

The Alliance as a Prerequisite to Emotional Processing in Psychotherapy

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis including any required final revisions, as accepted by my examiners. I understand that my thesis may be made electronically available to the public.

Abstract

The quality of the therapeutic alliance has been shown to predict treatment outcomes across approaches to psychotherapy. However, the underlying mechanism by which the alliance leads to improvement remains to be clarified. In the emotion-focused therapy framework, it is theorized that a strong alliance facilitates emotional processing, which in turn leads to outcome. The hypothesis that a strong alliance creates the conditions for emotional processing has not been tested. Additionally, while research on emotion-focused therapy has shown that emotional processing predicts outcome over and above the alliance, this finding has not been evaluated within cognitive-behavioural therapy. The primary goals of this study were to 1) test the hypothesis that high levels of emotional processing primarily occur in the context of a strong alliance and 2) examine whether emotional processing predicts outcome over and above the alliance in cognitive-behavioural therapy. Observer-rated measures were used to assess emotional processing and the alliance in working phase psychotherapy sessions from adults who completed cognitive-behavioural therapy at a graduate training clinic. Interquartile ranges and results from one-way ANOVA ($n = 31$) showed higher means and lower variability in the alliance at high levels of emotional processing, suggesting a threshold. A Pearson correlation yielded a remarkably high association between emotional processing and treatment gains ($r = .597$). Additionally, hierarchical regression analyses ($n = 19$) indicated that working phase peak emotional processing predicted treatment gains over and above working phase alliance. The implications of these results for psychotherapy research and practice are discussed.

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Table of Contents

List of Figures	v
List of Tables	vi
Introduction.....	1
Methods.....	19
Results.....	28
Discussion	34
References.....	43
Appendices.....	57
Tables	57
Figures.....	60

List of Figures

Figure 1. Diagram of Segment and Segment Location.....	60
Figure 2. Boxplots of Bond and Task/Goals by Segment-level Experiencing	60

List of Tables

Table 1. Frequencies of Segment-level Modal and Peak Emotional Processing.....	55
Table 2. Descriptive Statistics and Correlations for Working Phase Emotional Processing and Alliance	55
Table 3. Mean Modal and Peak Emotional Processing Within a Session	55
Table 4. Post-hoc Comparisons of Bond across Emotional Processing Levels.....	56
Table 5. Post-hoc Comparisons of Task/Goals across Emotional Processing Levels	56
Table 6. Descriptive Statistics and Correlations for Working Phase Emotional Processing	56
Table 7. Regression Analysis Summary for Working Phase Alliance and Peak Emotional Processing Predicting Outcome	57

Introduction

Psychotherapy is a first line of treatment for mental illness, which impacts approximately 1 in 5 Canadians during their lifetime (Smetanin et al., 2015). While meta-analyses and reviews of controlled treatment studies generally affirm that psychotherapy is effective at alleviating mental health difficulties (e.g., Lambert, 2004; Nathan & Gorman, 2007; Munder et al., 2018), a critical question is how and why psychotherapy leads to improvement (Kazdin, 2009). Most schools of therapy present a theoretical account for how change occurs (Cuijpers et al., 2019). However, current scientific knowledge of the change process is limited. Researchers have called for greater specificity in not only identifying factors that lead to change but also demonstrating how and when they produce change (Kazdin, 2007). An understanding of how change mechanisms operate could equip therapists with the means to adapt and employ treatment techniques to optimally trigger the change process.

Common Factors

One framework for studying the change process involves identifying *common factors* (Rosenzweig, 1936). Reviews of controlled treatment studies that yield similar results when two or more therapies from different treatment frameworks are compared point to the existence of common factors that account for change (e.g., Lambert & Ogles, 2004). Common factors are thought to reflect higher-order mechanisms of change in psychotherapy as a whole (Wampold, 2015). As noted by Brown (2015, p. 305), “In an age where there are hundreds of types of therapies, and our instruments are very blunt in measuring their effectiveness, it is important to concentrate on the commonalities that may account for similarities.” This is particularly important given that many therapies apply different labels to analogous procedures (Marks, 2000). To date, a number of common factors have accumulated empirical support. The American

Psychological Association's (APA) task force on evidence-based therapy relationships categorized common factors in extant literature as *demonstrably effective* based on the strength of current evidence (the alliance, empathy, and structured client feedback), *probably effective* (e.g., goal consensus), or *promising* (e.g., attachment style) across treatment orientations (Norcross & Wampold, 2011).

Common factors contrast with *specific factors*, which emerge from one framework, such as cognitive restructuring in CBT (cognitive-behavioural therapy; Rosenzweig, 1936). Castonguay et al. (2015) noted that factors considered specific to one framework may in fact be common to many. Referred to as *faux unique factors*, such specific factors may be viewed as wedded to one framework and may therefore be overlooked as common factors. Nonetheless, they may be implicitly “active” in therapies from other frameworks. A few striking examples are meta-analyses on the relation of outcome to insight, originating from psychodynamic psychotherapy (Jennissen et al., 2018); dysfunctional thinking and rumination, core processes in CBT (Cristea et al., 2015; Spinhoven et al., 2018); and emotional processing, central to emotion-focused therapy (EFT; Pascual-Leone & Yeryomenko, 2016); all of which predict outcome across a range of therapeutic frameworks.

Establishing Mechanisms of Change in Psychotherapy

While such findings are encouraging, the complex and multifaceted nature of therapy coupled with methodological considerations prevent straightforward conclusions about even relatively well-studied common factors. For example, psychotherapy studies tend to be underpowered due to low sample sizes, leading to difficulties detecting relationships of interest as well as heterogeneous findings within and between meta-analyses (Spielmanns & Flückiger, 2018).

Of particular complexity is delineating the precise nature of relationships between change mechanisms and outcome. Kazdin (2009) outlined criteria for establishing change mechanisms. Of primary importance is a strong association with outcome. A dose-response relationship is also ideal, such that the stronger the “dose” of that common factor, the better the outcome. A caveat to this suggestion is that a nonlinear relationship to outcome does not rule out causality but merely complicates inferences of causality. Of equal importance but often missing is a timeline of the association between common factor and outcome, ideally such that changes in common factor precede changes in outcome. Rare are studies that assess multiple common factors simultaneously and therefore incorporate the potential to rule out alternative mediators. Experimental manipulation of the common factor would further strengthen claims of causality but is often impossible due to ethical considerations. For example, patients in a treatment study cannot ethically be assigned to a low-alliance condition. Instead, psychotherapy outcome studies tend to be correlational in design, which preclude inferences of causality (Norcross & Lambert, 2011). It is also necessary to provide a strong theoretical framework explaining how and why a common factor facilitates change. This is important as conceptualizations of common factors may differ across treatment frameworks, as is the case for example with the therapeutic alliance (Horvath et al., 2011).

Variation in Common Factors Within and Between Sessions

A better understanding of within- and between-session variation in common factors would allow researchers to specify their trajectories in relation to outcome. Common factors are often assessed at only one timepoint, typically using one session-level measurement to capture the course of treatment (Kazdin, 2007). Session-to-session fluctuations in common factors are not well-studied, and even fewer data are available on changes within a single session (e.g.,

Falkenström & Larsson, 2017). Research in the latter area is lacking since common factors are typically measured with self-report tools, which are retrospective in nature and cannot be administered at intervals within a session. Observer ratings represent a promising means for capturing moment-to-moment shifts but are generally underused, despite evidence that observer ratings of some therapy processes better predict outcome than self-reports (e.g., Peluso & Freund, 2018).

In addition, even when the quantity of a common factor varies little over time, the qualitative meaning of items that a rater is responding to may be contextual (Beltz et al., 2016; Luborsky, 1976). To use the alliance as an example, whether a client trusts their therapist might take on a different meaning in a session early in treatment while rapport is still building compared to a later session once the tasks of therapy are underway.

Relationships Between Common Factors

Studies that assess multiple common factors in tandem are needed to both assess overlap in their contributions to outcome as well as clarify conceptual and temporal relationships between common factors. However, few studies assess multiple common factors together (Kazdin, 2007). Accordingly, little is known of relationships between common factors nor are comparisons of their contributions to outcomes over time often made. Nonetheless, the association of a common factor and outcome may alter in the context of another common factor. For example, in several studies, the therapeutic alliance no longer predicted outcome when emotional processing was incorporated as a predictor (e.g., Missirlan et al., 2005).

Summary

In the search for common factors that cut across treatment frameworks, persistent challenges complicate the identification of both the factors themselves and their roles in realizing

change. Specific factors grounded in one treatment approach may be overlooked as potential common factors (Castonguay et al., 2015). It may also be the case that the roles of common factors in bringing about change cannot be adequately captured with “single and static” measures (Misserlian et al., 2005). Prior research findings have highlighted the dynamic, contextual nature of common factors and their contributions to outcome over the course of treatment. Furthermore, relationships among common factors are not well-understood as most studies assess one rather than multiple common factors and only at one timepoint. An understanding of the interplay between common factors and outcome, both within a session and across sessions, may advance our theoretical understanding of change in psychotherapy. In practice, this may allow therapists to regulate change processes in a way that is sensitive to temporal dynamics.

The Alliance as a Common Factor

The most well-studied common factor is the therapeutic alliance (Wampold, 2015). The alliance is the strongest known predictor of outcome and is often considered the primary curative factor in adult psychotherapy (Brown, 2015). The term *alliance* refers holistically to the tenor of collaboration between patient and therapist (Bordin, 1979). It is dyadic in nature such that both patient and therapist contribute to its quality. Bordin’s conception of the alliance has three components: a *bond* characterized by reciprocal liking and trust; *task*, or consensus on treatment strategies; and *goals*, or consensus on areas targeted for improvement.

The alliance is classified as a *causal facilitative factor*, or a moderator that enhances the effect of a promotive factor on an outcome (Flückiger et al, 2018). A strong alliance can thus be said to augment the impact of psychotherapy on treatment outcomes. A recent meta-analysis of 295 studies ($N = 30,000$) showed a small to moderate association with outcome ($r = .28$), explaining 8% of variance in outcome (Flückiger et al, 2018). This effect was robust across

therapeutic frameworks, alliance and outcome measures, rater perspectives, and patient diagnoses. Some evidence for a dose-response relationship with outcome has been established such that the stronger the alliance, the more effective the therapy (Brown, 2015). There is also evidence that changes in the alliance temporally precede symptom changes (e.g., Zilcha-Mano, 2014).

Described as the “quintessential integrative variable” (Wolfe & Goldfried, 1988), the historical centrality of the alliance construct to discourse on common factors has shaped its generally pan-theoretical nature (Flückiger et al., 2018). Although different frameworks emphasize different aspects of the patient-therapist relationship (Horvath et al., 2011), the alliance construct is entrenched in treatment procedures across theoretical frameworks, including psychodynamic (Safran & Muran, 2000), emotion-focused (Greenberg et al., 1993), and cognitive-behavioural (Kazantzis et al., 2017).

Variation in the Alliance Within and Between Sessions

The alliance is typically examined as a static predictor of outcome (Zilcha-Mano et al., 2017). To characterize the alliance over the course of treatment, one session-level alliance measurement is typically taken early in therapy, often from the third or fourth session (Wampold, 2015). Other studies have used an aggregate of session-level ratings (Crits-Christoph et al., 2013). However, the alliance was originally conceived as innately fluctuating (Zetzel, 1956), and recently theorists have attempted to chart its course over time (Ardito & Rabellino, 2011). In terms of longitudinal unfolding, the alliance fluctuates slightly from session-to-session (Falkenström et al., 2013), and better predicts outcome in the late rather than middle or early phase of therapy (Flückiger et al., 2018). Some theorists have even argued that the early and middle to late alliances are qualitatively distinct (Luborsky, 1976). The early alliance may reflect

the client's trait-like ability to form an alliance generally, while the middle and late alliance may reflect state-like changes in alliance quality resulting directly from interactions during a session (Zilcha-Mano et al., 2017).

Little is known of shifts in the alliance that occur moment-to-moment within a single session (Falkenström & Larsson, 2017). Notably, patterns at a microscopic level may have greater clinical utility than session-level measurements. In a few studies, within-session shifts in the alliance were tracked using observer ratings (e.g., Falkenström & Larsson, 2017; Berk et al., 2020). Researchers have also explored the alliance rupture and repair process within sessions (Safran & Muran, 2000).

In summary, although the alliance is predominantly measured as a static predictor of outcome, the alliance fluctuates within and between therapy sessions. Deciphering interrelations amongst the alliance, other common factors, and outcome both within and across therapy sessions would provide a more fine-grained illustration of the change process.

The Role of the Alliance in Promoting Change

At present, the underlying mechanisms by which the alliance leads to improvement remain to be clarified (Flückiger et al., 2018). Based on Kazdin's (2007) aforementioned criteria for establishing mechanisms of change, a theoretical framework is required to explain the role of the alliance in promoting change (Cuijpers et al., 2019). Theorists have converged on two functions for the alliance, neither of which are currently well-understood (see Zilcha-Mano et al., 2017). The alliance has been conceived as both an end in itself and a means to an end. As an end in itself, the alliance might be curative in its own right. As a means to an end, the alliance might create a context that facilitates the activity of change ingredients. Notably, these functions are not incompatible. Elaborating on these two functions represents a promising avenue for constructing

a theoretical framework that explains how the alliance leads to change.

Most major schools of psychotherapy hold that a strong alliance is a precondition for use of treatment techniques (Zilcha-Mano et al., 2017). In CBT, the therapeutic relationship is primarily conceived as a means to an end, stimulating collaborative use of specific techniques (Giovazolias, 2004). Relationship factors such as warmth and empathy are viewed as “necessary, but not sufficient to produce an optimum therapeutic effect” (Beck et al. 1979, p. 45). Other schools of therapy endorse both roles. In dialectical behavior therapy, the alliance is regarded as a prerequisite for use of treatment strategies as well as important in its own right, such that repairing alliance ruptures may foster conflict resolution skills applicable to other relationships (Burckell & McMain, 2011; Linehan, 1993). Similarly, within the acceptance and commitment therapy framework, the alliance is perceived both to provide the ideal context for implementing treatment strategies and as intrinsically healing when reflective of acceptance for oneself and others (Hayes et al., 1999). In EFT, both functions are to the alliance (Greenberg, 2014). A warm therapeutic relationship is considered an essential change ingredient, facilitating emotion regulation and leading to corrective experiences. A strong alliance is also regarded as necessary for a client to confront and process difficult emotions and memories.

The Alliance as an End in Itself. Some theorists argue that the alliance is active in bringing about change (e.g., Safran & Muran, 2000). A few pan-theoretical means of change have been proposed. A strong alliance may be a source of *corrective experiences*, or experiences that uncover new ways of relating to oneself and others (Alberti et al., 2018; Alexander & French, 1946; Castonguay & Hill, 2012). For example, feeling seen and accepted by a therapist may shift a belief that others will respond to self-disclosures with rejection. Alliance rupture repair may represent a corrective experience, illustrating new ways of resolving conflict

(Eubanks et al., 2021). A warm, validating bond may also enable co-regulation of emotion. Modell (1976) posited that a “holding environment” where a therapist is warm, reliable, and non-judgmental offers space for clients to tolerate distress. In the EFT literature, the provision of a validating relationship is thought to soothe client distress (Greenberg, 2014). Over time, the client may internalize a more rapid reversion to an emotional baseline. One study illustrated that when client emotional arousal increased, therapist emotional arousal decelerated (Soma et al., 2018).

To investigate whether the alliance is intrinsically healing, researchers sought to distinguish state-like changes in the alliance during sessions (the alliance as an end in itself) from the trait-like ability to form an alliance. In these studies, only the former predicted outcome (e.g., Falkenström et al., 2013; Zilcha-Mano & Errázuriz, 2015). Taken together, while research is needed on specific mechanisms by which the alliance effects change, there is evidence that the alliance is healing in its own right.

The Alliance as a Means to an End. Another prevailing hypothesis is that a strong alliance provides the ideal environment for delivery of treatment strategies, which themselves are vehicles of change (Hatcher & Barends, 2006). Accordingly, the alliance might be “necessary, but not sufficient to produce an optimum therapeutic effect” (Beck et al. 1979, p. 45). In support of this notion, while the alliance has been strongly linked to outcome, studies typically yield a greater effect from psychotherapy than from the alliance alone (e.g., Roth & Fonagy, 2006).

Bordin (1979) hypothesized that before treatment can proceed, a bond characterized by mutual trust and regard must be established, in which patient and therapist are assured of each other’s commitment to the treatment process. Only on this basis, according to Bordin, can task and goal agreement be attained, setting the stage for use of treatment techniques. He argues that

the alliance contributes to outcome not in itself but as the pathway by which the patient is able to accept, invest in, and participate in treatment. The hypothesis that the alliance is necessary for the success of treatment techniques has not been directly investigated.

If the alliance is a precursor for use of specific techniques, the alliance may play a similar role for common factors. Indeed, in their overview of common factors in extant literature, Lambert and Ogles (2004) categorized the alliance as a *support factor*, or a common factor that sequentially precedes and promotes other common factors. In this framework, support factors are followed by *learning factors*, which involve shifts in thinking, and *action factors*, which involve shifts in behaviour. For example, a strong alliance (support factor) may provide a corrective experience (learning factor) in which the client feels seen and accepted by the therapist, motivating the client to take a risk (action factor) such as confiding in a friend (Huibers & Cuijpers, 2015). These hypothesized roles have yet to receive empirical support.

One common factor viewed as operating only within a strong alliance is emotional processing. In EFT, the alliance is believed to create the conditions for clients to effectively process emotion, which in turn is necessary for improvement (Greenberg & Watson, 2006). However, this hypothesis has not been fully explored.

Emotional Processing as a Common Factor

Rachman (1980) first defined emotional processing as “...a process whereby emotional disturbances are absorbed and decline to the extent that other experiences and behaviour can proceed without disruption” (p. 51). In the EFT literature, the term more broadly encompasses how clients access, experience, label, reframe, and resolve emotions that may have been previously constrained (Greenberg, 2008). Emotional processing overlaps with *emotional arousal*, which is the subjective felt sense of emotion and its physiological manifestations (e.g.,

tone of voice, facial expressions; Carryer & Greenberg, 2010). During processing of emotion, the felt experience is used as a referent for a verbally mediated evaluation in which the individual makes meaning of the emotion and the precipitating issue (Teasdale, 1999; Whelton, 2004; Greenberg, 2002). This process may involve recalibration of attitudes about expression, control, and avoidance of emotion (Leahy, 2007; Greenberg, 2008). Rather than attenuating emotion through catharsis or deemphasis, emotion is transformed or replaced by an incompatible but more adaptive emotion (Greenberg, 2012).

Emotion is central to psychopathology (Rottenberg & Johnson, 2007). Helping clients articulate, differentiate, and transform emotion in the context of a warm, prizing therapeutic relationship has been described as a core change process irrespective of therapeutic framework (Greenberg & Watson, 2006; Hayes et al., 2005). In parallel, Westen (1994) proposed that emotional processing can provide a unifying context for therapeutic approaches considered irreconcilable in the past.

Emotional processing is the primary change mechanism in the EFT framework (Greenberg et al., 1993). However, productive work with emotion may be a common factor that explains outcome across frameworks. A meta-analysis of 42 studies ($N = 1711$) on emotional expression and outcome found a medium-to-large relation ($r = -.39$, $d = .85$; Peluso & Freund, 2018), of greater magnitude than that of the alliance ($r = -.29$; Flückiger et al., 2018). The association prevailed across measures and treatment frameworks but increased when observer-rated measures were used ($r = .45$, $d = 1.01$), possibly due to the retrospective nature of self-reports. Measures used in the included studies were heterogeneous, capturing one or more manifestations of emotional arousal (e.g., facial expressions, tone of voice, body language) or emotional processing. The results should therefore be interpreted with caution.

Another meta-analysis corroborated the relationship between emotional processing and outcome (Pascual-Leone & Yeryomenko, 2016). Emotional processing was measured using the *experiencing* construct, which captures verbal exploration of emotion and use of emotion as a referent for problem-solving (Klein et al., 1969). Across 10 studies ($N = 406$), a small to moderate association emerged between experiencing and outcome ($r = -.25$), although experiencing better predicted expert ratings of outcome ($r = -.67$) than self-reports ($r = -.19$; Pascual-Leone & Yeryomenko, 2016). The association held across major schools of therapy, including EFT (e.g., Pos et al., 2003), CBT (e.g., Watson & Bedard, 2011), and psychodynamic psychotherapy (e.g., Rudkin et al., 2007). While lower modal experiencing was found in cognitive therapies compared to EFT, treatment orientation did not emerge as a moderator, suggesting experiencing predicted outcome equally well in cognitive therapies.

Accordingly, emotional processing appears to represent a faux unique factor insofar that it is theoretically grounded in the EFT approach yet predicts change across frameworks.

The Alliance as a Prerequisite for Emotional Processing

A possible function of the alliance is the provision of a safe atmosphere needed for clients to accept and engage in treatment tasks (Hatcher & Barends, 2006). The alliance may therefore facilitate other common factors (Lambert & Ogles, 2004). A hypothesis which has garnered support is that a strong alliance creates the ideal therapeutic environment for clients to process emotions, which itself is a core change process (Greenberg & Watson, 2006).

Bordin (1979, p. 254) first emphasized the reciprocal relationship between the alliance and emotion, stating that “some basic level of trust surely marks all varieties of therapeutic relationships, but when attention is directed toward the more protected recesses of inner experience, deeper bonds of trust and attachment are required and developed.” According to

Bordin, processing emotions may strengthen the *bond* component of the alliance but is also contingent on its initial strength.

In the EFT framework, it is theorized that in the context of a warm, empathic relationship, a client will sense unconditional acceptance from their therapist and shift their attention away from relational concerns pertaining to the therapist (Greenberg, 2007). Clients can then attend inward to the tasks of experiencing and reorganizing emotion. Accordingly, a strong alliance is conceptualized as necessary but not sufficient for emotional processing to occur. The alliance may have a conditional relationship with emotional processing, such that a secure alliance offers a safe environment favorable to deeper emotional processing (Paivio & Pascual-Leone, 2010).

The client perspective appears to capture this conditional relationship. Nødtvedt et al. (2019) coded themes across client impressions of the alliance in EFT. One theme underscored the importance of feeling witnessed and receiving explicit validation of emotions from the therapist, which participants believed encouraged them to recognize and articulate feelings. Another theme involved corrective experiences. Clients reported that feeling accepted and understood when being fully vulnerable represented a significant healing experience. Since the alliance is conceptualized differently across treatment orientations, this theme might be limited to EFT. However, Levitt et al. (2016)'s meta-analysis of client experiences in psychotherapy yielded a similar theme where authentic caring from a therapist enabled clients to feel supported emotionally and to be vulnerable with their therapists. Together, these studies provide indirect support for a conditional relationship between the alliance and emotional processing.

Temporal Precedence of Alliance

A central tenet of EFT is that therapeutic work is facilitated by and therefore dependent upon the prior formation of a strong therapeutic relationship (Greenberg et al., 1993). The alliance is therefore purported to temporally precede emotional processing. A few studies have provided support for this order of events. Pos et al. (2009) found that working and termination-phase alliances contributed to outcome indirectly through predicting subsequent improvements in modal EXP. Additionally, therapist expressed empathy in the first session predicted working phase experiencing an average of 8 sessions later (Malin & Pos, 2015).

The Alliance, Emotional Processing, and Outcome

In the EFT framework, emotional processing is considered the primary mechanism of change (Greenberg et al., 1993). In support of this link, several studies from the EFT literature have found that emotional processing predicts outcome over and above the alliance (e.g., Goldman et al., 2005; Auszra et al., 2013; Pos et al., 2003; Pos et al., 2009; Missirlian et al., 2005). As previously noted, meta-analytic results suggest that while emotional processing is lower in CBT compared to other treatments, its association with outcome does not differ based on treatment orientation (Pascual-Leone & Yeryomenko, 2016). It is therefore plausible that the centrality of emotional processing to outcome over the alliance extends beyond the EFT framework.

Objectives

A hypothesis that has generated theoretical support is that the alliance creates the conditions of trust and safety for clients to effectively process emotions, which leads to improvement (Greenberg & Watson, 2006). No studies to date have investigated whether the alliance functions as a prerequisite to emotional processing. An illustration of how the alliance

and emotional processing unfold within the therapy hour provide the means to test this sequence and thereby additionally acquire support for the notion that the alliance provides the optimal environment for other change ingredients. Additionally, the contribution of experiencing to outcome beyond that of the alliance has yet to be replicated in treatment frameworks beyond EFT. Support for these relations in another major school of therapy would provide evidence that the sequence is pan-theoretical. Therefore, my primary goals are to a) test the hypothesis that a strong alliance is a prerequisite for emotional processing and b) examine whether emotional processing predicts change over and above the alliance in CBT. Secondary goals include c) pinpointing the association between the two process variables, d) identifying portions of the therapy hour with higher levels, and e) assessing whether average emotional processing is lower in CBT than other treatments.

a. The Alliance as a Prerequisite to Emotional Processing

The alliance may function as an antecedent of emotional processing. Rather than a correlation, this pattern could manifest as a “threshold effect”, such that successively higher iterations of experiencing are associated with decreased alliance variability. That is, higher experiencing variability would be observed only in the context of a strong alliance and rarely when the alliance is poor. While lower levels of emotional processing might be observed in the context of a high alliance (e.g., a client joking about her dog), it is less likely that higher levels of experiencing will occur when the alliance is poor (e.g. a client discussing fears of expressing affection). It is therefore hypothesized that greater alliance variability will occur at low experiencing levels and less alliance variability will be observed at higher experiencing levels.

Bond characteristics (warmth, trust, and mutual liking) are often emphasized in theory as imperative for emotional processing (Norcross & Lambert, 2019), suggesting a high threshold.

However, in CBT, emotional processing may less frequently be an explicit treatment task and goal. Accordingly, it is hypothesized that less variability in bond compared to task/goals will be observed at high experiencing levels.

To explore patterns of emotional processing across alliance levels, mean differences in alliance components at each level of experiencing will also be assessed. While it is anticipated that higher experiencing levels will occur primarily within higher alliance levels, it is unclear whether lower experiencing levels will occur within strong or weak alliances on average. Accordingly, it is unclear whether mean differences will be observed. No specific hypotheses were generated.

b. The Alliance, Emotional Processing, and Outcome

In several EFT studies involving hierarchical regressions, emotional processing predicted outcome over and above the alliance (e.g., Pos et al., 2003). A meta-analysis on emotional processing and outcome yielded no moderation by treatment framework, suggesting that these patterns may be relevant to CBT (Pascual-Leone & Yeryomenko, 2016). It is therefore hypothesized that emotional processing will predict outcome beyond the alliance.

c. Association Between Alliance Components and Emotional Processing

There is a need for studies assessing multiple common factors over time to better understand how the change process evolves (Kazdin, 2009). The results of one meta-analysis indicate that among the few studies that have assessed emotional processing and the alliance, they are decoupled in the early phase of therapy ($r_s = .00$ to $.18$) then moderately correlated in the working [middle] and termination phases ($r_s = .29$ to $.32$; Pascual-Leone & Yeryomenko, 2016). Two studies which assessed this association in CBT specifically found a moderate association with modal experiencing (Castonguay et al., 1996; Watson et al., 2011). However,

these studies, common factors were measured at the level of a session or phase of therapy (early, working [middle], termination; Pascuale-Leone & Yeryomenko, 2016) rather than segments within a session. In the present study, the magnitude of the alliance-emotional processing association was assessed across segments within the therapy hour.

d. Within-Session Trends in Emotional Processing

Little is known about the trajectory of emotional processing within the therapy hour. One study showed that the 30th minute to 37th minute showed the widest range of experiencing typically (Kiesler et al., 1965). While a few published studies contain data on within-session patterns of experiencing development, these studies were published in the 1970s and may not accurately reflect contemporary psychotherapy. Given the theoretical interest in higher levels of experiencing due to their purported healing value, it may be worth identifying portions of a session characterized by higher EXP. This could inform future efforts to understand the location and context in which high experiencing levels occur. For example, if experiencing is highest in the middle 20 minutes of a session, coding this timeframe may be a priority. No hypothesis was generated as results of this analysis are intended to be used exclusively for the purpose of informing sampling procedures for subsequent studies.

e. Emotional Processing in CBT

Watson and Bedard (2006) compared experiencing levels between clients in CBT versus process-experiential therapy (PET). In the working phase, average experiencing levels in CBT (2.78) were significantly lower compared to PET (3.05). This was attributed to a higher percentage of Level 2 statements (no references to feelings) versus Level 3 statements (references to feelings but only in the context of events) across therapy from CBT (59 versus 33 statements) compared to PET clients (41 statements at both levels). This difference held across

phases of therapy. Accordingly, one aim of this study was to assess whether these differences replicate in the present dataset. It is unclear whether the results of this study will more closely match findings from CBT or non-CBT studies since therapists in this study employ techniques from CBT as well as other treatments.

Methods

Participants

Archival videos of psychotherapy sessions were analyzed from 31 clients (15 male, 16 female) who completed psychotherapy at the Centre of Mental Health Research and Treatment (CMHRT), a graduate psychology training clinic within the University of Waterloo in Waterloo, Ontario. The CMHRT offers treatment for presenting problems such as anxiety, depression and other mood difficulties, obsessive-compulsive disorder, interpersonal issues, adjustment issues, behavioral issues, and parenting and family stresses. Exclusion criteria include clients who present with concerns that cannot be effectively addressed by student clinicians under the supervision of licensed psychologists or without access to psychiatrists or full-time clinical staff. The CMHRT does not provide services to clients who present with active substance use, psychotic disorders, eating disorders, or problems associated with a high risk of legal involvement (e.g., violence, criminal behaviour) or frequent and/or severe crises (e.g., chronic self-harm, active suicidality). For inclusion in this study, cases were selected if clients had completed therapy in a minimum of eight sessions. Across cases, 23 were short-term (a maximum of nineteen sessions) while 8 were long-term.

Measures

Alliance

The alliance was measured using Segment Working Alliance Inventory Observer-Based Measure (Berk et al., 2010). This measure is a version of the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989) adapted for thin-slice research, in which measurements of brief segments of a therapy session are aggregated to produce a session average. The measure consists of two items, each reflecting a component of the alliance. *Bond* refers to mutual trust, liking, and

attachment. The *bond* item is “There is mutual liking, respect, appreciation, and trust between participants.” As with other observer-rated measures of the alliance (Santirso et al., 2018), the *task/goals* subscale subsumes two previously distinct components of the alliance, which referred to a shared conception of treatment *tasks* (treatment strategies) and *goals* (areas targeted for change). The item measuring *goals* was “There is agreement, collaboration, and productive negotiation, between participants.” Each item is rated on a 13-point Likert scale ranging from -6 (Very strong evidence against) to 6 (Very strong evidence for), with a midpoint of 0 (No evidence or equal evidence).

Alliance ratings were taken from an unpublished dataset (Milovanov et al., 2021). Prior to rating, raters were required to complete eight hours of group training. This training consisted of rating segments of therapy sessions from the current dataset and resolving discrepancies in ratings greater than 2 points. Then, one group of four raters and one group of five raters randomly rated segments from different sessions. The two rater groups rated separate halves of the dataset. Session-level alliance ratings were generated by averaging coders’ ratings of twelve one-minute segments spaced five minutes apart, which were found to reliably capture the alliance for that session (Milovanov et al., 2021). To assess alliance variability within a session, each one-minute segment will also be taken as an estimate of the alliance for the five-minute segment in which it is centrally situated.

Emotional Processing

The Experiencing Scale (EXP; Klein et al., 1970, 1986) is an observer-rated measure of emotional processing that has been described as the gold standard for good in-session process (Pascual-Leone & Greenberg, 2007). Though developed initially from client-centered therapy, the experiencing scale is pan-theoretical and is the most widely used measure of emotional

processing (Pascual-Leone & Yeryomenko, 2016). The scale represents a continuum of client awareness of feelings, exploration of feelings, and use of feelings as referents for problem-solving (Klein et al., 1969, 1986). Feelings are defined as emotions (e.g., happy, sad) as well as assumptions basic to self-image (e.g., feelings of worthlessness or unattractiveness). An assumption underlying this scale is that how clients verbalize experience both impacts the experiences they have and is an accurate indicator of the quality of their experiencing (Kiesler, 1973). Rating decisions are informed by grammar, style, paralinguistics, and topical content (Klein et al., 1986).

The scale consists of 7 points describing a client's involvement in a therapy session. At the lowest levels of the scale, clients describe events or ideas in an objective, detached, and intellectualized manner (Level 1; e.g., a client might state that he saw his ex-wife at a party) or provide personally significant content without any reference to feelings, such as behaviours, opinions, preferences, abilities, values, or motives (Level 2; e.g., a desire not to see his ex-wife). At the intermediate levels, clients provide internal reactions to events, either in relation to external events (Level 3; e.g., sadness upon seeing his ex-wife) or as the subject of discourse in themselves (Level 4; e.g., hopelessness, devastation, and a desire to forget the relationship). At the higher levels, emotional experiences are used as a referent for problem-solving. The client explores a core problem or hypothesis about the self (Level 5; e.g., a fear of expressing affection), resolves a core problem by identifying its roots in emotional experiences (Level 6; e.g., fear of expressing affection as linked to fear of rejection), or applies such a resolution to other areas as part of an ongoing process of self-understanding (Level 7; e.g., the impact of fear of expressing affection due to fear of rejection on platonic and familial relationships.)

EXP ratings are given for both the mode (most common) and peak (highest) experiencing

levels in a given segment. Brief segments of a therapy session can be rated, with adequate reliability attained for segments ranging from 4-8 minutes in length (Klein et al., 1969).

Interrater reliability coefficients range from .76 to .91 (Klein et al., 1986).

Outcome Rating Scale. Outcome was measured with the Outcome Rating Scale (ORS; Miller et al., 2003). The ORS is a 4-item self-report outcome measure that captures client perceptions of therapeutic progress when administered session-by-session. Items reflect client functioning in terms of personal well-being, close interpersonal relationships (e.g., family), broader social interactions (work, school, friendships), as well as a global sense of well-being. The ORS-R shows high internal consistency ($\alpha = .93$ to $.97$) as well as test-retest reliability ($r = .80$) and concurrent validity with the Outcome Questionnaire ($r = .54$ to $.69$; Bringhurst, et al., 2004; Miller et al., 2003).

Procedures

Treatment Procedure

Therapy was conducted by 19 doctoral clinical psychology students at the University of Waterloo (15 female, 4 male), of whom 8 treated multiple clients. Therapists received foundational training in cognitive-behavioural therapy with some having additionally received supplementary training in EFT, family systems therapy, and/or compassion-focused therapy. The course of treatment begins with two to three assessment sessions involving a diagnostic assessment.

Sampling Procedure

Session Selection. Three consecutive sessions were selected for analysis from the working phase of therapy, which constitutes sessions five onward until the third session prior to termination (Pascual-Leone & Yeryomenko, 2016). Compared to the early (sessions one to four)

and termination phases (final two to four sessions), the working phase is characterized by higher modal experiencing levels. Since higher experiencing levels are infrequently observed, sampling from this phase increases the chance of capturing greater variation in experiencing levels. The working phase is also longest, permitting a greater number of sessions from which to sample. Use of treatment strategies may also be more typical of the working phase than the early phase, which is focused on goal-setting and rapport-building, or the termination phase, which is focused on reviewing treatment progress (Klein et al., 1986). On this basis, a decision was made to sample from the fourth to sixth sessions subsequent to a diagnostic assessment, which requires two to five sessions, and a feedback session. Accordingly, the sessions used were typically taken from the seventh to ninth sessions. For several client-therapist dyads, a session was missing or unusable due to change of format (e.g., a family session). The previous three consecutive sessions prior to the missing session were then used. For example, if the sixth session was missing, the third to fifth sessions were used.

Segment Selection. The middle portion of a session may be more typified by “working” than by session “warm-up” or homework review and planning of future sessions (Klein et al., 1969). In one study, the beginning of the 30th minute to 37th minute showed greater range of experiencing typically (Kiesler et al., 1965). Accordingly, we coded experiencing levels in the 25-minute portion spanning the 17.5th minute to the 42.5th minute. As for the length of each segment, equivalent reliabilities and relation to outcome have been found for segments of 2 to 16 minutes in length, and segments of 4 to 8 minutes were recommended to reduce fatigue and complexity (Kiesler et al., 1964; Klein et al., 1969). Five-minute segments were chosen as the one-minute alliance measurements are spaced five minutes apart and would therefore fall in the centre of each segment. Using shorter segments additionally ensured that the one-minute alliance

measurements capture a greater proportion of the segment and therefore better represent its mean alliance level. In summary, five segments were coded from the middle 25 minutes of three consecutive sessions (typically between sessions seven to nine) from 32 clients, resulting in a total of 480 segment ratings per process variable. Alliance ratings were based on one-minute segments while experiencing ratings were based on five-minute segments. Figure 1 illustrates the location of segments and sessions used for alliance and experiencing ratings.

Pretreatment and Posttreatment Outcome. Pretreatment levels of functioning were assessed using ORS ratings. The earliest session with available ORS data was used if it occurred within the assessment or feedback sessions or within the first 15% of all treatment sessions in that case (typically the first 1-4 sessions). Posttreatment functioning was assessed using ORS ratings from the final sessions of all clients with available ORS data. If ORS data from the final session was unavailable, the lattermost session with available ORS data was used if the session occurred after 75% of all sessions in that case were completed.

Training Procedure

Selection. Prior studies demonstrated near equivalent reliabilities for experiencing ratings made by clinically naive (undergraduate) and sophisticated (psychologist) raters (Kiesler, 1970; Kiesler, Klein, & Mathieu, 1967). On this basis, undergraduate students were employed as raters. Potential coders were selected based on recommended criteria listed in the experiencing Scale Training Manual, including language skills, maturity, discretion, and lack of prior counselling or coding experience (Klein et al., 1969). Strong language skills were the primary selection criterion since the experiencing Scale requires coders to understand the scale concepts and apply them to the manifest verbal content of client communications. Due to the sensitive nature of the data, coders with volunteering or work experience that required discretion and maturity were

prioritized. Following a 10-minute interview to assess motivation, maturity, conscientiousness, research experience, and interest in psychotherapy research and practice, potential coders used a simplified version of the Experiencing Scale to rate a list of statements generated for the purposes of this study. Further selection decisions were made based on the interview and the task.

At the end of the selection process, fourteen undergraduates (2 male, 12 female) were selected for training. Twelve coders were psychology majors and two were science majors. Two had prior coding experience and three had prior training in counselling. All coders received instruction on the importance of confidentiality and signed a confidentiality agreement. Coders were kept blind to study hypotheses and prior research on experiencing Scale correlates from previous research.

Training. Of fourteen coders selected, five coders discontinued training prior to completion. Nine coders completed the standardized training procedure outlined by Klein and colleagues (1969, 1986). Over a period of 7 weeks, coders independently reviewed the experiencing Scale and practiced rating 90 sample audio-recordings of therapy segments and accompanying transcripts taken from the experiencing Research and Training Manual. Twelve 1-1/2 hour biweekly meetings were held to discuss ratings in relation to expert ratings. To supplement their learning, additional training materials were created for the purposes of this study. This included a coding guide consisting of an expanded version of the experiencing scale with examples as well as guidelines for distinguishing scale levels, an assignment involving writing a summary of the scale levels, and an assignment involving generating examples for challenging levels. Raters also met as a group to collaboratively generate examples of levels 5 and 6. In addition, to establish shared interpretations of coding concepts with the present dataset,

all coders as well as the lead author rated and discussed a set of 12 segments from the dataset as a group prior to independent coding.

Rating Procedures

Eight of nine coders who completed training elected to continue on to code the dataset. Experiencing levels were scored using both transcripts and videotapes of sessions. Segments were presented in a randomized order. Raters coded approximately 20 segments per week and were encouraged to take breaks of 15 minutes after two consecutive hours of coding. Following the start of independent coding, coders as well as the lead author additionally rated and discussed 4-5 segments as a group on a triweekly basis. This setup provided continual skill maintenance. For all group-coded segments, the lead author's ratings were used in analyses.

In the first round of coding, each segment was rated by two random raters. In the second round, segments with discrepant ratings were re-rated by a third rater. Since high-level ratings (Levels 5-7) are less frequent and are of theoretical interest, a decision was made to prioritize accuracy for higher-level ratings. Our data suggests that inter-rater reliabilities are lower for Levels 4 to 7 and that instances of Levels 5 to 7 are often underrated as Level 4s. Additionally, one circumstance in which higher-level segments might be misidentified is when an instance of a high level runs across multiple segments. Levels 5 to 7 each include several criteria which take up a large portion of a five-minute segment and may therefore continue from a prior segment or onto a subsequent segment. Therefore, in the third round of rating, either the lead author of this study or the rater who demonstrated the highest proficiency with the Experiencing Scale during training re-rated any segment rated Level 4-7 by at least one rater. For each segment that was re-rated, the previous and subsequent segment were reviewed to determine whether the high level rating should extend to an adjacent segment or whether criteria were met for a higher level than

the original rating.

Units of Analysis

Alliance ratings were one minute in length and spaced 5 minutes apart throughout the therapy hour. Alliance ratings were averaged across raters if a minimum of four raters provided data for a given segment. Each one-minute segment with an alliance rating within the middle 25 minutes of a session mapped onto a five-minute segment which was coded to generate experiencing ratings. Experiencing ratings were averaged across all coders. Since the experiencing levels represent discrete categories, ratings were rounded to the nearest whole number. Modal and peak experiencing ratings were analyzed separately as they possess distinct informational value (Klein et al., 1969). For both common factors, ratings at the segment level were taken as the unit of analysis for within-session comparisons. For phase-level comparisons, segment-level ratings from the middle 25 minutes of three sessions included were aggregated. Finally, to assess correspondence between alliance ratings at the segment and session level, session-level alliance ratings were generated by averaging ratings of twelve one-minute segments spaced throughout the entirety of each session (Milovanov et al., 2021).

Results

Data Cleaning

Frequency counts for alliance and experiencing ratings were inspected for suspicious entries. On this basis, rater data from one client was excluded from all subsequent analyses. After exclusions, a total of 473 segment-level ratings from 31 clients were retained for analyses involving experiencing alone. Due to incomplete rater data, a total of 384 segments with both experiencing and alliance data were available for analyses involving both process variables. Additionally, for two clients, ORS data from the final session was unavailable. Accordingly, the lattermost session with available ORS data was used if the session occurred after 75% of all sessions in that case were completed. This rule was applied to two cases. Accordingly, a total of 19 clients were included in analyses involving outcome. For detection of outliers, skewness and kurtosis were checked for all process and outcome variables and none were elevated.

Psychometrics

Interrater Reliabilities for Process Variables

To assess interrater reliabilities for alliance ratings, a two-way mixed, single-measures intraclass correlation coefficient, consistency was calculated. For the first group of raters, adequate agreement was achieved for the *bond* ($ICC(3,1) = .71$) component while agreement for the *task/goals* component fell slightly below the threshold ($ICC(3,1) = .69$; Shrout & Fleiss, 1980). The Spearman-Brown formula was used to estimate the number of additional raters needed for excellent reliability (0.8). Results suggest that increasing the number of raters from four to seven would yield excellent reliability for both *bond* and *task/goals*. For the second group of raters, adequate agreement was attained for both *bond* ($ICC(3,1) = .77$) and *task/goals* ($ICC(3,1) = .76$).

A two-way, mixed, single-measures intraclass correlation coefficient, absolute agreement was computed for all pre-consensus group experiencing coding following training. Adequate agreement was attained for modal ($ICC(3,1) = .77$) and peak ($ICC(3,1) = .76$) experiencing ratings.

Convergence between Segment and Session Alliance

To assess correspondence between segment- and session-level measurements of the alliance, Pearson correlations were computed. A total of 58 sessions with complete data from 24 clients were included. Segment-level bond and task/goals were both moderately associated with session-level aggregates, $r(726) = .69, p < .001$ and $r(726) = .57, p < .001$, respectively. The composite of both components was also moderately related at the segment and session levels, $r(726) = .66, p < .001$.

Mean Modal and Peak Experiencing in CBT

Table 1 displays frequency counts for modal and peak experiencing ratings at the segment level. As anticipated, frequency counts indicate that a larger proportion of segment-level modal experiencing ratings were Level 2 (51.6%) compared to Level 3 (22.2%). Levels 5 (5.7%) and 6 (1.5%) were notably rare, while Level 7 was not observed. Table 2 presents descriptive statistics and correlations between segment level experiencing and alliance ratings. Mean modal and peak experiencing were consistent with prior findings on experiencing in CBT at 2.63 and 3.36, respectively.

Development in Experiencing Within a Session

Table 3 depicts average modal and peak experiencing across segments. A one-way ANOVA was computed to assess the effect of segment location on peak EXP. Differences in peak experiencing were found according to segment location, ($F(4,449) = 2.318, p = .04$). Levene's

test for homogeneity of variances was non-significant, suggesting equal variances across segment location ($F(4,449) = 1.327$, ns). Peak experiencing was slightly lower in the 37.5th and 42.5th minute in a session. Post hoc comparisons using the Tukey HSD test indicated that mean peak experiencing in the lattermost 5-minute portion spanning the 37.5th to 42.5th minute ($M = 3.37$, $SD = 0.99$) was significantly lower than the three 5 minute portions spanning the 22.5th minute to the 27th minute ($M = 3.61$, $SD = 0.90$), the 27.5th to 32.5th minutes ($M = 3.48$, $SD = 1.15$) as well as the 32.5th to 37.5th minutes ($M = 3.34$, $SD = 0.94$).

Correlations between Segment-level Alliance and Emotional Processing

Consistent with prior literature, modal experiencing was weakly related to the alliance ($r = .171$) as well as bond ($r = .186$) and task/goals ($r = .134$). Peak experiencing was weakly associated with the alliance ($r = .245$) as well as bond ($r = .256$) and task/goals ($r = .206$).

Emotional Processing Across Levels of Bond and Task/goals

Since modal experiencing levels above Level 4 were infrequent (7.2% of ratings), only peak experiencing ratings were used (11.4%). Level 1 was excluded from analyses due to limited sample size ($n = 3$). Results for Level 6 should also be interpreted with caution given limited sample size ($n = 18$). Box and violin plots illustrating segment levels of bond and task/goals across peak experiencing are shown in Figure 2. Variability was assessed using the interquartile range (IQR), which represents the difference between observations at the 75th and 25th percentiles. Notably, *IQR* comparisons that follow are descriptive in nature and no significance tests were performed.

As hypothesized, bond variability was lowest at Level 6 ($IQR = 0.85$), followed by Levels 4 and 5 ($IQRs = 1.00$), while Level 3 ($IQR = 1.25$) and Level 2 ($IQR = 1.275$) exhibited greater variability. Similarly, for task/goal agreement, variability was lowest at Level 6 ($IQR =$

0.50) and appeared more restricted than for bond. Level 4 ($IQR = 0.75$) displayed the second-least variability. Variability was approximately equal for Level 5 (0.975) and Levels 2 and 3 ($IQRs = 1.00$). Taken together, these results suggest that Level 6s may occur above a threshold for both bond and task/goals. While Levels 4 and 5 exhibited relatively lower bond variability than lower levels, Level 4 but not Level 5 was comparatively less variable for task/goals.

Notably, for both Levels 2 and 3, the lowermost quartile (25th percentile) of observations encompassed poor alliances (rated below 0). In contrast, only one outlier at Level 4 was observed at 0, and only a small proportion of Levels 5 or 6 occurred within weak alliance ratings of (below 1) with none below 0. Accordingly, while low experiencing levels often occur within weak as well as poor alliances, experiencing levels above 4 rarely appear within weak alliances and do not appear within poor alliances. This pattern of results suggests a threshold alliance level above which high experiencing levels can occur.

A one-way ANOVA was conducted to explore differences in bond and goals across peak EXP. For bond, Levene's test of homogeneity of variances indicated unequal variances across groups ($F(4,378) = 3.099, p = 0.16$). Welch's one-way ANOVA for groups with unequal variances was used (Field, 2013). Bond differed according to peak EXP, ($F(4,71.589) = 7.593, p < .001$). Post-hoc tests using the Games-Howell test for unequal variances (Field, 2013) are summarized in Table 4. Mean bond at Level 2 ($M = 1.165, SD = 0.863$) was lower than at Level 4 ($M = 1.783, SD = 0.661; p < .001$), Level 5 ($M = 1.788, SD = 0.729; p = .006$), and Level 6 ($M = 1.757, SD = 0.539; p < .017$). Mean bond at Level 3 ($M = 1.462, SD = 0.779$) was also lower than at Level 4 ($p = .003$). Taken together, Level 2s, and to a lesser extent Level 3s, occur at lower levels of bond. Next, a one-way ANOVA was conducted to examine differences in task/goals across peak EXP. Levene's test was not significant, ($F(4,378) = 1.822, p = .124$).

Task/goals differed across peak EXP, ($F(4,378) = 4.467, p = .002$). Post-hoc tests using the Bonferroni test are summarized in Table 5. Mean task/goals at Level 2 ($M = 1.251, SD = 0.697$) was lower than at Level 3 ($M = 1.473, SD = 0.709; p = .004$) and Level 4 ($M = 1.653, SD = 0.660; p = .029$).

Overall, these results indicate that Level 6s occurred exclusively within strong alliances and at higher mean bond compared to lower levels. Predominantly, successively lower experiencing levels exhibited greater alliance variability. Additionally, mean bond and task/goals were usually but not always lower at Level 2 compared to Levels 4 and above.

Correlations between Working Phase Alliance, Emotional Processing, and Outcome

Table 6 presents descriptive statistics and Pearson correlations for working phase process variables and outcome. Working phase modal experiencing was moderately associated with working phase alliance ($r = .350$), as well as working phase bond ($r = .366$) and task/goals ($r = .317$). Similarly, working phase peak experiencing was moderately linked to working phase alliance ($r = .459$), bond ($r = .477$), and task/goals ($r = .419$).

For correlations involving ORS data, a subsample of 19 clients with available ORS data was used. Since one aim of this study was to replicate prior EFT studies, change in outcome was calculated with the same method. Outcome was measured as residualized change calculated as the standardized residuals of regressing final ORS scores onto pretreatment ORS scores (Cronbach & Furby, 1970). This metric controls for clients' functioning prior to treatment. Outcome was associated with both working phase modal ($r = .525$) and peak experiencing ($r = .598$). A moderate association was also found between working phase alliance and outcome ($r = .457$). Outcome was moderately related to working phase bond ($r = .480$) and task/goals ($r = .418$).

Hierarchical Regressions Predicting Outcome from Emotional Processing and the Alliance

Hierarchical regression analyses were carried out to assess contributions of working phase experiencing and alliance to predicting change. Table 7 presents a summary of regression results. Replicating past research, working phase alliance significantly predicted change, $\beta = -.457$, $t(18) = 2.118$, $p = .049$, in a model explaining 21% of variance in change, $R^2 = .209$, $F(1, 17) = 4.49$, $p = .049$. A second regression model including both working phase alliance and experiencing was compared with the previous model. Peak experiencing significantly predicted change, $\beta = .457$, $t(17) = 6.53$, $p = .008$. However, working phase alliance no longer predicted change, $\beta = -.196$, $t(17) = 0.851$, $p = .407$. This model explained 38.5% of variance in change, $R^2 = .385$, $R^2 \text{ change} = .176$, $F(2, 16) = 5.00$, $p = .021$. Accordingly, the alliance no longer predicted outcome once emotional processing was incorporated.

Discussion

Although the effectiveness of psychotherapy is firmly established, questions remain about how and why therapy leads to change (Kazdin, 2009). Researchers have sought to pinpoint common factors that account for outcome across treatment frameworks (Norcross & Lambert, 2011). According to Kazdin (2007), compelling evidence that a common factor indeed produces change includes a theoretical framework explaining its function, a timeline for its development in therapy, and knowledge of interrelations with other common factors. To date, the alliance is the common factor most consistently associated with outcome (Brown, 2015). However, a theoretical framework is needed for its role in change (Cuijpers et al., 2019). The primary aims of this study were to a) test the hypothesis that a strong alliance is necessary for deeper emotional processing and b) replicate EFT studies in which emotional processing contributed to outcome over and above the alliance within a sample of CBT clients.

Alliance as a Prerequisite to Emotional Processing

Two possible functions of the alliance have accumulated theoretical support. The alliance may effect change because it is inherently healing, facilitative of other change ingredients, or both (Zilcha-Mano et al., 2017). While the former has received empirical support, the latter requires investigation. Results of the present study tentatively support the interpretation that the alliance provides a safe therapeutic environment needed to proceed with treatment techniques.

The main goal of this study was to explore the hypothesis that a client's ability to process emotions within a therapy session is contingent on the quality of the alliance. A threshold effect was hypothesized, such that a strong alliance was necessary for higher levels of emotional processing while lower levels of emotional processing could occur regardless of alliance strength. Results supported this notion, such that the highest level of emotional processing

occurred within a stronger alliance while lower levels occurred within strong and poor alliances. These findings align with qualitative research on client perspectives of the alliance (e.g., Nødtvedt et al., 2019). Since the conditional relationship between the alliance and emotional processing is a central tenet of emotion-focused therapy, evidence for this link provides support to its theoretical framework (Greenberg, 2014).

Emotional Processing, the Alliance, and Outcome

The predictive power of emotional processing over the alliance in a CBT sample replicates results from prior EFT studies (e.g., Missirlian et al., 2005) in addition to meta-analytic findings that experiencing predicts outcome across treatment frameworks (Pascual-Leone & Yeryomenko, 2016). The association between experiencing and outcome was unexpectedly high ($r = .597$) compared to meta-analytic results on experiencing ($r = .24$ for peak EXP) as well as observer-rated emotional arousal and processing ($r = .45$, Peluso & Freund, 2018). The magnitude also exceeds results from meta-analyses on the self-reported ($r = .25$) and observer-rated alliance ($r = .23$; Flückiger et al., 2018). The study is underpowered, for which reason limited sample size ($n = 19$) might have led to an inflated result.

A possible contributing factor to this discrepancy is the rater training method. While the standardized training protocol for the experiencing was used, several additional training resources and assignments were created to clarify concepts from the scale. All segments were rated by two raters at minimum, while in most studies raters overlapped on only a subset of segments (typically 33%; Pascual-Leone & Yeryomenko, 2016). The rater who demonstrated greatest proficiency during training or the lead author on the study additionally reviewed all instances of higher levels. If construct validity improved as a result of these procedures, the relation to outcome may have been stronger due to a decrease in measurement error compared to

prior studies.

The finding that emotional processing predicts outcome over and above the alliance suggests that in CBT, emotional processing is important to outcome and this importance is not simply due to conceptual overlap with the therapeutic alliance. Further research is necessary to clarify whether the relationship between emotional processing and outcome is causal in nature or whether emotional processing is itself facilitative for another important change mechanism which primarily leads to outcome. Evidence for causality would provide support for the change process outlined in the EFT literature, in which emotional processing leads to outcome (Greenberg et al., 1993). If replicated in other treatment orientations, this sequence could contribute to a unifying theoretical framework explaining the roles of these common factors in bringing about change. Further support for this sequence could necessitate a paradigm shift insofar that emotional processing rather than the alliance may be conceptualized as principally responsible for change. This shift could critically inform the construction of therapies for different psychological disorders, which typically include procedures for building and maintaining a strong alliance. A greater emphasis on emotional processing would also be necessary in therapist training.

Interestingly, the strength of the EXP-outcome relation exceeded the magnitude in prior EFT studies despite lower average emotional processing. Average emotional processing may have been lower given the emphasis of CBT on cognitions and its central tenet that cognitive restructuring mediates change (Clark et al., 1999). It has been theorized that clients in CBT take an intellectual rather than explorative approach to emotions (Mackay et al., 2002), which may explain clients' preferences for Level 2 statements over Level 3 statements in the present dataset

as well as prior research (Watson & Bedard, 2006). Nonetheless, results suggest that emotional processing factors prominently in successful CBT.

While exploration of emotional experiences may appear antithetical to a focus on recalibrating cognitions, the experiencing construct bears considerable conceptual resemblance to cognitive restructuring. It is first important to note that in the experiencing Scale, the definition of feelings includes emotions (e.g., anger, joy) in addition to assumptions basic to self-image (e.g., feelings of inadequacy or unattractiveness; Klein et al., 1969) which, in the CBT framework, are of primary interest and might be classified as hot thoughts or core beliefs (Clark et al., 2013). In addition, the experiencing scale captures emotional processing, which integrates affect with cognition, rather than emotional arousal, which represents affect only (Greenberg, 2002). Researchers have identified two pathways for emotion, the faster amygdala-driven pathway and the slower neocortex-driven pathway, in which emotion is organized by thought (LeDoux, 1998). EFT theorists argue that the reflection on emotion strengthens the second pathway (Greenberg, 2010). Correspondingly, research suggests that CBT outcome may be mediated by downregulation of the amygdala, in which cognitive processing is prioritized over emotional arousal (Rubin-Falcone et al., 2018).

Additionally, techniques in CBT may elicit high experiencing levels. A client completing a thought record might identify a connection between a thought pattern and an emotion, leading to a shift in perception (Level 6). A thought record with this outcome would likely be viewed as a great success by the therapist. Similarly, collaborative case conceptualization involves mapping out a constellation of thoughts, feelings, and behaviours (Kuyken et al., 2009). A client who is highly engaged in this process might contribute suggestions, adding additional points to the constellation (Level 5). Overall, it is not so surprising that experiencing predicts change in CBT

as the construct may promote and overlap with cognitive restructuring and other elements of CBT.

Observer Ratings of the Alliance and Outcome

Another unexpected result of the present study was that the magnitude of the alliance-outcome relation was stronger ($r = .457$) than in extant data. This finding should be interpreted with caution, as the sample size was limited at 19 clients. If replicated, this finding is striking. A key implication is that the alliance, often regarded as the primary curative factor in psychotherapy, may in fact be more curative than previously thought (Brown, 2015).

The magnitude detected in the present study exceeds meta-analytic results on self-report alliance ratings ($r = .25$) as well as observer ratings ($r = .22$; Flückiger et al., 2018). One explanation is that observer ratings offer a greater ceiling for accuracy than self-reports. One meta-analysis showed that observer ratings of emotional processing ($r = .45$) were substantially more predictive of outcome than self-reports ($r = .20$; Peluso & Freund, 2018).

Thin slice ratings, which are observer-rated by definition, may have the potential to maximize rater accuracy. Therapist- and self-reports are retrospective, for which reason recency bias is a risk. A client or therapist's impression of the alliance rated immediately after a session ends may overvalue the latter portion of a session at the expense of minute variations that occurred during the session. Clients and therapists might also have affective reactions to their sessions that influence ratings. In particular, salient events such as ruptures might be privileged as evidence of alliance quality. While observers rating full therapy sessions are uninvolved in the session, raters might still prioritize salient events or events at the end of a session.

In comparison, the thin slicing method can be used to produce observer ratings of segments spaced across a session that capture variation. In this study, segments from various

sessions were rated in random order, controlling for the timing of segments and preventing contamination of ratings from earlier parts of the session. Multiple raters can also provide data, while client or therapist ratings are given by one individual. Although use of multiple raters is possible for observer-rated measures of full therapy sessions, having a large pool of raters rate one full 60-minute session may be time- and resource-intensive. In comparison, many raters can efficiently rate twelve one-minute segments of one session.

Overall, theorists have hitherto interpreted the predictive advantage of self-report alliance measures as evidence that the client's perception of the alliance is most influential to change (Bohart & Tallman, 2010). It may instead be that objective shifts in the alliance throughout a session better predict success.

Trends in Emotional Processing within a Session

A tertiary goal of this study was to assess trends in emotional processing within a session. A previous study found that experiencing was highest during the 30th – 37th minute of the therapy hour. The results of this study found similar experiencing levels between the 18.5th to 37.5th minutes. However, experiencing dropped at the 37.5th minute. These results suggest either that most of the timeframe sampled in the present study is ideal for mapping experiencing patterns or that experiencing patterns vary little within the middle of a session.

Limitations

A number of limitations were present in this study. Since the original sample size of 31 was reduced to 19 clients for outcome analyses due to limited availability of ORS data, results should be interpreted with caution. While the larger sample was used to generate boxplots, high levels of experiencing were still infrequent, for which reason boxplots should be interpreted with caution. Additionally, alliance data was partially incomplete at the time of analysis, and a

different set of raters rated each half of the dataset.

The thin slicing method for the alliance also currently lacks data on psychometric properties, most notably its correspondence with the self-reported alliance. Inter-rater reliabilities were adequate for bond and fell slightly below the acceptable threshold for task/goals. Additionally, segment and session ratings were only moderately correlated. However, very high correspondence between a segment and session might suggest that the measure is not sufficiently sensitive to detect variations within a session, indicating that little non-redundant information is added by measuring multiple segments. Since thin slicing is intended to capture within-session shifts in the alliance, less consistency is expected compared to a post-session measure intended to capture a client's overall sense of the alliance during a session. Additionally, the correlation between working phase alliance and modal experiencing ($r = .35$) closely matches the correlation found in another CBT study between self-reported working phase alliance and peak experiencing ($r = .29$; Watson et al., 2011). Accordingly, some results with this measure converge with prior findings. More data is needed for stronger conclusions.

Another possible limitation is that segment lengths differ between process variables. It is unclear how accurately one-minute alliance ratings characterize the alliance throughout the five-minute segments in which they are situated. (Data to address this question is currently being collected). Fluctuations outside the one-minute window would be missed, while low ratings due to brief ruptures within the window would be generalized to the rest of the segment. Nonetheless, this method offers improved precision beyond the standard practice of using one session-level alliance to describe the alliance across the course of therapy.

Shared method variance is a risk since observational rating methods were used for both process variables. However, the associations between segment levels of the alliance and modal (r

= .171) and peak experiencing ($r = .245$) were weak. Since the segments used to rate process variables overlap temporally, the two variables would be expected to correspond highly if shared method variance was a concern. In the context of adequate interrater reliabilities attained for the alliance measure, this suggests that shared method variance may not be a concern.

Another limitation of this study is that multiple clients were treated by the same therapist. This represents an uncontrolled source of dependency as observations would not be independent. Additionally, long-term therapy cases were not distinguished from short-term cases when they may in fact be qualitatively different. The sample size for long-term cases was inadequate to perform a *t*-test comparing process levels based on case length.

Conclusions and Future Directions

The results of this study provide tentative support for the hypothesized change process outlined in the EFT literature, such that the alliance facilitates emotional processing, which itself is necessary for outcome (Greenberg & Watson, 2006). Results underscore the importance of emotion as a common factor that plays an active role in change in CBT. Indirect support was also found for the notion that the role of the alliance includes facilitation of other change ingredients. Results also support the utility of observational ratings of common factors within thin slices throughout a session for mapping variation over the therapy hour. More broadly, this research produced data linking within-session shifts in common factors and their interplay, which is generally lacking and particularly absent in research on the alliance (Brown, 2015).

Further research is needed to refine the conceptual relationships between emotional processing and the alliance. A more stringent test of alliance variability across experiencing is necessary for stronger conclusions. It may be interesting to also isolate which components of bond (e.g., warmth, mutual liking, trust) are most critical for deeper emotional processing.

Another interesting direction may be disentangling the relative importance of client and therapist contributions to the alliance in promoting emotional processing. Other compelling questions include the impact of alliance stability on emotional processing. A stable alliance may be required before deeper emotional processing can occur. Alternatively, a contemporaneously strong alliance might suffice. Individual differences may also influence the extent to which characteristics of the therapeutic relationship facilitate emotional processing. For example, high therapist empathy can be counterproductive to clients lacking treatment motivation, and might similarly inhibit emotional processing (Elliot et al., 2018).

Replicating the interplay of emotional processing, alliance, and outcome across treatment frameworks would further support the notion that emotional processing pan-theoretically predicts outcome beyond the alliance. Additionally, the present study used the ORS to assess outcome, which is a relatively blunt instrument intended to measure a client's overall impression of well-being in a few domains (Miller et al., 2003). Results should be replicated with longer, multidimensional outcome measures that provide a more nuanced picture of functioning in different domains.

Further research is needed to determine whether emotional processing has a causal relationship to outcome. Strong evidence of causality includes demonstration that changes in the common factor precede changes in outcome (Kazdin, 2007). This has yet to be studied with emotional processing. There is also a need to clarify whether there is a dose-response association with outcome. For example, Carryer and Greenberg (2010) illustrated a U-shaped curve between emotional arousal and outcome. There may be a corresponding optimal level of emotional processing for outcome.

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Appendices

Tables

Table 1

Frequencies of Segment-level Modal and Peak Emotional Processing

Level	Modal EXP		Peak EXP	
	<i>n</i>	%	<i>n</i>	%
1	32	6.8	4	.8
2	244	51.6	71	15.0
3	105	22.2	219	46.3
4	58	12.3	125	26.4
5	27	5.7	36	7.6
6	7	1.5	18	3.8

Table 2

Descriptives and Correlations for Segment level Emotional Processing and Alliance

	1	2	3	4	5	<i>M</i>	<i>SD</i>
1. Modal EXP	-					2.630	1.066
2. Peak EXP	.764**	-				3.360	0.982
3. Alliance	.171**	.245**	-			1.51	0.710
4. Task/Goals	.134*	.206*	.942**	-		1.503	0.711
5. Bond	.186**	.256	.953*	.797**	-	1.518	0.788

* $p < 0.05$ ** $p < 0.01$.

Mean Modal and Peak EXP Within a Session

Table 3

Minutes in Session	Modal EXP	Peak EXP
17.5 - 22.5	2.632	3.400
22.5 – 27.5	2.594	3.510
27.5 – 32.5	2.809	3.468
32.5 – 37.5	2.630	3.348
37.5 – 42.5	2.490	3.094

Table 4

Post-hoc Comparisons: Mean Differences in Bond Across Levels of Peak Emotional Processing

	2	3	4	5
Level 2	-			
Level 3	-0.297	-		
Level 4	-0.618*	-0.321*	-	
Level 5	-0.623*	-0.326	-0.005	-
Level 6	-0.591*	-0.295	0.031	-0.312

* $p < 0.05$.

Table 5

Post-hoc Comparisons: Mean Differences in Task/Goals Across Levels of Peak Emotional Processing

	2	3	4	5
Level 2	-			
Level 3	-.222	-		
Level 4	-.402*	-.180	-	
Level 5	-.468*	-.246	-.066	-
Level 6	-.516	-.294	-.114	-.047

* $p < 0.05$ ** $p < 0.01$.

Table 6

Descriptives and Correlations for Working Phase Emotional Processing, Alliance, and Outcome

	1	2	3	4	5	<i>M</i>	<i>SD</i>
1. ORS change	-					.00	0.972
2. Phase Modal EXP	.525*	-				2.543	0.456
3. Phase Peak EXP	.597**	.935**	-			3.274	0.489
4. Phase Alliance	.457*	.350*	.459**	-		1.518	0.548
5. Phase Task/Goals	.418	.317	.419*	.978**	-	1.485	0.49
6. Phase Bond	.480*	.366*	.477**	.984**	.925**	1.55	0.620

* $p < 0.05$ ** $p < 0.01$. $N = 19$ for all correlations involving ORS change. $N = 31$ for all other correlations.

Table 7

Regression Analysis Summary for Working Phase Alliance and Peak Emotional Processing Predicting Outcome

Process Variable	R_{total}	R^2_{total}	β	t	p	F
(Intercept)				-1.995	.062	$F(1, 17) = 4.49,$ $p = .049$
Phase Alliance	.457	.209	.457	2.118	.049	
(Intercept)				-2.867	.011	$F(2, 16) = 5.00,$ $p = .021$
Phase Alliance			.194	.851	.407	
Phase Peak EXP	.620	.385	.494	2.139	.048	

* $p < 0.05$ ** $p < 0.01$

Figures

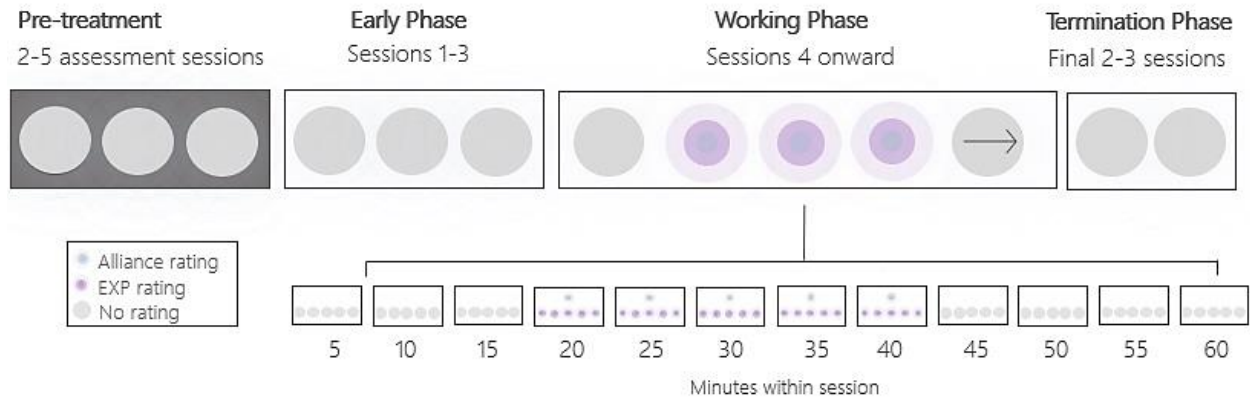


Figure 1. Diagram depicting location of segments and sessions over the course of treatment. The middle 25 minutes of three working phase sessions were used. One-minute segments rated for the alliance were centrally situated within five-minute segments rated for EXP.

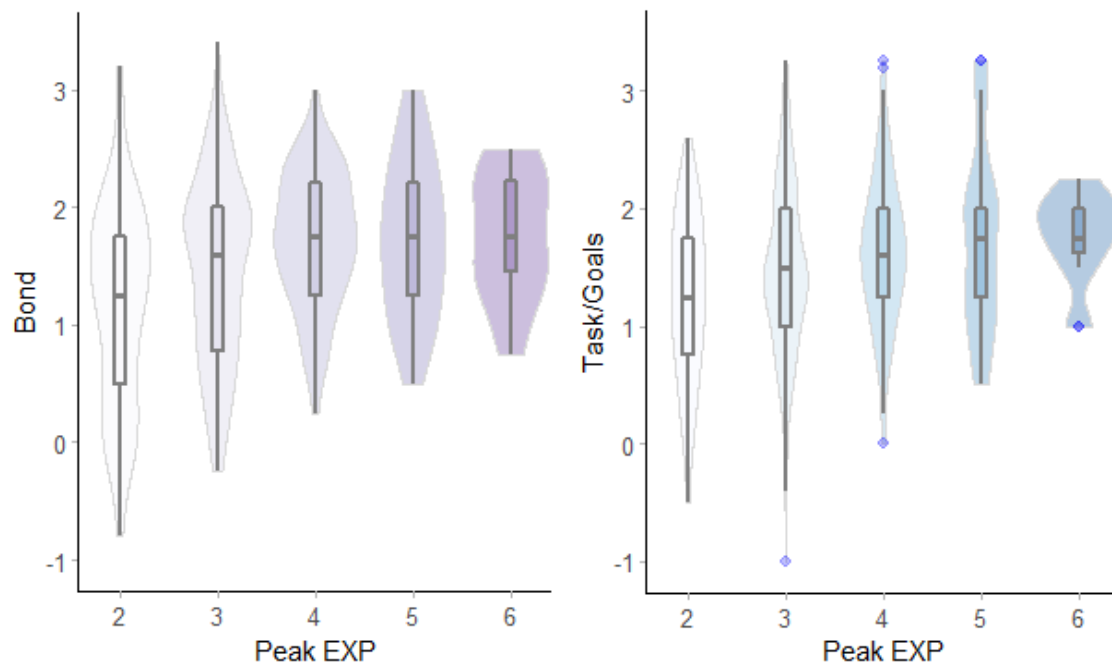


Figure 2. Box and violin plots depicting bond and task/goals across levels of Peak EXP. Outliers are included as dots. Box plots display the median and interquartile range. The vertical line indicates the maximum and minimum values >1.5 times the interquartile range. Outliers are shown when the datapoint falls 1.5 times the interquartile range beyond the nearest quartile.