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ATTACHMENT AS A MODERATOR OF PSYCHOTHERAPY OUTCOME ACROSS TREATMENT TYPE: A META-ANALYSIS

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ABSTRACT

To ensure we are providing psychotherapy patients the best treatment possible, it is important to understand how different patient characteristics impact treatment response. Attachment style, the characteristic way in which a person bonds to and relates with significant others, has been hypothesized to play an important role in psychotherapy because of the interpersonal context and importance of the patient-therapist relationship in psychotherapy. The aim of the current study is to examine the relationship between patients' attachment anxiety or avoidance to treatment outcome and how type of psychotherapy moderates that relationship. Specifically, using meta-analysis, the relation between patients' attachment security, anxiety, or avoidance to treatment outcome are examined as a function of type of psychotherapy. It was hypothesized that both attachment anxiety and avoidance would be negatively correlated with outcome and that different types of treatment would moderate the attachment style-outcome association. Following an extensive literature search, relevant studies were coded for effect sizes and study characteristics. To date, a total of 13 studies were included in the meta-analytic review. Findings indicate that Attachment security, anxiety, and avoidance were found to be small to moderate predictors of outcome. Moderator analyses of treatment type on this association were nonsignificant, though informative of potential moderator effects. These findings are discussed in terms of implications for both research and clinical practice.

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Introduction

While results of psychotherapy outcome studies are promising, they also show that there are many patients involved in psychological treatments that do not reach a desired level of general functioning improvement or symptom reduction. Numerous recent studies have provided evidence that researching patient differences and tailoring care to the individual improve psychotherapy outcomes (e.g. Fournier et al., 2010; Boswell, Anderson, & Barlow, 2014) emphasizing that a greater understanding of how specific patient characteristics may affect psychotherapy outcome is still needed in order to know which treatments work for which patients. The present study aims to add to this understanding by examining patient attachment style as a potential moderator of psychotherapy outcome and how treatment type may affect this relationship.

Attachment Theory

Attachment style has been explored as a possible, theoretically relevant moderator of psychotherapy outcome (Clarkin & Levy, 2004); however, results of previous studies and meta-analyses have found differing results in regard to the strength and direction of this relationship (Levy, Ellison, Scott, & Bernecker, 2011). Attachment theory, developed by John Bowlby (1969), works to explain the way in which individuals connect to one another and develop interpersonal bonds. Attachment theory provides a framework for understanding the ways in which individuals connect to "attachment figures," such as parents or romantic partners, and how these connections affect the individuals' psychological and overall development.

Bowlby (1980) defined attachment behavior as “any form of behavior that results in a person attaining or retaining proximity to some other differentiated and preferred individual” (p.39). Through repeated interactions with caregivers, infants and young children develop internal working models of those relationships that guide their attachment behaviors in subsequent interpersonal relationships. Although these working models are potentially adaptive with childhood caregivers, they can be maladaptive when they become rigid and are used to interpret other relationships in an indiscriminate and inflexible way. These maladaptive working models lead to the use of certain attachment behaviors (such as clinging) that, while perhaps necessary in order to have needs met by early caregivers, may be inappropriate in other interpersonal situations.. Bowlby described children with healthy, flexible working models to be “secure” and children with maladaptive, rigid working models as “insecure.” He then subcategorized insecure attachment as being characterized by either using attachment behaviors too frequently or “a partial or complete deactivation of attachment behavior” (p.41). Bowlby hypothesized that this system of attachment, or characteristic way of relating to others, is carried into adulthood and influential throughout one’s life.

Assessing attachment. In 1978, Ainsworth, Blehar Waters, & Wall published findings from a laboratory task they had developed, the Strange Situation, during which they observed infant behaviors and discovered three patterns of behavior that were consistent with those described by Bowlby. In the task, infants interact with a caregiver (mother) and a stranger in a playroom. Their mother then removes herself from the room for a short period of time. The behavior of the infant during the separation and reunion with their mother is closely observed. Some infants were distressed in the absence of their mother and showed some interest in the stranger. Upon the return of their mother, these infants sought proximity and care, but were

quickly calmed and returned to play. Ainsworth classified these infants as “group B,” paralleling Bowlby’s description of “secure.” Another group, “group A” (paralleling Bowlby’s description of “anxious-avoidant”) were not distressed by the absence of their mother and seemed to interact with the stranger in the same manner as their mother. Anxious-avoidant infants showed little interest in their mother upon her return. Conversely, infants Ainsworth classified as group C (parallel to Bowlby’s description of “anxious-resistant”) were excessively distressed in the absence of their mother and sought her out for comfort, yet were resistant to her attempt to soothe them.

The work of Bowlby and Ainsworth led to a swell in attachment research and an interest in attachment processes not only in childhood, but also adulthood. From developmental and social perspectives, researchers began to look into how attachment developed into adulthood. From a developmental psychopathology perspective, Mary Main and colleagues (George, Kaplan, & Main, 1985) developed an interview to assess adult attachment styles which parallel those described by Bowlby and Ainsworth. During the Adult Attachment Interview (AAI), participants are asked about their attachment history in respect to primary caregivers during childhood. Main found that the way in which adults depict their attachment memories reliably predicted the attachment classification of their child in the Strange Situation task. In regard to childhood attachment memories, secure children had mothers that were “free and autonomous,” anxious-resistant children had mothers that were preoccupied; and anxious-avoidant children had mothers that were dismissing (Main & Goldwyn, 1984). Main described disorganized/disoriented infants as having contradictory behaviors, both resistant and avoidant. This classification parallels two adult attachment classifications: *unresolved*, which is a classification given in

addition to one of the original three attachment classifications, and *cannot classify* (Main & Solomon, 1986).

Hazan and Shaver (1987) expanded upon Main's adult attachment research from a social psychological perspective. Following Bowlby's notion that attachment is influential throughout the lifespan, Hazan and Shaver used an attachment-based approach to study adult romantic relationships. To do this, they developed a self-report measure to assess adult attachment, which they described using a three-category model including secure, avoidant, and anxious attachment styles. The measure involved the participant reading three short paragraph and choosing which they felt best represented the way they act and feel in romantic relationships. Each of these paragraphs corresponded to one of the above attachment styles.

In 1990, Kim Bartholomew responded to the work of Main (1984) and Hazan and Shaver (1987) by proposing a four category model, contending that the insecure-avoidant category of attachment be divided into two subcategories. Bartholomew recognized in their work that each had a different conceptualization of attachment avoidance. She then used the work of Bowlby and Ainsworth to identify two separate categories of avoidant attachment. She described dismissive attachment as being analogous to Main's dismissive categorization, consisting of those that minimize and reject intimacy. Fearful attachment, Bartholomew described as being comparable to the description of avoidance in romantic relationships by Hazan and Shaver and consisting of those who desire intimacy, but are afraid to seek it. Bartholomew (1990; Bartholomew & Horowitz, 1991) proposed a two-dimensional model that defines each of the four attachment categories relative to the intersection of the positive/negative model of self (level of dependence/anxiety) and model of others (level of avoidance) as depicted in Figure 1. This model organized Bowlby's writings on internal working models and incorporated his focus on

the wide variation in attachment profiles and strength of attachment. Based on a number of factor analyses, these dimensions of anxiety and avoidance have been shown to be consistent with the foundation underlying almost all measures of attachment and their use provides a much more comprehensive view of attachment patterns than categorical labels (Brennan, Clark, and Shaver, 1998; Fraley, Waller, & Brennan, 2000).

Presently, adult attachment is often viewed in terms of the two-dimensional model proposed by Bartholomew (1990) based on the dimensions of attachment anxiety and avoidance. Brennan, Clark, and Shaver (1998) developed the Experiences in Close Relationships (ECR) self-report measure to assess attachment based on this model. Brennan, Clark, and Shaver also emphasize the advantages of viewing attachment in terms of continuous dimensions.

Attachment and psychotherapy. Although research on attachment has been widely carried out through social and developmental perspectives, Bowlby (1969) was a psychiatrist and psychoanalyst who also believed that attachment was relevant in psychotherapy. Many clinicians and researchers have acknowledged this and examined the ways in which attachment relationships extend to the patient-therapist relationship (Farber, Lippert, & Nevas, 1995; Obegi, 2008; Parrish & Eagle, 2003; Levy, 2013; Levy et al., 2011).

Attachment style and treatment response. Patients tend to respond to therapy in ways indicative of their attachment style. As would be expected, research has continuously shown secure patients to have the most positive treatment outcomes (Mikulincer & Shaver, 2007). Preoccupied (highly anxious) patients tend to seek treatment, be enthusiastic, and eager to disclose; however, they have been shown to have poor treatment outcome (Dozier, Lomax, Tyrrell, & Lee, 2001). These patients are highly dependent and seek answers to clarify contradicting mental states, yet are not highly compliant.

Dismissive (highly avoidant) patients often do not seek treatment and withdraw when it is offered (Dozier, 1990; Dozier et al., 2001). These patients tend to distrust, disengage, and become angry or defensive when they encounter emotional content. The lack of value dismissive patients place on interpersonal relationships leads to a lack of disclosure and compliance during treatment; however, dismissive patients have been shown to have better treatment outcome than patients with attachment styles characterized by high anxiety (e.g. preoccupied and fearful). (Fonagy et al. 1996; Reis & Grenyer 2004;)

Fearful patients (highly anxious and avoidant) disengage and distrust as dismissive patients do, but value acceptance from others in a way dismissive patients do not (Bartholomew 1990). This need for acceptance parallels the dependence of preoccupied patients, but fear of rejection leads fearful patients to alternate between withdrawing and wishing to seek closeness and support (Mallinckrodt, Gantt, & Coble, 1995).

Attachment style and treatment needs. Considering the variation in how patients with certain attachment styles respond to psychotherapy and their therapist, it would seem logical to conclude that patients have different treatment needs partially based on their attachment style. Using meta-analytic techniques, Levy et al. (2011) examined the relationship between patient attachment style and psychotherapy outcome. Although they found significant associations between patient attachment style and treatment outcome, the associations were weaker than hypothesized. Levy and colleagues (2011) suggested that one possible explanation may be that the association between patient attachment style and treatment outcome may differ as a function of type of psychotherapy (see also Clarkin & Levy, 2004 for a similar suggestion).

There are many different types of psychotherapy. Almost 30 years ago, there was an estimated 400 psychotherapy techniques for adults in existence (Kazdin & Bass, 1989). One way

to conceptualize psychotherapy treatments is as a function of a treatment's focus on cognitive or interpersonal techniques. Cognitively oriented treatments tend to be more didactic in nature, concentrating on problem solving and skill building, focus on conscious problems, and be highly structured, with less room for emotional exploration. Interpersonally oriented treatments tend to examine the ways in which the patient interacts with others, focus on less concrete processes, address the patient's life as it is both currently and in the past, and work to induce self-awareness and emotional exploration. One of the major differences between the two orientations is how much the relationship between the therapist and the patient is focused on throughout treatment. Interpersonally based therapies tend to be much more relationship-based than cognitive therapies and emphasize the therapeutic relationship as a part of treatment. (Blagys & Hilsenroth, 2006) Certain attachment styles may lead to a more favorable response in therapies with an interpersonal focus, while others may lead to a more favorable response in therapists with a cognitive focus.

In 2006, two published studies found complementary results in their examinations of psychotherapy type as a moderator of the relationship between attachment and treatment outcome. Tasca et al. (2006), in a study of women seeking psychotherapy for binge eating disorder (BED), found that those with high attachment anxiety had fewer days binged post treatment in group interpersonal therapy than in group cognitive behavioral therapy. Though they found no significant relationship between attachment avoidance and treatment outcome, these findings complement the current understanding of patients with attachment styles characterized by high anxiety (e.g. preoccupied and fearful) and the mechanisms of change utilized in cognitively based vs. interpersonally based therapies. Interpersonally based therapies require affective expression, self-reflection, and interpersonal exploration (Blagys & Hilsenroth, 2006).

These aspects of interpersonally based therapies address the needs of highly anxious patients who are eager to disclose and require clarity to understand conflicting mental states (Levy et al., 2011).

McBride et al. (2006), in a study of patients with major depressive disorder (MDD), found that those with high attachment avoidance had more positive treatment outcomes in cognitive behavioral therapy than in interpersonal therapy. Though they found no significant relationship between attachment anxiety and treatment outcome, again, these findings complement the current understanding of patients with attachment styles characterized by high avoidance (e.g. dismissing) and the mechanisms of change utilized in cognitively based vs. interpersonally based therapies. The didactic nature, focus on current problems, and lack of emotional and interpersonal focus (Blagys & Hilsenroth, 2006) fits the needs of highly avoidant patients who place little value on emotion and relationships and more value on cognition (Crittenden, 1997).

Hypotheses

In order to further understand the relationship between attachment and treatment outcome, we conducted a meta-analytic review of psychotherapy studies including attachment and outcome statistics. Given the information outlined above, we formulated two hypotheses. We hypothesized that treatment type would moderate the relationship between insecure attachment and treatment outcome, such that patients with high attachment avoidance would respond better in cognitively based therapies than in interpersonally based therapies and patients with high attachment anxiety would respond better in interpersonally based therapies than in cognitively based therapies.

Methods

Selection of Studies

Search terms and strategy, as well as eligibility criteria, were largely based on those of Levy et al. (2011). Articles to be included in the meta-analytic review were found through a search of the PsycINFO database on 27 May 2015. Search terms included a combination of the terms "attachment," "therap* outcome," "psychotherap* outcome," "outcome," "interpersonal style," "relation* style," and a series of attachment measures (See Appendix C). The search also specified either treatment outcome/clinical trial or empirical study methodology. The initial search returned 2,695 results.

In order for a study to be eligible for the current meta-analytic review, it had to meet the following criteria: (a) The study must be presented in English; (b) The study must be a published report of psychotherapy outcome in samples of treatment seeking individuals; (c) The study must report statistics showing relation between pre-treatment anxiety, security, or avoidance to outcome post-treatment (or this information must be able to be acquired through contacting the study authors); (d) the study must not be a case study; (e) the therapeutic treatment must be psychotherapy, not psychopharmacology; (f) the study must not be a dissertation. Figure 2 provides a summary of the literature review.

Coding Procedures

Primary patient and treatment characteristic information was collected and coded for each study by the author and a graduate student. Patient characteristics included: the primary diagnosis of the sample and whether the sample included patients with personality disorders. Treatments were coded based on the length of treatment as well as how cognitively or

interpersonally based the treatment was. Attachment was coded based on approximation to the scales of attachment anxiety and avoidance.

Effect Size Estimation

Effect sizes were calculated for each independent sample of study participants. For example, comparison studies with independent groups involved in separate treatments had multiple effect sizes calculated, one for each treatment group. The Pearson's product-moment correlation coefficient (*r*) was used as the effect size statistic for the current study. Studies that reported statistics relating attachment style to outcome in forms other than *r* statistics were converted to *r* value statistics (using formulas provided in Lipsey & Wilson 2001).

To ensure appropriate effect size estimates, each study was adjusted to account for differences in attachment operationalization. To do this, we first divided estimated effect sizes by the correlation of the attachment measure used and the ECR or ECR-R attachment anxiety and avoidance scales. We then corrected effect size estimates of studies that used categorical measures or artificially dichotomized variables in their analyses using the methods outlined in Schmidt, Le, and Oh (2009). Studies were then weighted based on their sample size and the value of these corrections (Hunter & Schmidt, 2004).

Moderator Analysis

Weighted least squares regression was used to conduct moderator analyses on attachment anxiety and avoidance with treatment type. The effect size estimates used in the moderator analyses were *z*-transformed, uncorrected *r* values from each study (Lipsey & Wilson, 2001). To control for the corrections for attachment operationalization and outcome dichotomization, the

correction values were included as covariates in the least-square regression analyses (Borenstein, Hedges, Higgins, & Rothstein, 2010).

Results

Literature Search

After an extensive search of the literature, a total of 13 studies and 18 patient samples were found to be eligible for study inclusion (See Figure 2). Sample sizes ranged from 31-594 (297 couples). The mean sample size of included studies was 115.53 with a total of 1,502 participants across studies. Study descriptions are shown in Table 2.

Effect Sizes

Outcome variables were coded such that lower scores indicated worse outcome and higher scores indicated better outcome. The mean weighted *r* value of attachment anxiety on treatment outcome was -.27 (Cohen's weighted *d* = -.56) indicating that attachment anxiety has a small-to-moderate overall effect on psychotherapy outcome with those with higher levels of attachment anxiety showing worse outcomes in psychotherapy.

The mean weighted *r* value of attachment avoidance on treatment outcome was -.18, (*d* = -.36). This indicates that attachment avoidance has a small effect on psychotherapy outcome, with those with higher levels of attachment avoidance tending to show worse outcomes in psychotherapy.

Treatment Moderator

The weighted least squares analysis for treatment type as a moderator of the relationship between attachment anxiety and avoidance with treatment outcome did not produce significant results.

Though no significant effects of treatment type as a moderator of attachment anxiety or avoidance and treatment outcome were found, the beta values do suggest that with more power these results may be significant in the hypothesized direction. Using random model multivariate regression, a β value of .09 was found for the effect of interpersonally based therapy on the relationship between attachment anxiety and treatment outcome. This indicates that those with high attachment anxiety may show a tendency towards better outcome in interpersonally based therapies compared to cognitive-behaviorally based therapies. However, *p* values for these analyses were nonsignificant.

Similarly, a nonsignificant *p* value was found in the analysis of treatment type as a moderator of attachment anxiety and outcome. A β value of -.15 was found for the effect of interpersonally based therapy on the relationship between attachment avoidance and treatment outcome, indicating that those with high attachment avoidance may tend to have worse outcomes in interpersonally based treatments than in cognitive behaviorally based treatments; however, more studies would need to be included in order to find these results significant.

Discussion

The purpose of this study was to examine the relationship between attachment and treatment outcome and how type of psychotherapy treatment may moderate that relationship. While the estimated effect sizes for the association between attachment anxiety (r = -.27) and avoidance (r = -.16) with psychotherapy outcome were in the small-to-moderate range, they did support our hypothesis. These results are stronger than those found in the previous meta-analysis for both anxiety (r = -.22) and avoidance (r = -.014), with a large increase in strength for avoidance (Levy et al., 2011). Moderator analyses did not produce significant results; however, beta values suggest that with a larger sample of studies, the increase in power may produce significant results in the hypothesized directions. These results are consistent with those of the previous meta-analysis. The small number of studies providing necessary information likely lead to low power and our lack of significant results. A total of five patient samples either did not include treatment type information or indicated a truly integrative treatment that could not be classified as distinctively interpersonally or cognitively focused, leading to a total of 13 patient samples and participants being included in the moderator analyses.

With the proposal of attachment theory, John Bowlby (1969) proposed that attachment was highly relevant in psychopathological development and psychotherapy. Our results support this, providing evidence that levels of attachment anxiety and attachment avoidance lead to differing results in psychotherapy. There is also preliminary evidence that, based on levels of these attachment dimensions, a patient may have different needs in terms of type of psychotherapy treatment.

Implications for Clinical Practice

Responsiveness, or the therapist's ability to respond to patient needs, is a key element of effective psychotherapy treatment (Hardy, Stiles, Barkham, & Startup, 1998). Appropriate responsiveness involves adapting treatment to meet patients' needs without reinforcing maladaptive behaviors. This has been shown to lead to greater symptom reduction. When the therapist responds appropriately, the patient's interpersonal needs are met, and they no longer need to use maladaptive techniques (such as withdrawal for highly avoidant patients) in order for their needs to be met (Kramer et al., 2014). An understanding of how a patient's attachment style may affect their response to treatment can aid therapists in being more responsive to their patient's needs. Therapists may be able to better utilize different techniques or tools based on the attachment characteristics of their patient, using more interpersonal techniques for patients with high attachment anxiety, and more cognitive techniques for patients with high attachment avoidance.

The importance of appropriate responsiveness also speaks to the need for therapists to be trained and able to use both interpersonal and cognitive techniques in order to meet patient needs. As discussed earlier, attachment is best viewed in terms of the dimensions of attachment anxiety and avoidance, rather than distinct categories. While high attachment anxiety may be related to better outcomes with interpersonally based techniques and high attachment avoidance may be related to better outcomes with cognitively based techniques, patients may exhibit any level of each of these attachment dimensions independently. Not all patients will be high on one scale, and low on the other; therefore, patients may need a combination of interpersonal and cognitive techniques in order to attend to their anxious or avoidant characteristics. This is not to say that all therapists should be exclusively integrative as there are numerous empirically

supported treatments based solely in one orientation or the other; however, having the ability to utilize techniques outside of the therapist's dominant orientation is important in order to meet a patient needs. Therapists should also be open to referring a client who has a distinctively anxious or avoidant style of attachment if their dominant orientation does not match that which may lead to the best outcomes for the patient.

It is important for the patient to understand the nature of the treatment, the duration, and the process of change (Greenberg, Constantino, & Bruce, 2006). Research has shown that positive, but realistic patient expectations of treatment and treatment outcome are related to positive treatment outcomes. (Constantino, Arnkoff, Glass, Ametrano, & Smith, 2011). This current study provides knowledge of what practitioners may be able to expect from patients with certain attachment traits, which may help them to set more realistic expectations and goals with their patient leading to more positive outcomes. For example, patients with high levels of attachment anxiety may have a slower change process than those with lower levels of attachment anxiety.

Strengths and limitations

There are a number of strengths to the approach employed in the current study. Few meta-analyses have corrected included effect sizes for the reliability of the measure used within each study with a "gold standard" measure. This method of analyzing the available data provides more accurate results and helps to reduce the effect of study specific findings that may be biased due to the use of less reliable measures of attachment. (Schmidt, Le, & Oh, 2009)

Due in large part to unusable statistics, the current study was only able to compile the results of a small number of studies in order to estimate the effect sizes of the association

between attachment avoidance and anxiety with psychotherapy outcome. A larger number of studies would have provided more powerful results in both the main effect and moderator analyses.

While the results of the current meta-analytic review are promising, they also show a need for further research including a larger amount of studies with usable effect size statistics, well-validated measures of attachment, and clearly defined treatment orientations in order to come to a better understanding of how attachment style and treatment type relate to psychotherapy outcome.

Appendix A: Figures

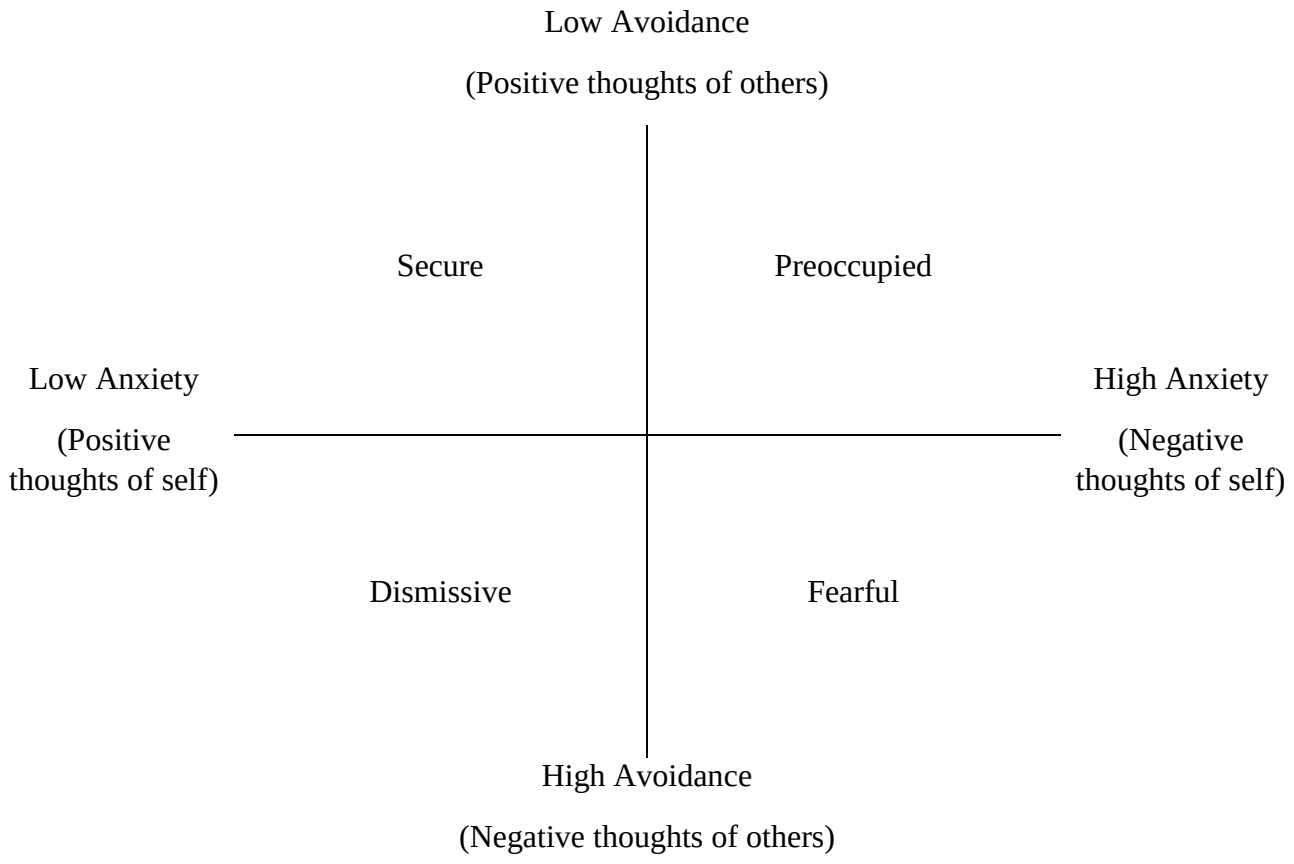

Figure 1. A two-dimensional model of attachment.

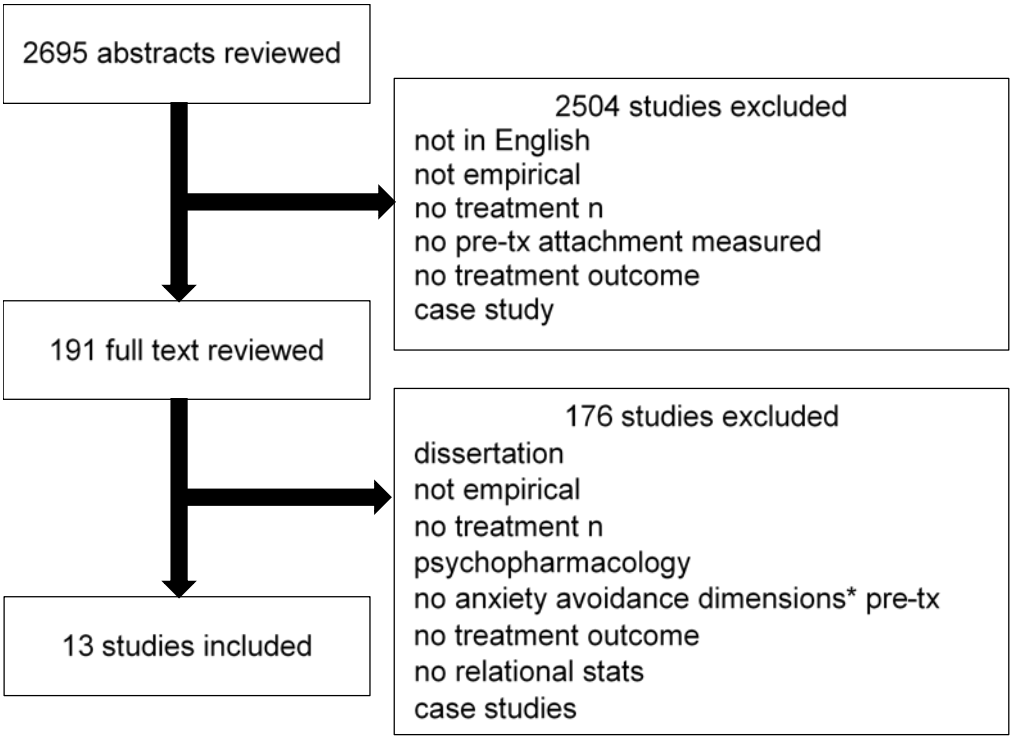

Figure 2. Summary of literature review process.

Appendix B: Tables

Table 1.

Summary of Studies Included in Meta-Analysis of Patient Attachment and Outcome

	Patients		Attachment		Therapy		Outcome	
Study	*N*	Diagnosis	Measure	Rater	Orientation	Duration (weeks)	Measure	Rater
Byrd et al. (2010)	66	unspecified	AAS	C	unspecified		OQ-45	C
Forbes et al. (2010)	103	PTSD	RSQ	C	CB	12	PCL	C
Illing et al. (2011)	157	ED	ASQ	C	CB	12	EDI	C
Lawson & Brossart (2009)	49	IPV	AAS	C	I	17	violence	C
							psyabuse	C
Levy et al. (2006)	22	BPD	ECR	C	D	52	GAF	NT
							BDI	C
							SCL-90-R	C
	15	BPD	ECR	C	CB	52	GAF	NT
							BDI	C
							SCL-90-R	C
	23	BPD	ECR	C	D	52	GAF	NT
							BDI	C
							SCL-90-R	C
Marmarosh et al. (2009)	31	unspecified	ECR-S	C	E	15	SCL-90-R	C
McBride et al. (2006)	27	MDD	RSQ	C	D	17	BDI	C
							HAM-D	NT
	28	MDD	RSQ	C	CB	17	BDI	C
							HAM-D	NT

Table 1 Continued

	Patients		Attachment		Therapy		Outcome	
Study	*N*	Diagnosis	Measure	Rater	Orientation	Duration (weeks)	Measure	Rater
Muller & Rosenkranz (2009)	101	PTSD	RSQ and RQ (combined)	C	D	8	SCL-90-R	C
							TSC-40	C
Parker et al. (2012)	594	marital	ECR	C	unspecified	4	OQ	C
Reis & Grenyer (2004)	58	MDD	RQ	C	D	16	HRSD	NT
Sauer et al. (2010)	50	MDD, other	ECR	C	unspecified		OQ-45	C
Stalker et al. (2005)	114	PTSD	RAQ	C	D	6	SCL-90-R	C
							MPSS-SR	C
							IIP	C
Tasca et al. (2006)	33	BED	ASQ	C	CB	16	EDEbinge	NT
	33	BED	ASQ	C	D	16	EDEbinge	NT

Note. Raters: C = client, NT = non-treater, T = therapist
Orientations: CB = cognitive-behavioral, D = dynamic, I = integrative
Diagnoses: BED = binge eating disorder, BPD = borderline personality disorder, ED = Eating Disorder, IPV = intimate partner violence, MDD = major depressive disorder, PD = personality disorder, PDNOS = personality disorder not otherwise specified
Attachment Measures: AAPR = Adult Attachment Prototype Rating, AAI = Adult Attachment Interview, AAS = Adult Attachment Scale, AAQ = Avoidant Attachment Questionnaire, AQ = Attachment Questionnaire, ASQ = Attachment Style Questionnaire, BARS = Bartholomew Attachment Rating Scale, ECR/ECR-R = Experiences in Close Relationships scale/Experiences in Close Relationships–Revised, RAQ = Reciprocal Attachment Questionnaire, RSQ = Relationship Scales Questionnaire, RQ = Relationship Questionnaire
Outcome Measures: BDI = Beck Depression Inventory, COM = Counseling Outcome Measure, DASsatis= satisfaction subscale of the Dyadic Adjustment Scale, EDEbinge = Eating Disorder Examination assessment of days binged, EDI = Eating Disorders Inventory, GAF = Global Assessment of Functioning, HAMA = Hamilton Rating Scale for Anxiety, HAM-D = Six-Item Hamilton Depression Rating Scale, HRSD = Hamilton Rating Scale for Depression, IIP = Inventory of Interpersonal Problems, MPSS-SR = Modified PTSD Symptom Scale–Self-Report, OQ-45 = Outcome Questionnaire-45, PCL = PTSD Checklist, psyabuse = psychological abuse subscale of the Conflict Tactics Scale, SCL-90-R = Symptom Checklist–90–Revised, TSC-40 = Trauma Symptom Checklist–40, violence = subscale of the Conflict Tactics Scale

Appendix C

Measures included in literature search

Adult Attachment Interview	(AAI)
Adult Attachment Interview as a Questionnaire	(AAIQ)
Adult Attachment Projective	(AAP)
Adult Attachment Prototype Questionnaire	(AAPQ)
Attachment Style Interview	(ASI)
Bartholomew Attachment Rating Scale	(BARS)
Couple Attachment Interview	(CAI)
Current Relationship Interview	(CRI)
Marital Attachment Interview	(MAI)
Secure Base Scoring System	(SSBS)
Adult Attachment Styles	
Adult Attachment Questionnaire	(AAQ)
Avoidant Attachment Questionnaire for Adults	(AAQA)
Adult Attachment Scale	(AAS)
Revised-Adult Attachment Scale	(RAAS)
Attachment History Questionnaire	(AHQ)
Attachment and Object Relations Inventory	(AORI)
Attachment Style Questionnaire	(ASQ)
Continued Attachment Scale	(CAS)
Experiences in Close Relationships	(ECR)
Experiences in Close Relationships- Revised	(ECR-R)
Measure of Attachment Qualities	(MAQ)
Mother Father Peer Scale	(MFPS)
Maternal Separation Anxiety Scale	(MSAS)
Parental Attachment Questionnaire	(PAQ)
Parents of Adolescents Separation Anxiety Scale	(PASAS)
Parenting Bonding Instrument	(PBI)
Reciprocal Attachment Questionnaire for Adults	(RAQA)
Reciprocal Questionnaire	(RQ)
Relationship Scales Questionnaire	(RSQ)
Revised Inventory of Parental Attachment	(R-IPA)
Vulnerable Attachment Style Questionnaire	(VASQ)

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* denotes included in meta-analysis

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Curriculum Vitae

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EDUCATION

2013-Present **Psychology, Biological and Evolutionary Sciences Option, B.S.**

The Pennsylvania State University, University Park, PA

The Schreyer Honors College

The Paterno Fellowship Program

Ronald E. McNair Scholar

Expected: 2017

SCHOLARSHIPS AND AWARDS

2016	Psi Chi / APS Summer Research Grant
2016	Erikson Discovery Grant
2016	Schreyer Honors College Gateway Program Scholarship
2016	R&M Munroe Trustee Scholarship
2016	Class of 1922 Memorial Scholarship
2016	Chaiken Trustee Scholarship
2016	Merritt Memorial Award in the Liberal Arts
2015	Pennsylvania TRIO Programs Scholarship
2015	Paterno Family Trustee Scholarship in the Liberal Arts
2014-Present	Bunton-Waller Scholarship
2013-Present	Dean’s List, College of Liberal Arts
2013-Present	Kuhner Renaissance Scholarship

2013-2015 McCourtney Trustee Scholarship in the Liberal Arts

2013-2016 Penn State Academic Grant

RESEARCH EXPERIENCE

2015-Present **Laboratory Manager – Data/Informatics Coordinator**
Laboratory for Personality, Psychopathology, and Psychotherapy Research
The Pennsylvania State University, University Park, PA
Supervisor: Kenneth N. Levy, Ph.D.

Responsibilities include the management and coordination of over twenty undergraduate research assistants and working with Dr. Levy to make improvements in lab structure to ensure efficiency of the lab. Other tasks include: administering semi-structured clinical interviews, medical chart coding, conference and travel planning, financial management, research assistant recruitment, managing appointments, data entry, consenting participants, , and coordinating a project to create a large participant database that will include data collected from participants in all of the lab's current and past research.

Summer 2015 **McNair Scholars Program Summer Researcher**
Laboratory for Personality, Psychopathology, and Psychotherapy Research
The Pennsylvania State University, University Park, PA
Supervisor: Kenneth N. Levy, Ph.D.

The 9 week McNair summer research experience aims to prepare underrepresented populations for doctorate level education. The program included conducting independent research full-time as well as attending research methods workshops, special faculty presentations, and graduate school preparation workshops. The program culminated in the completion of a research paper and the presentation of findings at a research symposium.

2014-2015 **Undergraduate Research Assistant**
Laboratory for Personality, Psychopathology, and Psychotherapy Research
The Pennsylvania State University, University Park, PA
Supervisor: Kenneth N. Levy, Ph.D.

Involved in consenting and operating a hotline for participants in a study making use of smartphone technology to collect data from individuals with borderline personality disorder and anxiety disorders; completed tasks such as entering coded data from patient interviews and compilation of various data and information sources. Included training in SPSS software and transcribing Adult Attachment Interviews.

CLINICAL EXPERIENCE

2015-Present **Clinical Interviewer**
Laboratory for Personality, Psychopathology, and Psychotherapy Research
The Pennsylvania State University, University Park, PA
Supervisor: Kenneth N. Levy, Ph.D.

Interview clinical and non-clinical participants using semi-structured clinical interviews including the Structured Clinical Interview for DSM-IV/5 (SCID-IV/5) and the International Personality Disorder Examination (IPDE) in order to provide diagnoses in order to determine presence of BPD (and comorbid disorders) for research protocols as well as administer the Adult Attachment Interview (AAI).

PUBLICATIONS

Levy, K.N., **Gooch, C.V.**, Johnson, B.N. (in preparation). Attachment style. To appear in J.C. Norcross & B.E. Wampold (Eds.), *Psychotherapy adaptations that work: Evidence-based transdiagnostic responsiveness* (3rd ed.). New York: Oxford University Press.

PRESENTATIONS

Symposia

Johnson, B. N., Levy, K. N., Scala, J. W., Temes, C. M., & **Gooch, C. V**. (2016, April). *Clinically relevant subtypes of borderline personality disorder and the role of attachment attitudes*. Paper presented at the 2016 annual convention of the North American Society for the Study of Personality Disorders, New York, NY.

Gooch, C.V., Levy, K. N., Johnson, B. N., (2015, July). *Attachment as a moderator of psychotherapy outcome across treatment type: A meta-analysis*. Paper presented at the 2015 annual Ronald E. McNair and Summer Research Opportunity Program Symposium, University Park, PA.

Posters

Gooch, C.V., Levy, K. N., Johnson, B. N., (2015, September). *Attachment as a moderator of psychotherapy outcome across treatment type: A Meta-Analysis*. Poster presented at the 16th annual National Conference for McNair Scholars and Undergraduate Research, Baltimore, MD.

TEACHING EXPERIENCE

Spring 2015 **Teaching Assistant**
Psych 301W – Research Methods in Psychology
Instructor: Joshua Wede, Ph.D.
The Pennsylvania State University, University Park, PA

Fall 2015 **Teaching Assistant**
Psych 470 – Abnormal Psychology
Instructor: Kenneth N. Levy, Ph.D.
The Pennsylvania State University, University Park, PA

2014 **Tutor – Biostatistics**
Student Support Services
The Pennsylvania State University, University Park, PA

Fall 2014 **Teaching Assistant**
Psych 100 – Introduction to Psychology
Instructor: Joshua Wede, Ph.D.
The Pennsylvania State University, University Park, PA

PROFESSIONAL ACTIVITIES

June 2015 **Conference Volunteer**
Society for the Exploration of Psychotherapy Integration
Baltimore, MA

June 2015 **Conference Volunteer**
Society for Psychotherapy Research
Philadelphia, PA

Summer 2015 **Diagnostic Criteria Update Committee**
Clinical Area – The Pennsylvania State University
Aided in the conversion of the Anxiety Disorders Interview Schedule (ADIS) from DSM-IV-TR to DSM-5 criteria.

PROFESSIONAL MEMBERSHIPS

The Society for the Exploration of Psychotherapy Integration (SEPI)

CLUBS AND ORGANIZATIONS

Personality and Psychotherapy Research Society - *Treasurer*

Psi Chi, The International Honor Society in Psychology

CLINICAL ASSESSMENT TRAINING

Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-IV)

Structured Clinical Interview for DSM-5 Axis I Disorders (SCID-5)

International Personality Disorder Examination (IPDE)

Adult Attachment Interview (AAI)

Suicide Attempt Self-Injury Interview (SASII)

Clinician-Administered NSSI Disorder Index (CANDI)

RELEVANT COURSEWORK

Psychology

Introductory Psychology

Introduction to Developmental Psychology

Introduction to Cognitive Psychology

Psychology as a Science and Profession

Research Methods in Psychology

Introduction to Abnormal Psychology

Introduction to Social Psychology

Child Psychopathology

Abnormal Psychology

Introduction to Clinical Psychology

Emotions and Psychopathology

Statistics

Elementary Statistics

Biostatistics

Introduction to SAS Statistical Software

Applied Nonparametric Statistics

Applied Regression Analysis

Applied Time Series Analysis