

CHANGES IN PARENTING BEHAVIORS, ATTACHMENT, DEPRESSIVE SYMPTOMS, AND SUICIDAL IDEATION IN ATTACHMENT-BASED FAMILY THERAPY FOR DEPRESSIVE AND SUICIDAL ADOLESCENTS

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This study examined whether Attachment-Based Family Therapy (ABFT) was associated with decreases in maternal psychological control and increases in maternal psychological autonomy granting, and whether such changes were associated with changes in adolescents' attachment schema and psychological symptoms. Eighteen suicidal adolescents and their mothers received 12 weeks of ABFT. Maternal psychological control and autonomy granting behaviors were observationally coded at sessions 1 and 4. Adolescents' reports of perceived maternal care and control, attachment-related anxiety and avoidance, and depressive symptoms and suicidal ideation were collected at baseline, 6, 12 weeks (post-treatment), and 36 weeks. Results indicated that from session 1 to session 4, maternal psychological control decreased and maternal psychological autonomy granting increased. Increases in maternal autonomy granting were associated with increases in adolescents' perceived parental care from pre to mid-treatment and decreases in attachment-related anxiety and avoidance from pre to 3 months posttreatment. Finally, decreases in adolescents' perceived parental control during the treatment were associated with reductions in adolescents' depressive symptoms from pretreatment to 12 weeks posttreatment. This is the first study examining the putative change mechanisms in ABFT.

Each year, approximately 20% of teenagers seriously consider killing themselves, 5–8%—or over 1 million teenagers—attempt suicide, and 1,600–2,000 die by suicide (Grunbaum, Kann, & Kinchen, 2002; Hamilton et al., 2007). Suicide is the third leading cause of death among 10 to 19-year-olds in the United States (Kunze & Anderson, 2002), with more teenagers and young adults dying from suicide than from cancer, heart disease, AIDS, birth defects, stroke, pneumonia, influenza, and chronic lung disease combined. Clearly, adolescent suicide represents a significant public health risk, and there is a great need to develop effective treatments.

One promising treatment is Attachment-Based Family Therapy (ABFT). ABFT is a brief (12–16 week), empirically informed, family-based treatment specifically designed for depressed and suicidal adolescents. Evidence from two randomized clinical trials suggests that the treatment is efficacious. In the first study, which compared ABFT with a waitlist control for 32 clinically depressed adolescents, at posttreatment, 81% of the patients treated with ABFT no longer met criteria for Major Depression Disorder (MDD), in contrast to 47% of patients in the waitlist group. Moreover, patients treated with ABFT showed a significantly greater

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This study was supported by a grant from the Center for Disease Control.

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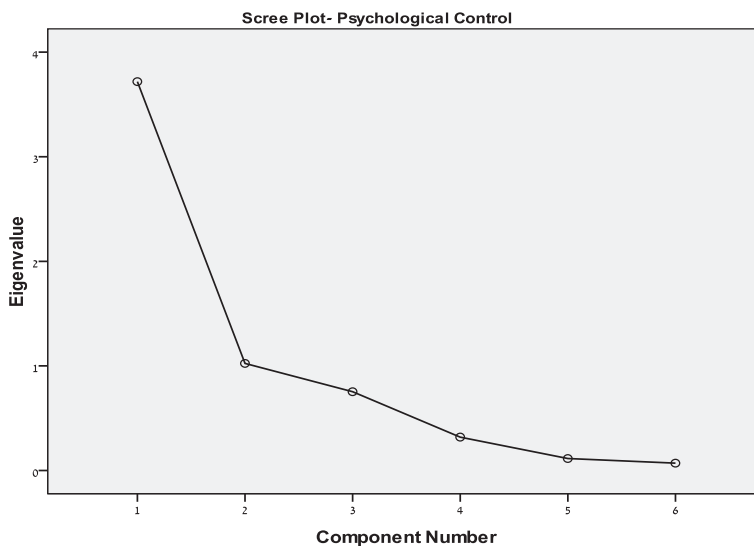


Figure 1. Scree plot of the of psychological control factor.

reduction in both depressive and anxiety symptoms and family conflict. These treatment gains were maintained at 6 months posttreatment (Diamond, Reis, Diamond, Siqueland, & Isaacs, 2001). In the second study, ABFT was compared with enhanced usual care in the community for treating 66 suicidal adolescents. Results showed that ABFT demonstrated significantly greater and more rapid reductions in suicidal ideation and depression during the treatment. These differences persisted at follow-up with large effect sizes (Diamond, Wintersteen, Brown, Diamond, Gallop, Shelef, & Levy, 2010). In addition, ABFT was effective with the most difficult or troubled youth, including those with co morbid Major Depression and or a history of sexual abuse.

While rooted in the structural tradition (Minuchin, 1974) and informed by Multidimensional Family Therapy (Liddel, 2009), attachment theory and adolescent development research provide the theoretical foundation for the ABFT model. This perspective clearly links the quality of the adolescent–parent attachment relationship with protection against, or vulnerability to, the development and or maintenance of adolescent depression and suicide (Berrea & Garrison-Jones, 1992; McFarlane, Bellissimo, Norman, & Lange, 1994; Sheeber, Davis, Leve, Hops, & Tildesley, 2007; Sheeber, Hyman, & Davis, 2001; Stice, Ragan, & Randall, 2004). Therefore, treatment rapidly and intensively focuses on improving trust and safety, with the aim of repairing adolescent–parent attachment and creating a secure base for the adolescent. To accomplish this, the therapist focuses on helping the parent to develop emotion focused parenting skills and on helping the adolescent develop interpersonal skills in the service of working through past trauma and attachment ruptures. The underlying assumption is that, for depressed adolescents, when parents empathically and nondefensively listen to their pain or frustrations, adolescents begin to feel validated. This validation increases safety in the relationship and the sense of being cared for and important. Consequently, adolescents are more likely to seek protection and guidance from parents in times of distress, thus buffering against depression and suicide. Moreover, it is within the context of renewed close, intimate relationships with parents that adolescents learn important emotion regulation skills, such as perspective taking, negotiation, impulse control, and symbolizing and articulating feelings. These skills also buffer against depression and suicide (Tamás et al., 2007).

To improve intra- and interpersonal skills and work through past trauma and relational ruptures, four therapeutic tasks are implemented in sequence. First, the relational reframe task changes the treatment focus from reducing depression to improving family relationships. This task establishes repairing or strengthening attachment as the primary goal of treatment. The second and third tasks involve building *therapeutic alliances* with the adolescent and parent(s), separately. During these individual sessions, the therapist further engages family members in the task of relationship building and helps prepare them for subsequent conjoint sessions

designed to work through past relational ruptures and address ongoing negative processes that impair intimacy.

The fourth task, the *reattachment* episode, is the culmination of the first three tasks. During the reattachment task, the adolescent and her/his parents discuss past painful events and/or current tensions that have not been discussed previously and that interfere with the quality of the adolescent–parent relationship. During such conversations, therapists coach parents to elicit and validate their child’s point of view and experience, while at the same time, remain nondefensive, supportive, curious, and empathic. Such parental behaviors, which have been characterized as *psychological autonomy granting*, serve to build trust and promote children’s healthy sense of self (Bean & Northrup, 2009; Herman, Dornbusch, Herron, & Herting, 1997).

At the same time, the therapist helps parents to refrain from negative behaviors commonly found among parents of depressed and suicidal adolescents. These behaviors include constraining their child’s verbal expressions, invalidating her/his feelings, and displaying criticism, hostility, and contempt (Loukas, 2009; Mandara & Pikes, 2008; Soenens, Luyckx, Vansteenkiste, Duriez, & Goossens, 2008; Wedig & Nock, 2007). These behaviors have been characterized as *psychological control* (Barber, 1996) and tend to impede disclosure and intimacy and thwart secure attachment. For their part, adolescents are encouraged to take risks, be forthcoming, and disclose their pain and attachment needs in a clear and regulated manner.

When reattachment tasks go well, parents acknowledge and empathize with their child’s pain and suffering, sometimes for the first time. In turn, adolescents feel heard and seen, experience their parents as present and caring, and anxiety about being rejected or abandoned decreases. This leads to increased approach behaviors on the part of the adolescent and enhanced attachment which, in turn, buffers against depression and suicide. For this reason, increasing parents’ psychological autonomy granting and decreasing their use of psychological control behaviors is a central putative change mechanism in ABFT. To date, however, the link between changes in parenting behaviors, adolescents’ attachment schema, and treatment outcome in ABFT has not been examined empirically.

The primary objective of this study was to examine whether mothers participating in ABFT evidenced decreased psychological control and increased psychological autonomy granting during the reattachment task (i.e., session 4), compared with the first session of therapy. The second objective was to examine whether improvements in such parenting behaviors were associated with improvements in adolescents’ experience of the attachment relationship (i.e., increased perceived maternal care, decreased perceived maternal control, and decreased attachment-related anxiety and avoidance). Finally, this study also examined possible links between changes in parenting behaviors, changes in attachment, and changes in adolescents’ depressive symptoms and suicidal ideation.

METHOD

Participants

Clients. Participants for this study were drawn from a larger sample participating in a clinical trial for suicidal adolescents funded by the Center for Disease Control in which 66 families were randomized to either ABFT or Enhanced Usual Care. To be included in the clinical trial, adolescents needed to report clinically high levels of suicidal ideation (Suicide Ideation Questionnaire-JR [SIQ-JR] ≥ 31) and moderate to severe depressive symptoms, (Beck Depression Inventory-II [BDI-II] ≥ 20). Adolescents ranged in age from 14 to 18 years ($X = 16.5$). Eighty-five percent were female. Eighty-one percent were African-American, 5% were Latino, and 14% were European American. Adolescents who evidenced psychotic symptoms or whose parents did not agree to participate in the therapy were excluded. Patients completed the self-report questionnaires (i.e., SIQ, BDI, Parental Bonding Instrument [PBI] and Relationship Scale Questionnaire [RSQ]) at baseline, 6 weeks (in the middle of the therapy), 12 weeks (i.e., at the end of the therapy), and 3 months following the last session. All of the ABFT sessions were videotaped, but EUC sessions were not since the treatment took place in the community (See Diamond et al., 2010 for full details).

Of the 33 families that received ABFT in the context of the clinical trial, 18 families were included in this study. Eleven cases were excluded because videotapes of their sessions were not available due to technical problems (e.g., the recordings were not made or were inaudible). Three cases were excluded because there were no conjoint sessions and, therefore, adolescent–parent interactions could not be coded. One case was excluded because treatment lasted only two sessions, and no outcome data were available. All of the families in this sample were single mother families.

Therapists and therapists training. The 18 cases were treated by four therapists. All four therapists were PhD level psychologists or master level social workers. Two were women and two were men. All therapists received at least 4 months of training in ABFT, ABFT certification, and ongoing supervision during the trial by one of the treatment’s developers.

Coders. Six undergraduate psychology students, ranging in age from 24 to 27 years, used the *Parent-Child Interactional Coding Scale* (PCICS) to observationally code parents’ behaviors. The coding group consisted of one man and five women.

Measures

Suicide ideation questionnaire-JR. The SIQ asks about suicidal thoughts in the past month (Reynolds, 1988). Items include questions about thoughts of dying, the wish to die, general or specific plans to commit suicide, and active suicide attempts. This 15 item version has been used and tested with adolescents (Pinto, Whisman, & McCoy, 1997). Based on standardized criteria, (Reynolds, 1988) a score above 31 indicates clinically significant suicidal ideation. This questionnaire has shown to have a high degree of internal consistency ($\alpha = .94$), and test–retest reliability was found to be 0.89 over the course of 3 weeks (Reynolds & Mazza, 1999).

Beck depression inventory-II. The BDI is a 21 item self-report measure of depressive symptoms among adolescents and adults (Beck, Steer, & Brown, 1996). Each item includes four statements that represent varying levels of severity of the given symptom. Each item is scored on a range from 0 to 3, with total scores ranging from 0 to 63. Examples of questions include, “I am so sad or unhappy that I can’t stand it” and “I feel I am a total failure as a person”. The BDI-II has demonstrated high internal reliability ($\alpha = .91$). Moreover, a high positive correlation was found between the BDI and other measures of depression (Ambrosini, Metz, Bianchi, Rabinovich, & Undie, 1991; Thombs, Ziegelstein, Beck, & Pilote, 2008).

Parental bonding instrument. The PBI measures adolescents’ perceptions of parental care and control (Parker, Tupling, & Brown, 1979). Parker (1983) suggested that parents’ contribution to children’s attachment security may be principally influenced by two variables: care and protection. Care items (12 items) refer to behaviors such as coldness, indifference, neglect, affection, emotional warmth, empathy, and reciprocity. This subscale includes items like, “My mother spoke to me with a warm and friendly voice” and “My mother frequently smiled at me.” Protection items (13 items) refer to behaviors reflecting parental control and overprotection, ranging from parental intrusion and infantilization to parental behaviors promoting independence and autonomy. This subscale includes items like, “My mother invaded my privacy” and “My mother tried to make me dependent on her.” Each item is answered in reference to each parent (mother and father) separately and is scored on a 4-point Likert scale. Chronbach Alphas for each scale have been shown to range from .74 to .95 (Parker, 1989). Based on a number studies, the PBI is stable and is not affected by temporal mood states (Mackinnon, Henderson, & Duncan-Jones, 1989; Parker, 1983).

The relationship scale questionnaire. The RSQ is a continuous measure of a person’s level of anxiety and avoidance in a given attachment relationship (Griffine & Bartholomew, 1994). The RSQ contains 30 short statements. Participants use a 5-point scale to rate the extent to which each statement best describes their characteristic style in a close relationship. Scores for the attachment anxiety dimension are calculated by subtracting the sum of secure and dismissing scores (low anxiety) from the sum of preoccupied and fearful scores (high anxiety). The attachment avoidance dimension is calculated by subtracting the sum of secure and preoccupied scores (low avoidance) from the sum of dismissing and fearful scores (high avoidance). In this study, the Cronbach’s alpha reliability estimate for the anxiety scores was .90 and for the avoidance scores was .92.

Parent-Child Interactional Coding Scale. To measure parenting behaviors, we utilized the “Parental Child Interactional Coding Manual” developed by Burks, Siqueland and Diamond (2002). The PCICS includes three scales: *Psychological control*, *autonomy granting*, and *affect*. The *psychological control* scale was based on Barber’s (1996) coding scheme. Each scale is comprised of sub-categories of parental behaviors. *Psychological control* is comprised of behaviors such as: *constraining verbal expression*, *invalidating feelings*, *personal attack*, *guilt induction*, *contempt and hostility*, *withdraws love from the child*, and *erratic emotional behavior*. *Psychological autonomy granting* is comprised of behaviors such as: *encourages independence*, *solicits the child’s opinions and feelings*, and *tolerates different opinions*. *Affective expression* is comprised of behaviors such as: *positive emotional expression*, *dysphoria*, *flat affect*, *nervousness*, *anger aggression*, and *warmth and affection*.

Coding is based on the observation of family interactions, and each sub-category is rated on a Likert-scale ranging from 1 (the behavior is not evident) to 5 (the behavior is very dominant). Coding is based on both verbal and nonverbal behaviors. In Barber’s original work (1996), Cronbach’s alpha reliabilities for the subcategories of *psychological control* ranged from .66 to .85.

For the purposes of this study, we adapted the manual written by Burks et al. (2002). We did not include the affect dimensions because this study focused on parenting behaviors per se, and not the general atmosphere of the session. However, we did measure *anger* and *warmth* for exploratory purposes. While training our coders, we noted that certain parental behaviors appeared very infrequently, if at all. These three behaviors (*withdraws love from the child*, *flat affect*, and *nervousness and anger aggression*) were excluded because of lack of variance. *Contempt and hostility* were eventually removed because of low reliabilities and were replaced by a single item named *rejection*. All other behavioral codes were retained.

Procedure

Coder training. Parent-Child Interactional Coding Scale coders were trained over the course of 6 months. Training consisted of weekly meetings of two hours in duration. In the course of the training, coders read the manual and discussed each sub-category separately. Afterwards, they coded training tapes: sessions of ABFT, which were not included in this study. Discrepancies between coders were discussed until the group reached agreement with the lead trainer (i.e., gold standard). This process was also used to refine the coding manual. The training procedure ended when coders attained sufficient interrater reliable (interclass correlation coefficients [ICC] > .70) among themselves and with the lead trainer.

PCICS coding. Two PCICS raters coded each tape. Raters were assigned tapes to code using a rotating, random pair procedure. All coders were naive to the hypotheses of the study. All coders rated an equal numbers of first sessions and fourth sessions (i.e., reattachment sessions), and none of the coders rated both sessions of the same case. Coders viewed the entire session before rating the tape. Sub-category scores were averaged across the two raters.

RESULTS

Reliability Analyses

To estimate the reliability of the coders, we calculated ICCs using the data from all first and fourth sessions. ICCs are calculated using an ANOVA-based procedure that examines the relationship between interrater agreement within session and the degree of variance between sessions for each target behavior. As each session was coded by different raters, the One Way Model ICC_(1,1) was employed. One-way models of ICC are, in essence, a measure of agreement. Each target is rated by a different set of judges, and judges are randomly paired with targets. In this case, the effects attributable to judge, target, and judge X target (interaction) are inseparable in the analyses. The ICC estimates for each item appear in Table 1.

Principle Component Analysis

To avoid multiple, dependent statistical analyses that increase the potential for Type I error, and to maximize the reliability of parenting behavior scores, we used scale scores (i.e., autonomy

Table 1 <i>Intra-class Correlation Coefficient</i>			
Parental behavior	ICC _(1,1) -average measures	F-Value	Sig
Constraining verbal expression	.83	5.99	.00
Invalidating feelings	.85	6.69	.00
Personal attack	.91	11.45	.00
Guilt induction	.70	3.34	.00
Rejection	.92	12.8	.00
Erratic emotional behavior	.73	3.69	.00
Overall psychology control	.85	6.84	.00
Inhibits autonomy	.66	2.94	.00
Encourages independence	.41	1.71	.05
Solicit child's opinion	.86	7.51	.00
Tolerates difference	.71	3.52	.00
Overall autonomy granting	.73	3.79	.00
Positive emotional expression	.88	8.54	.00
Dysphoria	.79	4.86	.00
Warmth	.88	8.67	.00

Note. ICC, interclass correlation coefficients.

granting and psychological control) rather than specific subcategories of parenting behavior scores when conducting our analyses. However, beforehand, we conducted a principal component analysis (PCA) for each parental behavior scale to examine whether they, indeed, reflected two distinct, coherent unidimensional constructs.

The PCA of the psychological control scale yielded two components ($EV > 1$), with the first one having an Eigenvalue of 3.96, accounting for 65% of the variance. The second component produced an Eigenvalue of 1.07, accounting for 17% of the variance. Despite the fact that the second component evidenced an Eigenvalue of slightly over 1, the scree test (Cattell, 1966) suggested that only the first component reflected a distinct factor (see figure 1). All of the scale items on the first component loaded at 0.50 or greater (see Table 2) and were included when subsequently computing the factor score. Likewise, the analysis of the psychological autonomy granting dimensions yielded one single, discrete factor, with an eigenvalue of 2.67 and accounting for 53% of the variance. However, results show that 2 items' (*inhibit autonomy* and *solicit*

Table 2 <i>Results of Principle Components Analysis of psychological control and autonomy granting</i>			
Psychological control	Extraction	Autonomy granting	Extraction
Constraining verbal expression	0.51**	Inhibits autonomy	0.18
Invalidating feelings	0.84**	Encourages independence	0.66**
Personal attack	0.78**	Solicit child's opinion	0.31
Guilt induction	0.82**	Tolerates difference	0.69*
Rejection	0.88**	Overall autonomy granting	0.85
Erratic emotional behavior	0.77*		
Overall psychology control	0.95		

* $p < .05$; ** $p < .00$.

Table 3
Descriptive Statistics

	Pretreatment <i>Mean (SD)</i>	Mid-treatment <i>Mean (SD)</i>	Posttreatment <i>Mean (SD)</i>	Three months posttreatment <i>Mean (SD)</i>
Psychological control	2.41 (.77)	2.013 (.84)	—	—
Psychological autonomy granting	1.74 (.61)	2.23 (.65)	—	—
PBI—control	24.21 (9.40)	24.00 (9.02)	20.47 (8.93)	18.30 (9.25)
PBI care	20.05 (7.88)	19.46 (10.17)	22.23 (7.25)	24.81 (7.25)
RSQ Avoidance	22.93 (8.59)	25.40 (12.37)	22.07 (11.06)	22.30 (9.51)
RSQ Anxiety	11.42 (5.74)	12.2667 (6.69)	10.64 (7.37)	9.38 (4.66)
BDI Mean	1.6 (.48)	0.61 (.50)	.47 (.46)	.50 (.48)
SIQ Mean	3.40 (.88579)	0.59 (.970)	.43 (.83650)	.7867 (.95)

Note. BDI, Beck depression inventory; PBI, parental bonding instrument; RSQ, relationship scale questionnaire; SIQ, suicide ideation questionnaire.

child's opinion) loaded at levels below 0.50 were ultimately not included in the factor. For purposes of subsequent analyses, psychological control and psychological autonomy granting scores were computed by averaging the scores from the remaining items on each scale.

Descriptive statistics

Descriptive statistics were calculated at four time-points (pre-treatment, mid-treatment, post-treatment and three months post-treatment) for the following variables: parental psychological control scores, parental autonomy granting scores, avoidance scores and anxiety scores of the relationship scale questionnaire, BDI scores and SIQ scores. Means and standard deviations of these variables are detailed in Table 3.

Primary Analyses

Changes in parenting behaviors. To examine whether there were shifts in parenting behaviors over time, we conducted a series of dependent *t*-tests comparing the level of each parenting factor in the first session to the level of the same parenting behavior in the fourth session (i.e., the reattachment task). As expected, psychological control decreased significantly, $t(17) = 2.29$, $p < .04$. Also as expected, psychological autonomy granting increased significantly, $t(17) = 2.99$, $p < .00$. On the other hand, there were no significant changes on the single items reflecting warmth and affection, $t(17) = 1.03$, N.S.

Changes in levels of attachment-related avoidance and anxiety. From pre- to post-treatment, there were no significant reductions in adolescents' levels of anxiety, $t(11) = 0.91$, $p = .38$ and avoidance, $t(11) = 0.04$, $p = .97$.

Changes in adolescents' perceptions of maternal care and control. Reductions in adolescents' PBI control scores from pre- to post-treatment approached significance, $t(15) = 2.07$, $p = .06$. However, there were no significant changes in PBI-care, from pre- to post-treatment, $t(15) = -1.06$, $p = .31$.

Changes in adolescents' depressive and suicidal symptoms. Two one-way repeated measure ANOVAs were conducted, with group (ABFT vs. EUC) serving as one independent variable and time (pre- to post-treatment) serving as a second, repeated independent variable, and either BDI or SIQ scores serving as the dependent variable. For BDI scores, we found a significant interaction, $F(1,43) = 6.92$, $p = .01$, indicating that depressive symptoms decreased from

pre- to post-treatment more in the ABFT group than in the EUC group. Moreover, at posttreatment, adolescents who completed ABFT evidenced lower BDI scores than adolescent in the EUC condition, $t(43) = 2.78, p = .01$. While participants in both conditions showed significant decreases in suicidal ideation from pre- to post-treatment, the treatment by time interaction for the SIQ was not significant $F(1, 43) = 1.42, ns$. However, between-treatment differences in SIQ scores at posttreatment approached significant $t(43) = 1.88, p = .06$.

To examine whether changes in parenting, attachment schema, and psychological symptoms were correlated, we generated residual scores by predicting each variable at time 2 using the variable's score at time 1. A residual score (i.e., the unpredicted variance) reflects the changes in the variable over time. This procedure is more suitable than using change scores because it accounts for the baseline level of the variable. All subsequent analyses were conducted using residual scores. Therefore, subjects with missing data on a given variable were eliminated from the respective analysis.

Association between changes in parenting behavior and changes in adolescents' perceptions of maternal care and control. Increases in maternal psychological autonomy granting were correlated with increases in adolescents' perceived maternal care from pre to mid-treatment, ($r = .48, n = 18, p = .04$), but not with changes in adolescents' perceptions of maternal care from pre- to post-treatment. There were no significant correlations between increases in psychological autonomy granting and changes in perceived maternal control. Likewise, there were no significant correlations between reductions in maternal psychological control and changes in perceived maternal care and control.

Associations between changes in parenting behavior and adolescents' attachment-related anxiety and avoidance. There were no significant correlations between increased maternal autonomy granting and changes in adolescents' anxiety and avoidance scores from pre- to post-treatment. However, the correlation between increased maternal autonomy granting and decreases in adolescents attachment anxiety scores from pretreatment to 3 months posttreatment was significant ($r = -.66, n = 9, p = .05$), and the correlation between increased maternal autonomy granting and decreases in adolescents' attachment avoidance scores from pretreatment to 3 months posttreatment approached significance ($r = -.64, n = 9, p = .06$).

Association between changes in parenting behaviors and changes in adolescents' symptoms. There were no significant correlations between changes in maternal psychological autonomy granting or psychological control and changes in adolescents' BDI or SIQ scores over the course of therapy or at 3 month follow-up.

Association between changes in adolescents' perceived care and control and attachment-related anxiety and avoidance, and changes in adolescents' symptoms. There was a significant correlation between decreases in adolescents' perceived maternal control from pre- to post-treatment and decreases in adolescents' BDI scores from pretreatment to 3 months posttreatment, ($r = .67, n = 13, p = .01$). All other correlations between changes in perceptions of maternal care and control, attachment anxiety and avoidance, and depressive and suicidal symptoms were not significant.

DISCUSSION

Findings from two randomized clinical trials suggest that ABFT is associated with reductions in depression and suicidality among adolescents, as well as improved adolescent attachment to parents (Diamond, Siqueland, & Diamond, 2003; Diamond et al., 2010). To date, however, there has been little research on the specific change mechanisms underlying the treatment. A central putative change mechanism in ABFT involves reducing parental control and criticism and increasing parental psychological autonomy granting and care. Such changes in parental behaviors are thought to lead to increases in adolescents' perceived parental care and decreases in perceived parental control and attachment-related anxiety and avoidance—variables that have been linked to depression and suicidal ideation among adolescents (Berrea & Garrison-Jones, 1992; McFarlane et al., 1994; Sheeber et al., 2001, 2007; Stice et al., 2004).

Results from this study suggest that ABFT was associated with increases in maternal autonomy granting and decreases in maternal psychological control. This is the first study

showing changes in parenting behaviors over the course of ABFT and is among the first studies examining changes in parental autonomy granting or psychological control in family therapy. In the only other study, we were able to locate that used observational data to examine psychological control in family therapy. Schmidt, Liddle, and Dakof (1996) found that multidimensional family therapy was also associated with decreases in parental psychological control among families with substance abusing adolescents. Our findings are also consistent with those from a number of studies examining parents' self-reported behavior. For example, Webster-Stratton and Herman (2008) found increases in parents' self-reported competence and attachment (i.e., emotional closeness to child and accuracy in determining child's needs) as the result of a psychoeducational parenting intervention, the Incredible Years. Along the same lines, family therapy with eating disordered adolescents and their parents has been shown to lead to decreases in parents' report of expressed emotion (i.e., reduced criticism, hostility, and over-involvement and increased warmth and positive remarks; van Furth et al., 1996).

Our finding that mothers in this study decreased their psychological control and increased their autonomy granting is particularly important based on current research on parenting and adolescent development. Authoritative parenting, in which parents provide support and warmth, and challenge adolescents to think and take responsibility, has consistently been associated with optimal functioning in adolescence (Slicker & Thornberry, 2002). Parents who encourage their children to articulate their thoughts and reasoning, without constraint or criticism, are likely to facilitate perspective taking and constructive problem solving skills (Steinberg, 1990). Finally, when parents are less rejecting, critical, and controlling, adolescents are less at risk for depression and suicidal ideation (e.g. Loukas, 2009; Mandara & Pikes, 2008; Wedig & Nock, 2007). In this regard, ABFT seems to be promoting normative parenting practices that help reestablish the necessary developmental context for healthy growth.

Not only did we find that maternal psychological autonomy granting increased, but we found that such increases from the beginning to middle of treatment were correlated with concurrent increases in adolescents' perceptions of maternal care. In other words, when mothers increased the degree to which they elicited, empathized with, and validated their teenagers' independent perspectives and opinions (even if they did not agree with them), and treated their adolescents as more competent, adolescents reported feeling more loved and cared for by their mothers and safer being closer to them. While at first, the link between psychological autonomy granting and perceived care may not be readily apparent or intuitive, this dynamic becomes clearer when examined in the context of the major developmental tasks of adolescents. During adolescence, an increased desire for autonomy is an organizing drive. When parents are able to support and promote their adolescents' autonomy development, adolescents feel understood, cared for, and secure in turning to their parents for support or protection in times of distress, without fearing that it will compromise their ability to individuate and function independently (Holmes, 1997). Research shows that, optimally, autonomy is developed in the context of a close and positive family relationship (Allen, Hauser, Bell, & O'Connor, 1994; Bowlby, 1988). The findings from this study suggest that parent autonomy granting may also promote such closeness.

While changes in maternal psychological autonomy granting were not linked to decreases in adolescents' attachment-related anxiety or avoidance levels from session 1 to session 6, this association did become significant by 3 months posttreatment. This finding suggests that it may take time for adolescents to trust changes in their mother's behavior and consequently feel safer in attachment relationship. However, it should be noted that not all of the adolescents in the study ended up feeling safer. As a group, participants did not evidence a significant decrease in attachment anxiety or avoidance from pre- to post-treatment nor from pretreatment to 3 months posttreatment. Apparently, only those adolescents who reported increases in maternal psychological autonomy granting reported a greater sense of trust, comfort, and safety in their relationship with their mother. To the best of our knowledge, this is the first study to examine changes in adolescents' attachment-related anxiety and avoidance in the context of family therapy. Interestingly, these findings suggest that adolescents' experience of the attachment relationship depends on the parent's responses.

Surprisingly, we did not find any significant correlations between improvements in maternal behaviors and reductions in adolescents' depressive or suicidal symptoms. This is particularly

surprising because both parenting behaviors and clinical symptoms improved over the course of treatment, and because there is ample evidence from other studies that parental control, rejection, and low care are associated with depression and suicidality among various adolescent samples (Armsden & Greenberg, 1987; Burt, Cohen, & Bjorck, 1988; Donenberg & Weisz, 1998; Groholt, Ekeberg, Wichstrom, & Haldorsen, 2000; Hendin, 1975; Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993; Kobak, Sudler, & Gamble, 1991; Magnussen, 1991; Orbach, 1986; Papini & Roggman, 1992; Preffer, 1981; Richman, 1986, 1986; Rutter & Quinton, 1984; Schrut, 1964; Thompson & Calkins, 1996; Zahn-Waxler, Cole, & Barrett, 1990). Moreover, these nonfindings are in contrast to findings from a number of studies showing a connection between improvements in parental care, behavioral control, psychological control, discipline, supervision, and intrusiveness on one hand, and reduction in adolescents' antisocial behaviors, anxiety, and substance abuse on the other hand (van Furth et al., 1996; Schnridt et al., 1996; Wood, McLeod, Piacentini, & Sigman, 2009). It is worth noting, however, that only two prior studies measured parental behaviors via observational tools (Schnridt et al., 1996; Wood et al., 2009) and that neither of these studies examined depressed or suicidal populations per se. Interestingly, in one of the only other studies of family therapy for depressed adolescents, Kolko and colleagues (Kolko, Brent, Baugher, Bridge, & Birmaher, 2000) also found that treatment led to improved family interactions, but that such improvements did not mediate reductions in adolescents' reports of depressive symptoms. This lack of effect may be due to the small degree of variance found in symptoms at treatment's end. Most of the patients treated with ABFT in this study evidenced little to no suicidal ideation by posttreatment, thus creating a floor effect. Given the assumption that changes in parenting are linked to changes in depression and suicidal ideation, which is a central tenet of ABFT, further testing of this purported change mechanism is critical for treatment development purposes.

While changes in parenting behaviors were not linked to adolescents' symptoms, reductions in adolescents' perceived maternal control from pre- to post-treatment were associated with reductions in depressive symptoms, but not suicidal ideation, from pre-treatment to 3 months post-treatment. This finding suggests that when adolescents experienced their mothers as becoming more benevolent, loving, and caring over the course of treatment, they reported greater decreases in depressive symptoms from pretreatment to 3 months after the active treatment phase. This finding is consistent with research on parental care and warmth and depression (e.g. Avagianou & Zafiropoulou, 2008; Duggan, Sham, Minne, Lee, & Murray, 1998). It also suggests that changes in perceived maternal care initiated in the context of therapy may continue to positively impact upon the adolescent's well-being after treatment. Such delayed effects, presumably due to changes in family structure and interactional styles that persist after the treatment has ended have been reported in the family treatment literature (Liddle, Rowe, Dakof, Henderson, & Greenbaum, 2009).

Our confidence in these findings is buoyed by a number of methodological strengths. First, parenting behaviors were measured by independent observers, whereas attachment and psychological symptoms were measured using self-report. This multi-perspective approach minimized the potential for reporter bias so prevalent in research on depressed individuals. Indeed, there is evidence that depressed children may have distorted perceptions of their parents' behaviors toward them (Pavlidis & McCauley, 2001). Second, the sample for this study was selected using rigorous inclusion and exclusion criteria. For example, all adolescents met a relatively high criterion for clinically significant suicidal symptoms using a repeated measure, multi-gate procedure. Such rigor contributed to the internal validity of the study. Finally, repeated measures of the various outcome measures allowed us to examine time effects so important to psychotherapy research in general and family therapy in particular.

With that said, a number of limitations temper our interpretation of the findings. Most important were the lack of a control group and the small sample size. The absence of a control group prevented us from determining whether it was ABFT per se that was associated with the positive changes in parental behaviors, or whether it was simply the administering of therapy (i.e., common factors) or the passing of time. It is worth noting, however, that the parenting behaviors that changed (e.g., psychological control behaviors such as criticism and hostility) often reflect longstanding interactional patterns and tendencies and are among the more

difficult behaviors to change in the context of therapy. Nevertheless, because EUC sessions were not recorded, we could not examine whether such changes in parenting occurred in the control group. In regards to the small sample size, the resulting lack of power decreased the likelihood of uncovering small or medium effects. This limitation was particularly acute for analyses of attachment-related anxiety and avoidance, the measure for which was introduced only after the study had begun. Another limitation was that coders were likely able to distinguish between first sessions and fourth sessions, thus creating the possibility that they developed implicit or explicit coding tendencies based on stage of therapy or task at hand. However, the raters were completely naïve to the structure of the therapy and the research hypotheses, and none of the raters coded two tapes from the same family, making it impossible for them to code the two sessions in a relative manner. Moreover, the high reliability estimates for the two parenting behaviors suggests that such expectancies, if present, did not play a large role in the coding process, unless all six coders were have to developed similar expectancies and were to have given them similar weight that is highly unlikely. Finally, the multiple correlational analyses conducted to examine the link between changes in parenting and changes in attachment, and the link between changes in attachment and changes in psychological symptoms, introduced the possibility of Type II error. Consequently, these findings should be considered preliminary.

Even in light of these limitations, our findings suggest that ABFT is associated with positive, important, and targeted changes in parenting behaviors. Moreover, there is preliminary evidence that such changes may have been linked to important changes in adolescents' sense of feeling cared for and safe in the attachment relationship. More research with larger samples and a control group is needed to adequately examine purported links between ABFT, changes in parenting, changes in adolescent attachment, and their impact on depressive symptoms and suicidal ideation.

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