion of the program. Youths in the treatment group decreased their frequency of beer and wine consumption more than youths in the control group.

The program effects on alcohol use were quite relevant. According to Cohen's convention, the effects on both beer and wine consumption were of medium size. This was quite unexpected given that universal interventions with adolescents are usually expected to have only small effects, at least in the case of school-based interventions (Tobler et al. 2000). Alcohol use among Italian youths is becoming more similar to that among youths in northern European countries (Hibell et al. 2009), with a decrease in the consumption of wine and increases in the use of beer and high alcohol content beverages, and also with an increase in binge drinking (Hibell et al. 2009). All this indicates that alcohol consumption is becoming more problematic among the new generations. Consequently, an intervention that can address alcohol-related phenomena might be able to decrease immediate consumption of alcohol and to slow progression to heavier forms of use among youths.

Moreover, we found a primary preventive effect on people who had not tried beer at pre-test. Abstainers at T1 in the treatment group were less likely to consume alcoholic beverages at T2 than T1 abstainers in the control group. These results, together with the small effect on parental coldness, demonstrated the potential beneficial effects of this type of parenting program in an Italian context.

There are some important provisional conclusions that may be drawn from this first implementation of the Connect program in Italy. First, this study shows that parenting programs aimed at universal prevention might indeed be well-accepted and might have some effects in a country that is generally unaccustomed to receiving preventive interventions. This is important, especially when considering that Spoth et al. (2006) have recently demonstrated that family-based universal programs are capable of having beneficial effects regardless of the initial levels of problematic behaviors, and thereby may have great potential economic benefit.

Second, we noted the significant difficulties in recruiting parents. This is a standard problem, especially when it comes to universal prevention. Parents' participation in intervention programs is usually associated with higher education levels, or with perceptions of intervention benefits and of the need for a program. Also, family-related barriers, such as busy schedules or difficulties in reaching the place where the program takes place, are known deterrents to participation (e.g. Pettersson et al. 2009; Spoth et al. 2000).

Nevertheless, some authors have claimed that the more problematic the children are, the less likely it is that parents will abandon a program (e.g. Heinrichs et al. 2005; Spoth et al. 2000). However, this association has not been confirmed in other studies (Eisner and Meidert 2011; Haggerty et al. 2006; Pettersson et al. 2009), included our study. We did find that mothers from the treatment group were more likely to perceive their children's behaviors as more problematic than mothers in the control group; suggesting that this awareness was related to their participation in the program. To favor parents' participation, we tried to eliminate as many barriers as possible. For example, children usually go to schools close to their home, so we ran the program in those schools. We also decided the days of the meetings according to the requests of the parents. Despite these efforts, attrition was still quite high. First, the program was presented in 4 schools, with potentially 480 parents to get involved. However, only a small percentage of them (around 20 %) showed up at the information session. Moreover, of those who started, one out of three dropped out after the first session. Both phenomena might be explained by the fact that structured parenting interventions are still quite rare in Italy. As a consequence, parents find it hard to grasp what intervention programs are designed for, and the need to attend. And, they are less likely to understand the reasons for participating in all the sessions. Most parents are used to attending one-day meetings or seminars organized by health workers or psychologists. We hypothesize that this was one of the main reasons for so many dropping out immediately after the first session.

Nevertheless, mothers who participated in the program tended to recognize the utility of the program itself and the positive climate in the groups. Research has shown that these two elements are likely to influence daily application of the techniques and concepts learnt in a program (Eisner and Meidert 2011), which is indeed what is supposed to make such an intervention effective. For this reason, there is a need to find strategies and ways of getting parents to enter into universal prevention programs and making them understand the necessity of participating regularly in the sessions.

This study has some limitations which we need to consider. First, we had some attrition in both the treatment and the control groups. However, our attrition analyses showed that dropout was unlikely to have influenced the results of the study. Another limitation was the

relatively small size of the sample and the lack of randomized design. Even if our sample was fairly representative of Italy in terms of demographic indicators of the Italian population, a larger randomized sample is needed to confirm the effects we found and their generalization. We used only one measure to assess tobacco use. A more comprehensive measure should be used in future studies. Moreover, follow-ups are needed to establish whether the effects extend over longer periods of time. Finally, in spite of the focus on "family", in the majority of the cases only mothers attended the program. This prevents us to see the effect on the whole family as a system.

The study also has some strengths. To our knowledge this is one of the first attempts to test family-based interventions with Italian parents. As shown in a recent report commissioned by the European Union (Coffano 2010), adolescent substance-use prevention in Italy is characterized by interventions that are often not theory-based and do not receive scientific evaluation. Our efforts constitute an attempt to overcome these limitations. Second, even though the size of the sample was small, the study had a pre-post test design with a control group, and included the reports of both parents and children. These features give our results greater objectivity than that of many of the intervention studies reported upon in the literature.

To conclude, this study suggests that educating parents to be more sensitive and empathic to adolescents' needs and requests may positively affect adolescent behaviors, at least in the short term, even in countries other than in North America or northern Europe where traditional parenting practices have been shown to be different. To achieve this, there is a need to find effective strategies to involve parents and to convince them to remain in a prevention program.

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