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The Role of Attachment Style in Interpersonal Psychotherapy for Depressed Adolescents

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Abstract

Objective(s)—This study examined changes in depressed adolescents' reports of attachment anxiety and avoidance with interpersonal psychotherapy (IPT-A), and the relationship between attachment style and change in depression with IPT-A.

Method—Forty adolescents (age 12-17) participated in a 16-week randomized clinical trial of four adaptive treatment strategies for adolescent depression that began with IPT-A and augmented treatment for insufficient responders (n=22) by adding additional IPT-A sessions (n=11) or the antidepressant medication, fluoxetine (n=11). Adolescents were 77.5% female and 22.5% male (mean age=14.8, SD=1.8). Ten percent of adolescents were Latino. Racial composition was 7.5% Asian, 7.5% American Indian/Alaska Native, 80.0% white, and 5.0% biracial. Measures of attachment style (Experience in Close Relationships Scale – Revised) and depression (Children's Depression Rating Scale – Revised) were administered at baseline and weeks 8 and 16.

Results—Attachment Anxiety and Avoidance (ECR-R) decreased significantly from baseline to week 16. Baseline Avoidance positively predicted greater reductions in depression (CDRS-R), controlling for fluoxetine. Reductions in Anxiety and Avoidance were also significantly associated with reductions in CDRS-R, controlling for fluoxetine.

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Conclusions—Adolescents' reports of attachment anxiety and avoidance are amenable to intervention with IPT-A. IPT-A may be particularly beneficial for adolescents who report a high level of avoidant attachment.

Keywords

attachment; depression; child psychotherapy; outcome research

Attachment theory proposes that the capacity to effectively regulate emotions develops within the context of healthy relationships (Bowlby, 1973, 1980). According to this theory, when individuals experience distress in response to a stressor, they seek out a significant other or "attachment figure." Attachment figures help the individual regulate their distress and regain a sense of security and emotional well-being (Sroufe & Waters, 1977). In early development, attachment figures are most often parents or other significant caregivers (Sroufe & Waters, 1977). During adolescence, the conceptualization of an attachment figure broadens to also include peers, romantic partners, and other significant relationships (Amrden & Greenberg, 1987; Hazan & Shaver, 1987; Kobak & Sceery, 1988). Problems in the attachment relationship can lead to difficulties eliciting and effectively making use of close relationships and social support for emotion-regulation, and can lead to the development of psychopathology, including depression (Cicchetti & Toth, 1995).

Attachment style is believed to be organized along two dimensions: attachment anxiety and attachment avoidance (Fraley & Shaver, 2000). Differences in the anxiety dimension reflect differences in an individual's threshold for detecting threats to security or possible rejection. Those who are high in attachment anxiety desire closeness and intimacy, but have difficulty feeling secure in their relationships. Differences in the avoidance dimension correspond to variations in the extent to which people rely on an attachment figure to regulate distress. Those high in attachment avoidance are hesitant to rely on others for emotional support. People who are low on both anxiety and avoidance are securely attached and are comfortable with closeness and able to rely on others. Among adults, both anxious and avoidant attachment have been found to be associated with a higher prevalence of depression in a community sample (Mickelson, Kessler, & Shaver, 1997). Adolescents with anxious or avoidant attachment also report higher levels of depression than adolescents with secure attachment (Brenning et al., 2012; Brumariu & Kerns, 2010; Cooper, Shaver, & Collins, 1998).

While attachment style has been implicated in the development and maintenance of adolescent depression, less is known regarding its role in treatment. Interpersonal psychotherapy for depressed adolescents (IPT-A) is an evidence-based intervention that aims to treat depression by teaching specific interpersonal skills that are needed to successfully develop close attachment relationships and manage interpersonal stressors that are related to the depression (Mufson, Dorta, Moreau, et al., 2004). In IPT-A, adolescents gain experience disclosing sensitive and personal information to their therapist, who provides validation, emotional scaffolding, and support. In this way, the IPT-A therapist serves as a positive attachment figure for the adolescent. The therapist then works with the adolescent to expand these positive attachment experiences to other existing or new relationships in the

adolescent's life by teaching communication and interpersonal problem solving skills that address interpersonal difficulties and foster the development and maintenance of close relationships. Adolescents treated with IPT-A have demonstrated significant improvements in self-reports of social adjustment (Mufson, Dorta, Wickramaratne, et al., 2004; Mufson et al., 1999), improvement in social adjustment has been found to mediate depression outcome (Dietz et al., 2015), and IPT-A has been found to be particularly effective for adolescents who report high levels of relationship problems with mothers and peers (Gunlicks-Stoessel et al., 2010). However, the construct of attachment style has not yet been examined as an outcome, predictor, or mechanism of action of IPT-A in adolescents.

One study with adults found a significant decrease in attachment anxiety and attachment avoidance over the course of IPT (Ravitz, Maunder, & McBride, 2008). When patients in this study were grouped by depression treatment response, a significant decrease in attachment anxiety and avoidance was only observed in those patients with a full treatment response (Ravitz et al., 2008). Several studies with adult samples have also examined pretreatment levels of attachment anxiety and avoidance in relation to IPT outcomes; however results have been inconsistent (Bernecker et al., 2016; Constantino et al., 2013; Cyranowski et al., 2002; McBride et al., 2006; Ravitz et al., 2008). Two studies looked at attachment as a moderator of treatment with IPT and cognitive-behavioral therapy (CBT) (Bernecker et al., 2016; McBride et al., 2006). McBride et al. (2006) found that attachment anxiety was not related to treatment outcome; however high attachment avoidance was associated with greater reductions in depressive symptoms with CBT as compared to IPT. The authors proposed that the underlying assumption of IPT, that improvements in the quality of relationships can lead to reductions in depression, may have lacked face validity for highly avoidant individuals, and the explicit work on improving individuals' relationships and interpersonal interactions may have been too threatening for those who attempt to regulate their emotions by distancing themselves from interpersonal relationships (McBride et al., 2006). Bernecker et al. (2016) aimed to replicate and extend these findings using a separate sample. They did not find that anxious or avoidant attachment moderated treatment outcome, but found that across treatment conditions, anxious attachment predicted more positive outcomes, while avoidant attachment predicted more negative outcomes (Bernecker et al., 2016; Ravitz et al., 2008). However, another study found that avoidant attachment was not associated with IPT outcome, but anxious attachment predicted poorer response to IPT (Ravitz et al., 2008).

Two other studies examined the combination of attachment avoidance and anxiety in relation to depression outcome with IPT and found that adults who were low on both anxiety and avoidance were more likely to remit (Constantino et al., 2013), and among women who remitted with IPT, securely attached women responded faster than women who were high on both attachment anxiety and avoidance (Cyranowski et al., 2002). Taken together, the adult studies suggest that attachment has an impact on psychotherapy outcome. The findings regarding the nature of the impact are inconsistent. However, attachment avoidance, alone or in combination with high attachment anxiety, appears, fairly consistently, to have a negative impact on depression outcome that is either specific to IPT or generalizable to both CBT and IPT.

The goal of the current study was to examine the role of attachment style in treatment with IPT-A in adolescents. Given IPT-A's focus on improving the quality of adolescents' relationships, we hypothesized that adolescents would demonstrate lower levels of anxious and avoidant attachment post-treatment. We further hypothesized that change in attachment style would be related to depression outcome, with greater decreases in attachment anxiety and avoidance associated with greater decreases in depression. Finally, we examined pre-treatment attachment style as a predictor of treatment outcome, but did not propose hypotheses, given the inconsistent findings in the current literature.

Method

Participants

Participants were 40 adolescents participating in a clinical trial of four adaptive treatment strategies for adolescent depression that began with IPT-A and augmented treatment for insufficient responders by adding additional IPT-A sessions or fluoxetine (Gunlicks-Stoessel et al., 2016). Adolescents and parents provided written informed consent and assent. The study was approved and monitored by the site's institutional review board. Adolescents were age 12-17 with a DSM-IV-TR diagnosis of Major Depressive Disorder, Dysthymia, or Depressive Disorder NOS; significant symptoms of depression (Children's Depression Rating Scale-Revised [CDRS-R] raw score > 35); and significant impairment in general functioning (Children's Global Assessment Scale [CGAS] < 65). Adolescents and parents were required to be English-speaking. Exclusion criteria were as follows: DSM-IV-TR diagnosis of Schizophrenia, Bipolar Disorder, Psychosis, Substance Abuse, Obsessive Compulsive Disorder, Conduct Disorder, Eating Disorder, or Pervasive Developmental Disorder; active suicidal ideation with a plan and/or intent; already receiving treatment for depression; taking medication for a psychiatric diagnosis other than ADHD (adolescents taking a stable dose of stimulants (3 months) were included); non-responder to an adequate trial of IPT-A or fluoxetine in the past; female adolescents who were pregnant, breastfeeding, or having unprotected sexual intercourse; or an intellectual disability disorder.

Adolescents' mean age was 14.8 (SD = 1.8). Seventy-seven and one half percent of the sample was female and 22.5% was male. Ten percent of the adolescents were Latino (includes black/African American and white Latinos). Racial composition was as follows: 80.0% white, 7.5% Asian, 7.5% American Indian/Alaska Native and 5.0% biracial. Depression diagnoses were as follows: 92.5% MDD, 2.5% MDD + dysthymic disorder, and 2.5% dysthymic disorder, and 2.5% DD NOS. CDRS-R scores ranged from mild (CDRS-R = 38) to severe (CDRS-R = 73) with a mean severity in the moderate range (CDRS-R = 55.58, SD = 10.54). 45.0% of the sample had a comorbid anxiety disorder, 7.5% had ADHD, and 5.0% had oppositional defiant disorder.

Procedures

A full description of the study design and methods is included in Gunlicks-Stoessel et al. (2016). Enrolled adolescents participated in a 16 week sequential multiple assignment randomized trial (SMART) (Lavori & Dawson, 2000, 2003; Murphy, 2005). Adolescents began treatment with an initial treatment plan of 12 sessions of IPT-A delivered within 16

weeks. At week 1, adolescents' depressive symptoms were assessed using the Hamilton Rating Scale for Depression (HRSD) (Hamilton, 1967). They were then randomized to have their depression symptoms assessed again at either week 4 or week 8 of therapy (week 4 decision point: $n = 20$, week 8 decision point: $n = 20$). These assessments were used to guide selection of the subsequent treatment approach. Adolescents who demonstrated a sufficient reduction in HRSD at week 4 or week 8 to suggest that they would be likely to be treatment responders by the end of 12 sessions of IPT-A (20% reduction in HRSD at week 4 or 40% reduction in HRSD at week 8) continued the initial treatment plan of 12 IPT-A sessions ($n = 17$). The criteria for defining sufficient response were empirically derived from a previous clinical trial of IPT-A (Gunlicks-Stoessel & Mufson, 2011). Adolescents who did not demonstrate a sufficient reduction in HRSD at week 4 or week 8 were randomized to the addition of fluoxetine ($n = 11$) or an additional 4 IPT-A sessions scheduled twice a week (increase from 12 to 16 sessions) ($n = 11$).

Other than the HRSD, which was used as part of treatment to direct treatment decisions, none of the measures or analyses included in Gunlicks-Stoessel et al. (2016) overlap with measures and analyses included in the current manuscript.

Measures

Assessments were administered by independent evaluators blind to treatment condition at baseline, week 8, and week 16. Descriptive statistics and intercorrelations among the measures are reported in Table 1.

Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS)

—The K-SADS (Chaput et al., 1999) is a clinician-administered semi-structured interview that assesses current episode and lifetime history of psychiatric diagnoses based on DSM-IV criteria. The interview was conducted with the adolescent and the parent. The K-SADS has been found to have good reliability and validity (Kaufman et al., 1997).

Children's Depression Rating Scale-Revised (CDRS-R)—The CDRS-R (Poznanski & Mokros, 1996) is a clinician-administered semi-structured interview that assesses 17 symptom areas related to depression experienced during the previous two weeks, including those that serve as criteria in the DSM-IV. It provides an overall index of severity of depression and a depressive symptom profile. The interview is conducted with the adolescent and the parent separately, and a summary score is created for each symptom (range = 17-133). The CDRS-R has been found to have good reliability and validity (Poznanski et al., 1984).

Experiences in Close Relationships-Revised (ECR-R)—The ECR-R (Brennan, Clark, & Shaver, 1998) is a widely-used self-report measure that assesses attachment. Individuals use a 7-point Likert scale to indicate the extent to which they agree or disagree with statements regarding how they feel in their close relationships (1 = disagree strongly, 4 = neutral/mixed, 7 = agree strongly). The 36-item version of the measure was used. The Avoidance subscale assesses discomfort with and avoidance of intimacy (e.g. "I prefer not to show people I am close to how I feel deep down", "Just when people start to get close to me

I find myself pulling away.”). The Anxiety subscale assesses anxiety about rejection and abandonment (e.g. “I worry about being alone”, “I worry that people that I am close to won’t care about me as much as I care about them”). Subscale scores are calculated by computing the mean of each subscale item (range = 1-7). Construct validity of the measure has been demonstrated (Fairchild & Finney, 2006). In the current sample, reliability (Cronbach’s alpha) of the Avoidance subscale was .90 and the Anxiety subscale was .87.

Treatment

IPT-A—IPT-A (Mufson, Dorta, Moreau, et al., 2004) is a 12 session evidence-based psychotherapeutic intervention that aims to decrease depressive symptoms by helping adolescents develop the interpersonal skills needed to address one or more of four interpersonal problem areas: grief, role disputes, role transitions, and interpersonal deficits. The initial phase of treatment focuses on discussing the adolescent’s significant relationships and identifying the problem area that will be the focus of treatment. During the middle phase of treatment, the therapist identifies and teaches specific communication and interpersonal problem-solving skills needed to resolve or improve the interpersonal difficulties that are most closely related to the depression. The adolescent role-plays these skills in session and implements them in their current relationships. During the termination phase, the therapist and adolescent review improvements in depressive symptoms and interpersonal functioning, identify successful strategies used to improve relationships, and foster generalization of skills to future situations. IPT-A was delivered by 12 trained therapists. Therapists included three clinical psychologists (modal years of experience conducting child psychotherapy = 5) and 9 graduate students (modal years of experience conducting child psychotherapy = 1). All therapists were female, 11 were white non-Latino, and one was white Latino. The number of adolescents treated by each therapist ranged from 1-6 (mode = 3). Median (SD) session attendance was 12.0 (1.62) for adolescents assigned to receive 12 IPT-A sessions and 15.00 (4.16) for adolescents assigned to 16 IPT-A sessions.

Pharmacotherapy—Pharmacotherapy was delivered by one child psychiatrist. The psychiatrist was a white female with over 30 years of experience as a child psychiatrist. Fluoxetine dosage schedule was 10 mg per day for the first week and 20 mg per day for the following 5 weeks. If no treatment response was observed by the sixth week, the dosage could be increased to 40 mg per day. Pharmacotherapy sessions were scheduled weekly for the first 4 weeks and every other week thereafter.

Analytic Strategy

Analyses were conducted on the intent-to-treat sample. Two-level linear mixed models were used in the analyses in which multiple waves of assessments were nested within individuals. Initially three-level linear mixed models were applied with therapist as level 3, but the models had problems converging and the intraclass correlation (ICC) at the therapist level was small (ICC = 0.033). Therefore, a decision was made to apply two-level mixed models for the analyses. Group comparisons of adolescents randomized to a week 4 versus week 8 decision point showed that there were no significant group difference in demographics (age, gender, race, income) and baseline CDRS-R and ECR-R Anxiety and Avoidance. There were also no significant group differences in CDRS-R at week 4 and week 8, or in ECR-R

assessed at week 8. Thus, analyses were done collapsing the two groups. This allowed us to utilize a larger sample size ($n = 40$) for the analyses. To test whether the rates of change over time in outcomes were significantly different from zero (i.e., no change over time), time effect was tested in the models. Effect sizes (Cohen's d) were computed using the mean baseline and week 16 scores and the pooled standard deviations ($.2 = \text{small}$, $.5 = \text{medium}$, $.8 = \text{large}$) (Cohen, 1988). To examine the longitudinal relationships between ECR-R Anxiety and Avoidance and CDRS-R, time-varying covariates were included in the models. The impact of baseline level of ECR-R Anxiety and Avoidance on change in CDRS-R was examined by testing an interaction term of baseline ECR-R $\times$ time. Mixed models were conducted using PROC MIXED in SAS version 9.4 (Littell et al., 2006). Medication status was included in all analyses to control for its effect. Due to the relatively small sample of this pilot study, one-tailed tests with an alpha level of .05 were used for testing hypotheses with directions (effects of time and ECR-R) and two-tailed tests with an alpha level of .05 were used for testing exploratory aims (effects of baseline ECR-R $\times$ time).

Results

Medication status had no significant impact on ECR-R or CDRS-R outcomes. In addition, there were no significant interaction effects on CDRS-R between medication and changes in both Anxiety and Avoidance across treatment.

Mixed models testing the linear rate of change over time (i.e., slope) showed that there was a significant linear time effect in both ECR-R Anxiety [estimate= -0.10 , $SE=0.03$, $F(1, 31)=15.11$, $p < .001$, $d=.79$] and ECR-R Avoidance [estimate= -0.12 , $SE=0.03$, $F(1, 31)=16.89$, $p < .001$, $d=.83$] after controlling for medication status. These results indicated that adolescents had a significant decrease in both Anxiety and Avoidance from baseline to week 16, controlling for the effect of medication.

Time-varying variables of ECR-R Anxiety and Avoidance were each entered in two separate mixed models to examine whether change in Anxiety or Avoidance was related to change in CDRS-R over time. After controlling for medication status, there were significant time-varying variable effects of Anxiety [estimate= 5.47 , $SE=1.05$, $F(1,30)=26.93$, $p < .001$] and Avoidance [estimate = 5.55 , $SE=1.14$, $F(1,29)=23.89$, $p < .001$] on the longitudinally measured CDRS-R scores. The positive estimates of the time-varying variable effects and the mean scores (Table 1) indicated that decrease in ECR-R Anxiety and Avoidance over time was significantly related to decrease in CDRS-R over time.

To examine whether baseline level of ECR-R Anxiety or Avoidance had an impact on change in CDRS-R over time, the interaction of baseline ECR-R Anxiety $\times$ time was entered in the mixed model with medication status as a covariate. The same analytic model was used to examine the effect of baseline level of ECR-R Avoidance on change in depression over time. There was no significant interaction effect of baseline ECR-R Anxiety $\times$ time [$F(1, 29)=0.01$, $p = .47$]. There was a significant interaction effect of baseline level of ECR-R Avoidance [$F(1, 29) = 4.38$, $p = .02$]. Higher levels of baseline ECR-R Avoidance were associated with greater reductions in CDRS-R.

Discussion

In this study, we examined the role of depressed adolescents' reports of attachment style in treatment with interpersonal psychotherapy. As hypothesized, adolescents demonstrated significant decreases in attachment anxiety and attachment avoidance over the course of treatment. IPT-A proposes to treat depression by helping adolescents improve the quality of their relationships. Consistent with this, previous studies have found that depressed adolescents treated with IPT-A have reported improvement in their interpersonal relationships (Mufson, Dorta, Wickramaratne, et al., 2004; Mufson et al., 1999). The results of the current study extend this literature by demonstrating that IPT-A also has an impact on adolescents' perceptions of aspects of their interpersonal behavior and experiences that facilitate the development and maintenance of close relationships (attachment style). Adolescents reported decreases in discomfort and avoidance of closeness and intimacy, and they reported decreased anxiety about being alone or uncared for. Clinical trials with younger children have demonstrated that psychotherapeutic interventions can improve attachment (Cicchetti, Toth, & Rogosch, 1999). The current study is the first to demonstrate that attachment experiences are also amenable to intervention during the developmental phase of adolescence. This finding is significant, given the importance of secure attachment for healthy social-emotional functioning in adolescence (Allen, 2008).

Decreases in adolescents' reports of attachment anxiety and avoidance over the course of treatment were also significantly associated with reductions in depressive symptoms. This finding is consistent with Ravitz et al. (2008), who found decreases in attachment anxiety and avoidance in depressed adults whose depression improved with IPT. The results of these two studies indicate that in both adults and adolescents treated with IPT, changes in attachment style occur in parallel with changes in depression. This suggests that decreasing adolescents' discomfort with closeness and avoidance of intimacy, as well as their anxiety about rejection or relationship insecurity, may be mechanisms through which IPT decreases depressive symptoms.

Baseline attachment avoidance also predicted change in depressive symptoms over the course of IPT-A, with higher baseline levels of attachment avoidance associated with a greater decrease in depressive symptoms. This finding has implications for personalizing treatment. Two models have been proposed regarding the manner in which treatment selection may be personalized to match patients characteristics and needs (Rude & Rehm, 1991). The compensation model proposes providing an intervention that addresses a particular deficit or difficulty for the individual (Rude & Rehm, 1991). The capitalization model proposes providing an intervention that builds on the individual's strengths (Rude & Rehm, 1991). The results of this study suggest that the compensation model applies to IPT-A in regard to attachment avoidance. IPT-A was particularly beneficial for adolescents who had trouble connecting with others and who lacked a close interpersonal bond. These findings are in contrast to some of the IPT studies with adults that found that attachment avoidance predicted a poorer treatment response. It may be that attachment is more malleable at the developmental stage of adolescence than it is in adulthood. Because cognitive, social, and emotional systems are still in the process of development during adolescence, early intervention during this stage may take advantage of the malleability of

these systems before detrimental relationship patterns become entrenched (Lenroot & Giedd, 2006).

Several limitations of the current study should be noted. Due to the design of the trial, some adolescents had their treatment augmented with additional IPT-A sessions or fluoxetine. All adolescents received IPT-A, and we controlled for fluoxetine in the analyses, enabling us to be able to examine the role of attachment in treatment with IPT-A. However, future clinical trials that deliver IPT-A without augmentation will be useful for providing greater support for our findings. In addition, randomized clinical trials that include a comparison treatment or control group will permit the evaluation of the uniqueness of these findings to IPT-A. The adolescents in this study were primarily white and of middle-class economic backgrounds, which limits the generalizability of the findings to other populations. Finally, the study relied on adolescents' self-report of attachment. The measure used in this study is widely used and well-validated; however, it is possible that there may be a discrepancy between adolescents' self-reports of attachment and more behaviorally-based measures. Future studies could include observational assessments and interview methods.

Despite these limitations, the results of this study have important implications for clinical practice. Our findings suggest that attachment anxiety and avoidance are constructs that are amenable to intervention during adolescence, and therefore viable targets of treatment. IPT-A was found to be an effective intervention for addressing problems in attachment style, and decreases in attachment anxiety and avoidance were associated with reductions in depression. This provides support for selecting IPT-A as a treatment option for adolescents who are depressed and describe difficulty with attachment security. IPT-A appears to be particularly effective for adolescents with an avoidant attachment style, who experience discomfort with and have a tendency to avoid intimacy.

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Disclosure of Interest

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Table 1

Descriptive Statistics and Intercorrelations of Study Variables

Variable	Baseline			Week 8			Week 16		
	CDRS-R	Anxiety	Avoidance	CDRS-R	Anxiety	Avoidance	CDRS-R	Anxiety	Avoidance
Mean (SD)	55.58 (10.54)	4.24 (1.01)	4.11 (1.28)	43.65 (11.78)	3.53 (1.14)	3.55 (1.21)	37.82 (11.40)	3.39 (1.15)	3.10 (1.14)
Baseline									
CDRS-R									
ECR-R Anxiety	.29								
ECR-R Avoidance	.29	.45**							
Week 8									
CDRS-R	.78**	.26	.35*						
ECR-R Anxiety	.37*	.51**	.09	.23					
ECR-R Avoidance	.16	.30	.57**	.40*	.43*				
Week 16									
CDRS-R	.53**	.26	-.12	.40*	.38*	.03			
ECR-R Anxiety	.33	.51**	-.09	.17	.71**	.00	.52**		
ECR-R Avoidance	.19	.16	.34	.39*	.31	.72**	.35	.13	

*Note.**
p .05.**
p .01.

CDRS-R = Children's Depression Rating Scale Revised, ECR-R = Experiences in Close Relationships Scale Revised