

Training parents to adolescents' challenges: The CONNECT parent program



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Abstract

Adolescents' challenges could be effectively addressed by treating their parents. Prior evaluations of CONNECT, an attachment-based program intervention for parents of adolescents at risk, indicated that improving parenting skills and the quality of parent-adolescent relationship may result in decrease of adolescents' behavioural problems.

The present study is part of a longitudinal research involving three Italian centres (Pavia, Milan, Pisa) aimed at investigating whether helping parents reduce their reliance on coercive or unproductive parenting strategies and understand changes occurring during adolescence from an attachment-based perspective would reduce their adolescents' externalizing and internalizing symptoms. One-hundred and eighteen parents of adolescents ($M_{age} = 15.26$ years, $SD = 1.49$; 64% boys), randomly assigned to the intervention group ($n = 66$) or to the wait-list control group ($n = 52$), reported on their perceptions of their adolescents' externalizing and internalizing symptoms (using the Strength and Difficulties Questionnaire-parent version; Goodman, 1997), as well as attachment avoidance and attachment anxiety (using the Adolescent Attachment Anxiety & Avoidance Inventory; Moretti and Obsuth, 2009) prior to treatment (t0), within a two-week period following the final treatment session (t1) and at a

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four months follow-up (t2). Parents attending the CONNECT program reported significant reductions in their adolescents' externalizing symptoms, and slightly significant reductions in their adolescents' internalizing symptoms by a reduction of anxiety and avoidance attachment strategies.

The findings add evidence to the importance of investigating mechanisms of change underlying the effectiveness of CONNECT program, providing further indications on its application in therapeutic contexts.

Key words: adolescents, parents, attachment-based intervention program, CONNECT parent group intervention.

Sommario

Genitori formati alle sfide dell'adolescenza: il programma CONNECT

Le sfide dell'adolescenza possono essere affrontate lavorando con i genitori. Le ricerche sull'efficacia di CONNECT, un programma di intervento di 10 sessioni di gruppo, manualizzato, basato sulle evidenze e rivolto a genitori di adolescenti a rischio, suggeriscono che il miglioramento delle capacità genitoriali e della qualità della relazione genitori-figli adolescenti può portare a una diminuzione di problemi comportamentali nei figli.

Il presente studio coinvolge tre centri italiani (Pavia, Milano, Pisa) e 118 genitori di adolescenti (età media di 15.26 anni, $DS = 1.49$ anni; 64% maschi), assegnati in modo casuale al gruppo di intervento ($n = 66$) o al gruppo di controllo, in attesa di ricevere l'intervento ($n = 52$). Le misure utilizzate hanno valutato sia la presenza di sintomi internalizzanti ed esternalizzanti (tramite lo *Strength and Difficulties Questionnaire-parent version*; Goodman, 1997) sia la qualità dell'attaccamento (tramite l'*Adolescent Attachment Anxiety & Avoidance Inventory*; Moretti e Obsuth, 2009), prima del trattamento (t0), entro due settimane dalla conclusione dell'ultima sessione del trattamento (t1) e al *follow-up* di 4 mesi (t2).

I genitori che hanno frequentato il programma CONNECT hanno riportato una significativa riduzione dei sintomi esternalizzanti dei figli, e una tendenza a una riduzione dei sintomi internalizzanti, grazie alla rispettiva riduzione delle strategie evitante e ansiosa di attaccamento. Questi effetti rimangono invariati anche controllando i problemi comportamentali prima dell'inizio del trattamento.

I risultati evidenziano l'importanza di indagare i meccanismi di cambiamento alla base dell'efficacia del programma CONNECT, fornendo indicazioni sulla sua applicazione anche in contesti educativi e sanitari.

Parole chiave: adolescenti, genitori, programmi di intervento basati sull'attaccamento, CONNECT intervento di gruppo per genitori.

Introduction

Adolescence is one of the most crucial and challenging transition periods across the lifespan. Beyond the more apparent biological and somatic chang-

es, social-emotional shift that accompanies this developmental transition brings important key-factors that need to be properly addressed by both clinicians and researchers. Such transition could be more properly defined as a dynamic intersection between social, emotional, relational, neuro-endocrine, genetic, and neuro-biological factors.

Actually, adolescence appears nestled between two main changes – the end of childhood and the beginning of adulthood – with malleable borders. Epidemiological data suggest a trend towards earlier puberty in some countries, including Europe and United States. At the same time, societal changes and a growing awareness of the timeline of brain development are pushing the accepted threshold for adulthood into the twenties (Ledford, 2018). The definition of the likely developmental period that could be identified as featured by adolescence expected changes has implication for the clinical, educational, and welfare system, as the onset of puberty, for example, entails behavioral changes connected to the growth of amygdala, a brain region involved in processing emotions and influenced by chronological age and by the onset of puberty (Sawyer *et al.*, 2018). It is worth noting that a developmental science perspective on adolescence, able to capture a nuanced understanding of the distinct features of this developmental period may inform not only the identification of the skills and self-regulatory capacities that occurs to adolescents to become independent and to integrate into adult society, but also may inform psychological interventions able to foster those capacities (Dahl *et al.*, 2018).

Among the research specifically addressing adolescence features understanding, what constitutes a common opinion is that the social learning that occurs during this period is a product of a potential sensitive period for adolescents' affective, cognitive, neuro-biological and, importantly, social-emotional learning. Despite the strong cultural belief that the importance of parental contributions wanes compared to the input of peers during adolescence, empirical research has demonstrated that parenting is a strong determinant of adolescents' health and well-being during this period of life, often more than peer processes (Morris *et al.*, 2017). Moreover, recent empirical research has suggested that parenting processes during adolescence provide a compelling example of bidirectional relationships between environmental learning and/or experiences and biological development, potentially generating cascading effects on either adolescents' vulnerability or resilience (Whittle *et al.*, 2016). A recent study (Lansford *et al.*, 2018) used data from 12 cultural groups in nine countries (including Italy) to show the cross-cultural generalizability of how parental control and warmth were bidirectional related to externalizing and internalizing behaviors from childhood to ado-

lescence. Finally, the quality of the parent-child relationship during early adolescence has been shown to buffer some of the potentially deleterious effects of adolescents' at-risk behaviors and, overall, recent meta-analytic reviews have supported the role of parental intervention in the prevention and buffering of parental anxiety and depression (Yap *et al.*, 2016).

The quality of parent-child relationship is thus critical to how children cope with the transition to adolescence and, even during the adolescence period itself, remains a pivotal protective factor against offspring's socio-emotional maladjustment. Attachment theory provides one of the most meaningful and validated frameworks for understanding parent-child quality; our prior research findings with normative and at-risk adolescents and their parents are consistent with numerous studies showing a significant link between secure parent-adolescent attachment and social mental and physical health (e.g., Moretti and Obsuth, 2009; Goulter *et al.*, 2019). Attachment security in adulthood is associated, in turn, to parental ability to use a reflective functioning (Fonagy *et al.*, 1991), a decrease in attachment anxiety and avoidance, decreases in parental care-giving stress, decreases in perceived behavioral problems in their children, particularly aggressive behaviors and victimization (e.g., Ozturk, Moretti and Barone, 2019), and to adolescents' reduction of both aggression and internalizing problems (i.e., anxiety and depression).

Parents of adolescents are confronted with situations that require support in order to cope effectively with the many challenges that the transition that adolescence brings to their relationship with their offspring. Helping parents to understand changes that typically occur during adolescence and reframing the meaning of conflict in parent-child interaction during this developmental period is important (Moretti and Peled, 2004).

In recent years there has been an increasing interest in the implementation of group-based parenting interventions specifically suitable for parents of adolescents (Medlow *et al.*, 2016), even though implementation can be more challenging than interventions suited for parents of children (see Olofsson, Skoog and Tillfors, 2016). The past decade has also seen a growing trend towards the application of attachment theory to understanding adolescent mental health (Ewing, Diamond and Levy, 2015; Moretti *et al.*, 2012). This has prompted the translation of attachment concepts into evidence-based treatment programs for teens and their parents (Ewing *et al.*, 2018; Kobak *et al.*, 2015; Moretti, Pasalich and O'Donnell, 2018; Rossouw, 2018).

The CONNECT program evolved over decades of clinical work and research with adolescents with complex mental health problems and their

families and it is currently a 10-week manualized attachment based program for parents that specifically strives to help parents to understand adolescent behavior from an attachment perspective (Moretti, Braber and Obsuth, 2009; Moretti *et al.*, 2012, 2018). CONNECT is targeted to parents and care-givers, given that it is well-known that teens do not easily participate in the intervention. The program is primarily designed to shift how parents perceive, understand and respond to their teens' behavior, promoting sensitivity to the attachment meaning of their teens' behavior and parenting skills that ensure the provision of a secure base. By increasing parents' sensitivity and reflection skills, parents can better understand the attachment needs that drive their youths' problem behavior and consider new and more productive ways of responding to challenging behavior (Moretti *et al.*, 2012). Although there is agreement that attachment security is a predictor of adolescent well-being and good outcomes in early adulthood, only few attempts have been made to develop treatments to promote security between teens and their parents. The critical question in undertaking the development of an attachment-based intervention for teens is whether internal working models and attachment strategies are malleable during adolescence and whether changes are meaningfully related to positive outcomes in parental functioning.

Up to now, research on CONNECT has been shown to be effective in increasing parenting competence and in reducing care-giver strain; and in buffering teens' oppositional, aggressive and antisocial behavior; internalizing and externalizing behaviors and self-reported use of alcohol, following completion of the program (Moretti *et al.*, 2015; Moretti and Obsuth, 2009). These data have been found to be similar across youths' gender and for parents of teens with pre-treatment externalizing symptoms in both the clinical and sub-clinical range (Moretti *et al.*, 2015). Short-term improvements in parent and youth functioning are apparent at post-treatment, at six-month follow-up and even at one and two years after treatment (Högström *et al.*, 2017; Osman *et al.*, 2017). These effects have been demonstrated in research conducted primarily in Canada and in Europe, including a national randomized study across Sweden (Högström *et al.*, 2017), a randomized control trial (RCT) study with Somalian parents in Sweden (Osman *et al.*, 2017), and a quasi-experimental study without randomization in Italy (Giannotta, Ortega and Stattin, 2013). A model of change has been proposed for the CONNECT program (Moretti *et al.*, 2015); however, research has yet to fully examine these pathways in an RCT designed study. More specifically, it would be important to replicate in a rigorous and controlled way the original effectiveness findings obtained by previous research and to build up a model for understanding mechanisms implied in changes observed.

The present study reported preliminary data on the effectiveness of CONNECT using a multicenter RCT design (Barone and Carone, 2019). Accordingly, the following research questions were addressed:

- Is CONNECT effective in reducing parents' ratings of their adolescents' externalizing and internalizing problems?
- Is CONNECT effective in reducing parents' ratings of their adolescents' attachment avoidance and attachment anxiety?
- Are changes in attachment avoidance and attachment anxiety associated with a decrease in externalizing and internalizing symptoms?

Method

Parents who looked for consultation for their offspring behavioral problems were referred by community mental health centres or schools in three Italian sites (i.e., Milan, Pavia, and Pisa) for CONNECT program attendance. To avoid dependency in the data, reports from only one care-giver per youth were retained when multiple care-givers were available. Given the overwhelming majority of parents who attended the program were mothers, maternal care-givers were retained wherever possible to limit variability in the sample. According to the manual, to be included in the study, parents were required to attend at least 70% of CONNECT sessions to ensure sufficient treatment exposure and must have completed both pre- and post-treatment measures.

After 1:1 randomization between intervention and control (waiting-list) group, the final sample included 118 parents (66 parents in the intervention group and 52 parents in the control group) at pre-treatment (t0), 84 parents (53 parents in the intervention group and 31 parents in the control group) ten weeks after the intervention (t1; 28.8% attrition rate from t0), and 64 parents (42 parents in the intervention group and 22 parents in the control group) at four months follow-up (t2). To retain more power in the analysis, missing data at t1 and t2 were treated with the full information maximum likelihood. At t0, parents' mean age was 49.97 years ($SD = 5.71$), whereas adolescents' mean age was 14.93 years ($SD = 1.61$; 61% boys); at t1 parents' mean age was 50.70 years ($SD = 5.40$), whereas adolescents' mean age was 15.26 years ($SD = 1.49$; 64% boys); at t2 parents' mean age was 50.63 years ($SD = 5.34$), whereas adolescents' mean age was 15.48 years ($SD = 1.59$; 63% boys). The Ethics Committee of the three centres approved the project. Although parents who were randomly assigned to the control group did not receive the CONNECT program, their adolescents received the various

health promotion and risk-reduction interventions that were delivered routinely in the participating centres. Furthermore, the parents were free to participate in other interventions of their own choosing (for themselves or for their adolescents).

The following measures were administered to parents at t0, t1, and t2:

- the *Strengths and Difficulties Questionnaire* (SDQ-parent version; Goodman, 1997), which is a 25-item measure to assess adolescent's psychological adjustment on a 3-point Likert scale, ranging from 0 to 2. The SDQ provides ratings of children's emotional problems, hyperactivity/inattention, conduct problems, peer problems, and pro-social behavior. Scores in the four problem areas can be combined to generate a total difficulties score, with higher scores indicating greater problems. For the purpose of this study, total scores of internalizing (emotional plus peer items) and externalizing (conduct plus hyperactivity items) problems were calculated, in accordance with Goodman, Lamping, and Ploubidis (2010). Cronbach's alphas for parents' reports of adolescents' internalizing and externalizing problems were .79 and .82 at t0, .78 and .84 at t1, and .80 and .84 at t2, respectively;
- the *Adolescent Attachment Anxiety & Avoidance Inventory* (AAAAI; Moretti e Obsuth, 2009) is a 36-item measure of adolescent-parent attachment, originally developed for clinical and empirical purposes at the Maples Adolescent Treatment Centre, Burnaby, British Columbia, Canada. Each statement relates to attachment anxiety or avoidance in the adolescent-parent relationship. Parents were asked to rate each statement on a 7-point scale ranging from 1 "Strongly Disagree" to 7 "Strongly Agree". Cronbach's α for attachment anxiety and attachment avoidance were .69 and .68 at t0, .71 and .71 at t1, and .70 and .69 at t2, respectively.

The CONNECT parent group intervention

The program was delivered by two trained and certified leaders who guided groups of 8-14 parents through ten 90-minute sessions. Each session was specifically focused on an attachment principle (e.g., "*Attachment is for life*", "*Autonomy Includes Connection*", "*Growth and Change are Part of Relationships*", "*Conflict is Part of Attachment*"). Structured, experiential exercises, and role plays helped parents strengthen their skills in meeting the unique challenges fostering teens, increasing their sense of efficacy and satisfaction in parenting, reducing caregiver strain whilst promoting security within the parent-teen relationship.

The program specifically targeted four aspects of parenting that are linked with attachment security in adolescence: care-giver sensitivity; parental reflective function; dyadic affect regulation; and shared partnership/mutuality. In particular, it focused on strengthening the parental reflective function and parent sensitivity (Moretti *et al.*, 2015), building dyadic affect regulation skills and encouraging parents to promote adolescent’s autonomy while providing safety and structure (Moretti and Obsuth, 2009).

Results

To test the effectiveness of CONNECT in reducing parents’ perceptions of their adolescents’ externalizing and internalizing problems, as well as attachment avoidance and attachment anxiety (hypotheses 1 and 2), four mixed 3 (time, within factor: t0, t1, t2) x 2 (group, between factor: control group vs. intervention group) analysis of variance (ANOVAs) were performed with parents’ reports of adolescents’ internalizing and externalizing problems, as well as attachment anxiety and attachment avoidance as outcomes. Then, to understand the nature of Time*Group interaction, a simple effect analysis (contrasts) was ran. Findings are displayed in Figures 1, 2, 3, 4.

Figure 1 – Reductions in externalizing problems

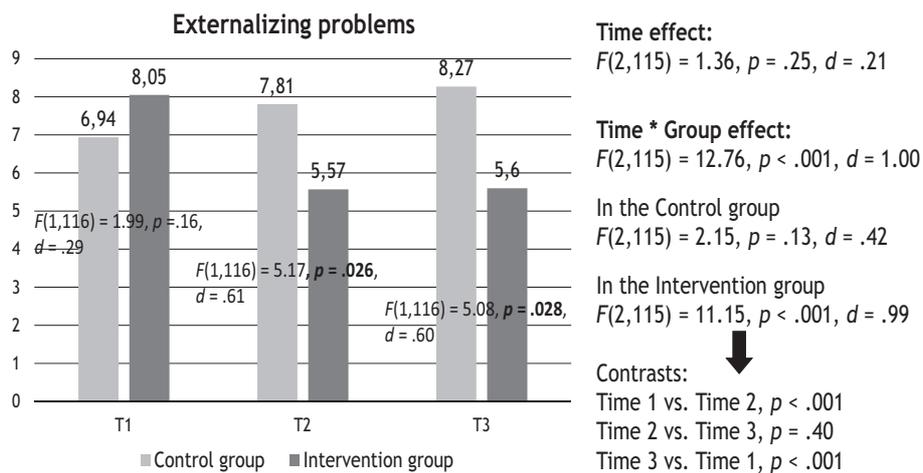


Figure 2 – Reductions in internalizing problems

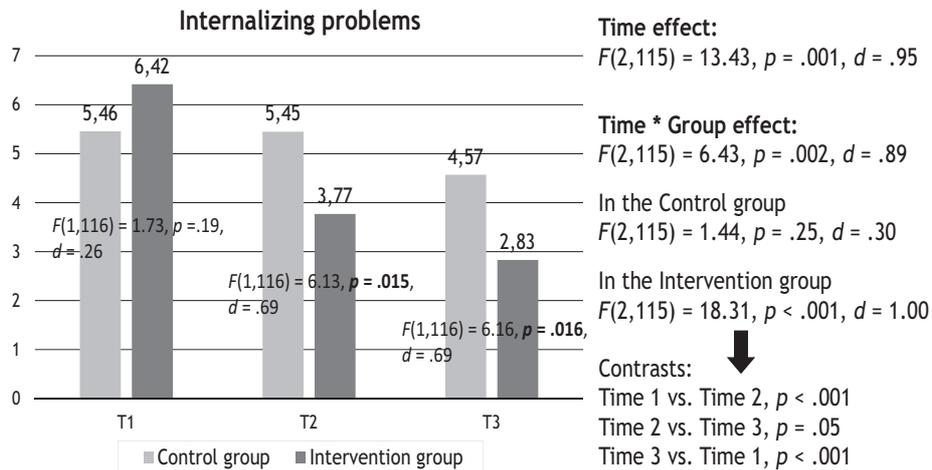
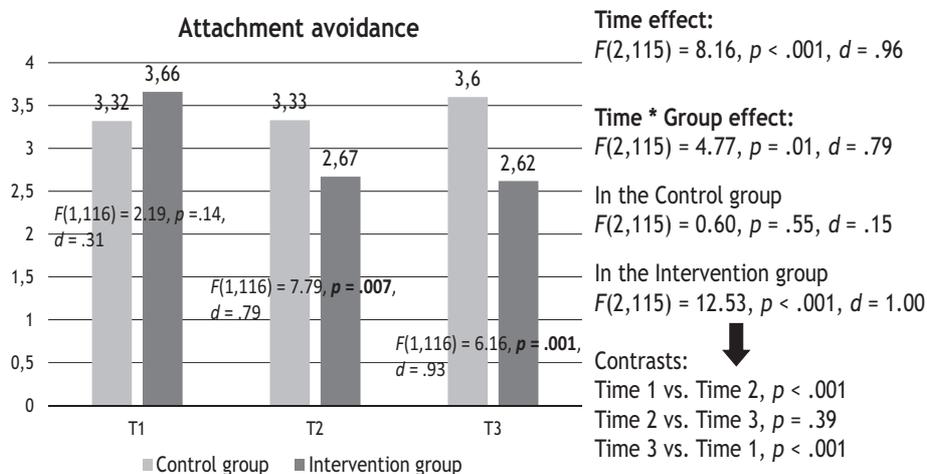
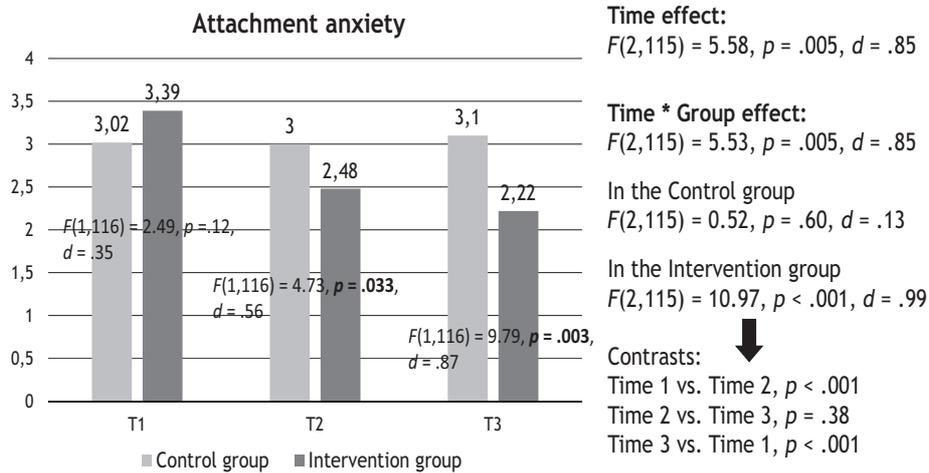


Figure 3 – Reductions in attachment avoidance



Findings indicated that CONNECT was effective in reducing parents' ratings of externalizing and internalizing problems, as well as attachment avoidance and attachment anxiety, in their adolescents ten weeks after the intervention. Furthermore, such reductions remained stable at 4-months follow-up.

Figure 4 – Reductions in attachment anxiety



To test whether post-treatment changes in attachment avoidance and attachment anxiety were associated with a decrease in post-treatment externalizing and internalizing symptoms, two hierarchical linear regressions were running, controlling for pre-treatment symptom scores (t0). This conservative approach allowed us to examine the unique impact of changes in attachment on post-treatment symptoms irrespective of pre-treatment symptom levels. Adolescents' gender was entered as a covariate since there is evidence that boys are more likely to display externalizing problems and girls are more likely to display internalizing problems (Rescorla *et al.*, 2007). Given the relatively small sample size, to retain more power in the analysis, only the interactive effects of significant variables in *step 2* were tested in *step 3* (i.e., Group*Attachment avoidance). Follow-up simple slope analysis was then performed to interpret the direction of the Group*Attachment avoidance interaction. Findings are displayed in detail in Tables 5 and 6.

Regarding post-treatment changes in attachment avoidance, simple slope analysis for Group*Attachment avoidance showed that reductions in attachment avoidance (t1) were associated with significant lower levels of post-treatment (t1) externalizing symptoms only in the intervention group, $\beta = 1.82, t = 3.51, p < .001$, and not in the control group, $\beta = .15, t = .39, p = .70$. Likewise, regarding post-treatment changes in attachment anxiety, simple slope analysis for Group*Attachment anxiety showed that reductions in attachment anxiety (t1) were associated with significant lower levels of post-treatment (t1) internalizing symptoms only in the intervention group, $\beta = .76, t = 2.13, p < .05$, and not in the control group, $\beta = .02, t = .07, p = .94$.

Table 1 – Predictors of externalizing problems

	Variables	B (SE)	ΔR^2
Step 1	Group	-.28*** (.27)	.40***
	Child gender	-.14† (.74)	
	Externalizing problems t0	.61*** (.06)	
Step 2	Group	-.20** (.28)	.07**
	Child gender	-.12† (.64)	
	Externalizing problems t0	.53*** (.07)	
	Attachment avoidance t1	.28*** (.31)	
Step 3	Group	-.09 (.39)	.06***
	Child gender	-.12† (.64)	
	Externalizing problems t0	.53*** (.06)	
	Attachment avoidance t1	.27*** (.29)	
	Attachment anxiety t1	-.01 (.28)	
	Group X Attachment avoidance t1	-.38*** (.15)	

Group was coded as -1 = control group, 1 = intervention group. Child gender was coded as -1 = boy, 1 = girl.

† $p < .06$, ** $p < .01$, *** $p < .001$.

Table 2 – Predictors of internalizing problems

	Variables	B (SE)	ΔR^2
Step 1	Group	-.19*** (.25)	.30***
	Child gender	.06 (.62)	
	Internalizing problems t0	.54*** (.06)	
Step 2	Group	-.15* (.23)	.20***
	Child gender	.04 (.64)	
	Internalizing problems t0	.40*** (.06)	
	Attachment avoidance t1	.02 (.22)	
	Attachment anxiety t1	.45*** (.23)	
Step 3	Group	-.15* (.23)	.06**
	Child gender	.04 (.64)	
	Internalizing problems t0	.40*** (.06)	
	Attachment avoidance t1	.11 (.34)	
	Attachment anxiety t1	.45*** (.22)	
	Group X Attachment anxiety t1	-.22** (.24)	

Group was coded as -1 = control group, 1 = intervention group. Child gender was coded as -1 = boy, 1 = girl.

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

Discussion and conclusions

The study tested whether the attachment-focused parenting intervention CONNECT was effective in reducing adolescents' behavioral problems and attachment avoidance/anxiety. It further shed light on the relevant attachment-based mechanisms able to sustain this change. The examination of the efficacy of CONNECT as a mean for preventing the escalation of behavioral problems through the strengthening of attachment security between youth and care-givers is undoubtedly a promising approach to identify mechanisms of change within attachment-based interventions. Along with those of Moretti and colleagues (2015) and prior research on parenting representations (Moretti *et al.*, 2012), our findings suggest that changes occurring following the attendance of CONNECT program may unfold in a step-wise manner. Said differently, before parents can be available to step into the mind of their adolescents, they need to step back from their emotional reactions and attributions for their adolescents' challenging behavior. In this vein, role play and exercises established by the CONNECT program help parents in becoming aware of their thoughts and feelings whose in turn drive their parenting behavior, allowing them to be mindful about their adolescents' feelings, thoughts and attachment needs. As a result parents become

«better positioned to respond to their teen with sensitivity, promoting safe haven and secure base and engendering a shared partnership that supports adolescent autonomy. In the last phase of treatments, role play and exercises help shift parent attention away from challenging behavior and toward the identification and celebration of connection. As treatment comes to a close, parents learn to anticipate and cope with inevitable setbacks, hence protecting new found security within their relationship with their teen from adversity» (Moretti *et al.*, 2015, pp. 130-131).

This, in turn, results in decrease of their adolescents' internalizing and externalizing problems.

The transition into adolescence is a challenging turning point that involves complex social and familial relationship changes. Attachment needs still remain alive but are expressed in different languages and behavioral signs; and this can produce a sort of dis-connection between the parents and their offspring. The quality of parent-child relationships is critical to how children cope with the transition to adolescence. Research indicates that parental involvement in a child's activities, warmth, support and parental monitoring are associated with greater resilience in adolescence, as evidenced by lower levels of aggression, violent behavior, depression, and anxiety; less substance use and risky behaviors (Farrell *et al.*, 2011; Pilgrim

et al., 2006). At the same time, paradoxically, at the very time at which adolescents most need the support of their parents, changes in adolescents' social contexts and in the parent-adolescent relationship create increasing levels of conflict and/or challenging communication. This leads to greater parent-adolescent conflict as youths push for greater autonomy, leading many parents to feel that their adolescents are neither interested in nor responsive to their support and guidance. Attachment based interventions that are specifically tailored to the transition of adolescence provide a unique opportunity to support parents and adolescents, particularly those who are vulnerable to the development of aggressive, violent, and other problem behaviors. As the relationships between parenting and behavioral problems have been shown to be bidirectional (Lansford *et al.*, 2018), the opportunity to effectively work only with parents in order to reach even adolescents' outcomes has a relevant impact on clinical practice. It is well-known that it can be difficult to reach and create an alliance with adolescents who are living a challenging period of their life while; in contrast, parents are often struggling to find helpful support for their everyday difficult moments with their children.

We do know that studies of selective parent training programs are scarce, particularly in the case of effectiveness trials targeting parents of adolescents. At the same time, parent training programs targeting youths' behavioral problems are recommended in clinical practice to prevent and/or reduce problematic behavior escalation and exacerbation. Findings obtained by our study, a controlled trial of CONNECT parent group implementation, are greatly encouraging in highlighting how treatment related changes in two specific attachment-based mechanisms – i.e. attachment avoidance and anxiety – are related to reductions in behavioral problems and internalizing problems respectively. The marked decrease of these mental health problems in relation to the reduction of both avoidance and anxiety within adolescent-parent relationships confirms the importance of attachment bonds even in this developmental period. Thus, the emotional availability and “connection” of parents as attachment figures for their offspring represents a key-element for adolescent's adjustment and wellbeing, allowing effective interventions such as CONNECT to be considered a valuable means for fostering a healthy development and to hamper youth's risky or problematic behaviors.

Along with the aforementioned strengths of the study, some limitations also need to be taken into account. First, we considered parents' reports rather than the direct adolescents' reports. Given the difficulty in recruiting these latter and, overall, in involving adolescents into interventions with

their parents, this choice is easily understandable; nevertheless, future studies should further include adolescents' reports in order to fully support the invariance of the data obtained across multiple informants. Second, an accurate analysis of maternal vs. paternal participation to the program and associated outcomes would be expected in order to better explain more gender specific mechanisms of the changes occurred. Future studies with larger samples would be hopefully able to address this last challenging issue.

To the best of our knowledge, our study constitutes one of the few contributions to the still open question if interventions can effectively and experimentally add evidences on the putative mechanisms underlying at-risk adolescents' changes associated with the enhancement of their parents' socio-emotional skills.

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