



# Exploratory Study of Common Changes in Client Behaviors Following Routine Psychotherapy: Does Psychological Flexibility Typically Change and Predict Outcomes?

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## Abstract

Psychological flexibility refers to a modifiable pattern of interacting with one's experiences with openness and awareness (acceptance-and-mindfulness) and active engagement guided by personal values (commitment-and-behavioral activation). Psychological flexibility has a base of research literature that supports its utility as a model of human behavioral health and pathology. Although the model is central in organizing the therapeutic processes of Acceptance and Commitment Therapy, researchers have argued that psychological flexibility processes might be activated in other effective therapy models included in routine psychotherapy, even if those models do not purport to target those processes. This study explored the degree to which aspects of clients' psychological flexibility, specifically acceptance-and-mindfulness and commitment-and-behavioral activation, changed after episodes of routine psychotherapy and were predictors of outcome changes for a clinically heterogeneous sample ( $n = 197$ ) in a naturalistic treatment setting. Results showed statistically significant and small improvements in acceptance-and-mindfulness ( $d = 0.22$ ) and commitment-and-behavioral activation ( $d = 0.24$ ) and that changes in psychological flexibility were significant predictors of changes in both flourishing and distress, explaining 42% and 23% of those respective therapy outcomes. Whereas a mix of therapy approaches may slightly improve psychological flexibility, more explicit attention to strengthening it might benefit the work of diverse psychotherapists given its potential relevance to achieving common overarching therapy outcomes.

**Keywords** Psychological flexibility · Process-based therapy · Mindfulness · Acceptance · Behavioral activation · Therapeutic process

## Introduction

Within evidence-based therapy research, Hofmann and Hayes (2018) argue that a long-standing shift to “process-based therapy” is reaching a tipping point. They describe markers of progress in the movement away from focusing on developing therapy protocols aimed at DSM categories. Correspondingly, they identify movement towards refining core sets of etiological processes that facilitate achievement of clients' therapy goals and are empirically-verifiable, modifiable, and theory-based. Among many other consequences, they theorize that such a movement might demote

the relevance of “therapy brands.” Instead, they outline a future focused on the scientific development and training of approaches for idiographically assessing and modifying core processes implicated in a client's progress to well-being.

In pursuit of that future, Hofmann and Hayes (2018) offered a definition of therapeutic processes as “a set of theory-based, dynamic, progressive, and multi-level changes that occur in predictable empirically established sequences oriented toward the desirable outcomes” (p. 2). While this definition explicitly acknowledges that relevant therapeutic changes might occur and dynamically interact across multiple levels, like the socio-cultural level, epigenetic level, and more, this paper focuses on changes at the psychological level as it is the level at which psychotherapy is primarily targeted and conducted. At this level of analysis, Hofmann and Hayes distinguished therapeutic processes from therapeutic procedures, the actions or techniques psychotherapists use as tools, and from therapy outcomes, the specific

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goals of the client. Although they acknowledge a lack of consensus on a set of therapeutic psychological processes, they highlighted that promising concepts with varying precision, scope, and philosophical assumptions already exist within the evidence-based psychotherapy literature (Hayes and Hofmann 2018).

The psychological flexibility model of therapeutic processes could be one such candidate for contributing to the process-based future of evidence-based psychotherapy. While psychological flexibility has accumulated empirical support suggestive of its relevance to clinical psychology (Kashdan and Rottenberg 2010; Morris and Manswell 2018), its case for relevance to therapists of diverse theories might be bolstered by evidence that the psychological processes: (1) are predictive of and pragmatically important to successful treatment episodes for typical clinical complaints and (2) can be modified by a range of effective therapeutic methods typically used in routine psychotherapy. Such evidence might broaden the appeal of psychological flexibility processes as intentional targets for the diversity of therapeutic procedures that are ultimately deployed for the achievement of therapy outcomes.

### Relationship Between Psychological Flexibility and Behavioral Health

The psychological flexibility model posits that suffering is likely when the dominance of cognition and a pattern of avoiding/escaping unwanted internal experiences renders a person's behavioral repertoire functionally narrow and less sensitive to adjusting to present circumstances in order to facilitate living in available life-affirming directions (psychological inflexibility). Conversely, psychological health is predicted to be more likely when a person's behavioral repertoire is functionally broad and flexible in the presence of difficult internal experiences, sensitive to the allowances of present contexts, and guided by what individuals choose as the most important principles for their lives (psychological flexibility; Hayes et al. 2012). Psychological flexibility/inflexibility does not refer to a possessed characteristic of a person that is independent of their life circumstances. Instead, it refers to a person's pattern and quality of interactions with and influenced by their history and situation. Said less technically, psychological flexibility describes a pattern of person-environment interactions characterized by openness, centered-awareness, and active engagement influenced by personal values (Hayes et al. 2011).

An old and expanding body of research exists that indicates that psychological inflexibility predicts the presence, history, or future development of a broad range of DSM disorders and forms of maladaptive functioning (Levin et al. 2014; Spinhoven et al. 2014). For example, Gloster et al. (2017a) demonstrated that psychological flexibility

moderated the relationships between mental and physical health and their known risk factors among a representative sample of a European population. In samples of United States individuals, Borgogna et al. (2020) indicated that psychological flexibility was a strong predictor of depression and anxiety across a range of racial/ethnic backgrounds. Makriyianis et al. (2019) found that psychological inflexibility mediated the relationship between adverse childhood experiences and depression and anxiety in adulthood. Similarly, a year following major life events, psychological flexibility moderated the relationship between the events and depressive symptoms and negative appraisals of the events (Fonseca et al. 2019).

Psychological flexibility is conceptually derived from behavioral and evolutionary theory (Hayes and Sanford 2015) and basic and applied research has demonstrated that a set of modifiable therapeutic processes may be involved in strengthening psychological flexibility and weakening psychological inflexibility (Berghoff et al. 2018; Levin et al. 2012). Furthermore, recent research indicated that these processes may be interrelated and that some distinct profiles of their configurations uniquely predict measures of functioning, distress, and physical health outcomes (Rolffs et al. 2016; Stabbe et al. 2019). Lastly, for particular psychotherapy models, studies have shown that changing psychological flexibility/inflexibility processes mediated the relationship between those therapy models and treatment outcomes (Bramwell and Richardson 2018; Stockton et al. 2018).

### Psychological Flexibility Processes as the Therapeutic Change Mechanisms of Acceptance and Commitment Therapy

Strengthening psychological flexibility and weakening psychological inflexibility is the explicit focus of Acceptance and Commitment Therapy (ACT), a psychotherapy model for behavior change. The therapy explicitly targets helping people build flexible and broad repertoires for living their lives well rather than for eliminating symptoms of any specific diagnosis (Hayes et al. 2012). Nevertheless, ACT has demonstrated effectiveness in reducing the symptoms of various psychological disorders and behavior challenges like anxiety, depression, somatic health problems, suicide, and substance misuse (A-Tjak et al. 2014; Ducasse et al. 2018; Ii et al. 2019). Moreover, studies have indicated potential for ACT in preventing behavioral health concerns in high risk populations and promoting well-being (Dindo et al. 2018; Grègoire et al. 2018; Ostergaard et al. 2020).

ACT is characterized by a set of change processes for strengthening psychological flexibility that practitioners detect and modify via various therapeutic procedures. ACT broadly conceptualizes the change processes of the

amelioration of narrow cognition-dominated and avoidance-oriented behaving under acceptance-and-mindfulness. The change processes characterized by identifying over-arching life-affirming qualities for acting and engaging in expanding patterns of corresponding actions are conceptualized under commitment-and-behavioral activation. Lastly, the progression of more conscious present-centered attending and non-judgmental perspective-taking are processes theorized to overlap with both acceptance-and-mindfulness and commitment-and-behavioral activation components (Hayes et al. 2012).

Research has indicated that differential targeting of these processes via their complimentary ACT procedures generates theory-consistent changes in those treatment processes and mediation of the treatment's outcomes (Levin et al. 2020; Villatte et al. 2016). While these processes might be addressed singly, Peterson et al. (2019) found that treatment gains at post-treatment were stronger when all ACT processes were targeted versus just acceptance-and-mindfulness alone and that treatment gains from combined process components were better maintained at follow-up than those of just commitment-and-behavioral activation alone.

While ACT is associated with unique interventions for addressing the above processes, ACT is not defined by a set of proprietary techniques or rigid procedural sequences for modifying psychological flexibility or addressing a specific disorder (Brock et al. 2015). Instead, an ACT approach is defined by both the superordinate therapy goal of living a valued life and the idiographic targeting of psychological flexibility processes implicated in facilitating that goal for an individual client (Levin et al. 2020).

Evidence-based interventions developed and used without explicit consideration for strengthening psychological flexibility or weakening psychological inflexibility processes have been shown to activate some of those processes nonetheless (Hoyer et al. 2019). Therefore, techniques from other therapeutic traditions or that are creatively developed by practitioners can be coherently integrated into an ACT approach as long as they function to strengthen aspects of psychological flexibility in service of helping a person live a life they value.

### **Psychological Flexibility Processes as Common Therapeutic Changes in Clients' Behaviors Beyond ACT**

While psychological flexibility is a conceptual product of behavioral and evolutionary theories, other therapeutic approaches might implicitly or explicitly coalesce around therapeutic processes shared with ACT. For example, ACT and humanistic-existential therapy prioritize a focus on supporting clients' construction of and commitment to subjective purposes for their lives (Sabucedo 2019). In addition,

both ACT and psychodynamic therapies encourage a client's development of an integrated sense of self that includes previously avoided internal experiences (Salandé and Hawkins 2017). Further, Hayes et al. (2011) argued that some psychological flexibility changes processes could be conceptualized as shared with therapeutic processes from mindfulness-based therapies, motivational interviewing, metacognitive therapy, behavioral activation, integrative behavioral couple therapy, functional analytic psychotherapy, and dialectical behavior therapy.

To date, these connections in change processes across therapy brands have largely been theorized. When it has been empirically investigated, this exploration has primarily focused on Cognitive Behavioral Therapies (CBT) (Arch et al. 2012; Forman et al. 2007; Niles et al. 2014). Nevertheless, while studies have indicated some shared relevance of psychological flexibility processes between ACT and other CBT, those explorations were limited to specific client complaints or to limited processes of psychological flexibility.

Beyond CBT and ACT, less defensive and automatic reacting to thoughts and feelings, greater connection to subjectively meaningful activities, more fluid attending to one's current conditions, and more inclusive and integrative self-perceiving could be argued as common therapeutic behavioral changes of other therapy forms used in routine psychotherapy practice. Therefore, the current study empirically explored if psychological flexibility processes change after routine psychotherapy from a broad mix of therapy forms and with a naturalistic clinical sample. Specifically, we explored if clients of a university counseling center reported changes in their acceptance-and-mindfulness and commitment-and-behavioral activation following episodes of routine psychotherapy. Secondly, this study explored if psychological flexibility behavioral changes were predictors of changes in two overarching treatment outcomes, flourishing and distress. No specific hypotheses were generated given the exploratory nature of this study.

## **Methods**

### **Design**

Routine psychotherapy was represented by services from a university counseling center that provided short-term psychotherapy to undergraduate and graduate students. As part of routine outcome monitoring, all clients were administered measures assessing symptoms of distress, well-being, and aspects of psychological flexibility prior to their first appointments of the fall and spring semesters with a counseling center therapist. While center policy encouraged all therapists to re-administer those measures prior to every fourth individual or group therapy appointment, therapists

could re-administer all measures prior to any other appointment, per their own clinical discretion.

Therapists varied in experience and theoretical orientation. Five therapists were licensed psychologists with clinical experience ranging from six to over twenty years. Six therapists were supervised. Of those six, two just completed their doctorates, two were in the last year of their doctoral program, and two were providing therapy for the first time early into their doctoral program. All 11 therapists provided both individual and group psychotherapy services. While a single therapy brand was not prescribed for the whole center, the use of traditional Cognitive Behavioral Therapy procedures was not prominently promoted. Instead, counseling center therapists primarily reported being guided by integrative theories, including Psychoanalytic/Psychodynamic, Interpersonal, Feminist, and Multicultural. However, Acceptance and Commitment Therapy exclusively guided the clinical work of one center therapist. Center policy discouraged comparisons among individual therapists' treatment outcomes; therefore, treatment data was only analyzed in the aggregate and the effects of any individual therapist or therapy brand were not isolated.

Further, counseling center policy generally prescribed less than 12 individual therapy and indefinite group therapy sessions in the academic year per client. Accordingly, from June 1st 2018 to May 31st 2019, 97% of clients received 12 or less individual therapy appointments with four individual appointments serving as the average over the academic year. Some clients participated in interpersonal process group psychotherapy only or while receiving infrequent individual therapy. Over the same period, 97% of clients received 15 or less group therapy appointments with six group appointments serving as the average number.

After a client's first individual appointment during a semester, therapists recorded one or more of the client's primary clinical concerns. Therapists did not routinely assign a DSM diagnosis to all clients in their care. During the academic year, the most frequently recorded client concerns were interpersonal-social-family issues (96%), anxiety (66%), depression (47%), stress (44%), academic performance (33%), and adjustment to a new environment (24%).

## Sample

The complete sample represents treatment episodes where clients gave written consent to have their de-identified clinical data utilized for research purposes, completed all measures, and were administered the measures at least twice within an academic semester by an individual therapy provider. Furthermore, the first and last administration of the measures within June to December 2018 and/or January to May 2019 were coded as baseline and post scores of a treatment episode, respectively. Accordingly, if a client received

services in both the fall and spring semesters, it was possible for two treatment episodes, at most, to represent one client in the complete sample. Treatment episodes that occurred over less than 3 weeks between administrations of the measures were not included in the sample. All clients were university students between the ages of 17 to 48 and the average age was 21. Additional sociodemographic characteristics of clients in the complete sample of treatment episodes ( $n = 197$ ) are displayed in Table 1.

## Measures

### Counseling Center Assessment of Psychological Symptoms-34 (CCAPS-34), Distress Index Subscale

The CCAPS-34, the short form of the CCAPS-62, is an instrument used to facilitate assessment and outcome monitoring for university and college counseling centers (Youn et al. 2015). It consists of 34 items about symptoms related to 7 subscales: Depression, Generalized Anxiety, Social Anxiety, Eating Concerns, Hostility, Alcohol Use, and Academic Distress. With the instrument, individuals are asked to rate how each item representing psychological symptoms

**Table 1** Sociodemographic characteristics of clients in the complete sample

Variables	$n = 197$
Gender identity	
No response	19
Male	86
Woman	86
Self-identity	4
Transgender	2
Sex at birth	
No response	19
Female	94
Male	84
Sexual orientation	
No response	21
Bisexual	21
Gay	7
Heterosexual or Straight	139
Questioning	4
Self-identified	5
Race/Ethnicity	
No response	20
African American/Black	12
Asian American/Asian	23
Hispanic/Latinx	17
Multiracial	11
White	114

describes them during the past two weeks on a 5-point scale ranging from 0 (not at all like me) and 4 (extremely like me). Additionally, the CCAPS-34 includes a summative subscale of general distress, the Distress Index. With the exception of Alcohol Use and Eating Concerns, the Distress Index is composed of items from each CCAPS-34 subscale. Locke et al. (2012) showed that the Distress Index demonstrated adequate test–retest reliability ( $r=0.83$ ) across 2 weeks and high internal consistency ( $\alpha=0.92$ ). The Distress Index was one of two primary treatment outcomes in this study.

### Flourishing Scale

The second primary treatment outcome in this study was the Flourishing Scale. The Flourishing Scale (Diener et al. 2010) is an 8-item measure that assesses various aspects of human functioning including, but not limited to positive relationships, feelings of competence, and having meaning and purpose in life. Each item is rated on 7-point scales ranging from 1 (strongly disagree) and 7 (strongly agree). Scores are summed across all items to yield a total score representing psychological well-being. Higher scores indicate that individuals view their functioning in important areas of life positively. In their original study, Diener et al. (2010) provided evidence of adequate internal consistency with a coefficient of 0.87 and a test–retest correlation over 1 month of 0.71 (Diener et al. 2010).

### Cognitive and Affective Mindfulness Scale Revised (CAMS-R)

The CAMS-R (Feldman et al. 2007) was used as a single measure of the acceptance-and-mindfulness aspects of psychological flexibility. The CAMS-R is a 12-item inventory assessing everyday mindfulness of thoughts and feelings covering four important dimensions of a mindful state (i.e., attention, awareness, present-focus, and acceptance/non-judgment). The items are rated on a 4-point scale ranging from 1 “rarely/not at all” to 4 “almost always”. Sample items include, “I am able to accept the thoughts and feelings I have” and “I am able to focus on the present moment”. There is evidence of the internal consistency of the CAMS-R (Cronbach alphas ranging from 0.61 to 0.81; Feldman et al. 2007).

While the CAMS-R measures mindfulness, Fletcher and Hayes (2005) argued that aspects of psychological flexibility might provide a more functional analytic account of the concept of mindfulness. Accordingly, Feldman et al. (2007) demonstrated that the CAMS-R significantly correlated with aspects of psychological inflexibility like experiential avoidance, cognitive inflexibility, rigid attending to the past or future, and overgeneralized attitudes towards the self.

### Valuing Questionnaire—Progress Subscale (VQ)

The VQ Progress subscale (Smout et al. 2014) was administered as a single measure of the commitment-and-behavioral activation aspects of psychological flexibility. The VQ Progress subscales has 5-items and each item is rated on a 7-point scale ranging from 0 “not at all true” to 6 “completely true.” Scores on the subscale were summed to yield a total score. Higher Progress subscale scores indicate greater engagement in values-guided actions over the past week. The VQ has demonstrated acceptable reliability, with internal-consistency scores of 0.89 in college student samples (Levin et al. 2017).

### Statistical Analyses

We used Statistical Package for Social Sciences to conduct all but one of the statistical analyses. The center’s electronic health record, Titanium, automatically calculated the baseline and post total scores of the Distress Index. We used the mean of all other items on the measure when an item on a measure had a missing value. No total score was calculated if more than one item had missing values. We calculated change scores by subtracting baseline total scores from post total scores. Then we conducted paired sample t-tests to explore if improvements in acceptance-and-mindfulness and commitment-and-behavioral activation occurred during routine psychotherapy. Effects sizes were calculated by dividing the differences in baseline and post total score means by the standard deviation at baseline. Furthermore, hierarchical regression analyses were conducted to explore if changes in acceptance-and-mindfulness and commitment- and-behavioral activation were significant predictors of changes in distress or flourishing. All change scores were converted to z-scores to facilitate analyses across measures.

### Results

The means and standard deviations of all measures at baseline and post for the complete sample are displayed in Table 2. Psychological distress and flourishing scores moderately negatively correlated at baseline and at post for the complete sample ( $r=-0.56$ ,  $p<0.001$  and  $r=-0.59$ ,  $p<0.001$  respectively).

Scores on acceptance-and-mindfulness and commitment-and-behavioral activation demonstrated statistically significant increases from baseline to post (CAMSR  $t(196)=-3.82$ ,  $p<0.001$ , 95% CI [-1.90, -0.61]; VQ  $t(196)=-3.68$ ,  $p<0.001$ , 95% CI [-2.46 to -0.75]). The effects sizes were small for both acceptance-and-mindfulness ( $d=0.22$ ) and commitment-and-behavioral activation ( $d=0.24$ ).



**Table 2** CAMSR, VQ, FS and distress index scores at baseline and post,  $n = 197$ 

Variables	Complete sample, $n = 197$	
	BL	Post
	$M$ (SD)	$M$ (SD)
CAMSR	27.7571 (5.60092)	29.3113 (5.65874)
VQ	17.56 (6.839)	19.45 (6.143)
FS	39.90 (9.117)	40.69 (8.657)
DI	1.7545 (0.81971)	1.5658 (0.80503)

*BL* baseline, *Post* post-treatment, *CASMR* Cognitive and Affective Mindfulness Scale Revised, *VQ* Valuing Questionnaire-Progress, *FS* flourishing scale, *DI* distress index

Hierarchical regression analyses showed that changes in acceptance-and-mindfulness scores predicted changes in psychological distress scores and accounted for 17.8% of the variance in distress score changes ( $F(1, 196) = 42.091$ ,  $p < 0.001$ ;  $R^2 = 0.178$ ). The model remained predictive when we added changes in commitment-and-behavioral activation as the second step in the regression ( $F(2, 195) = 28.204$ ,  $p < 0.001$ ;  $R^2 = 0.225$ ). Changes in commitment-and-behavioral activation uniquely accounted for 4.7% of the variance in distress score changes.

Additionally, hierarchical regression analyses showed that changes in acceptance-and-mindfulness scores predicted changes in flourishing and accounted for 21.8% of the variance in flourishing score changes ( $F(1, 196) = 54.237$ ,  $p < 0.001$ ;  $R^2 = 0.217$ ). The model remained predictive when we added changes in commitment-and-behavioral activation as the second step ( $F(2, 195) = 69.133$ ,  $p < 0.001$ ;  $R^2 = 0.417$ ). Changes in commitment-and-behavioral activation uniquely accounted for 19.9% of the variance in that outcome.

## Discussion

The results of this exploratory study offers preliminary support for the potential relevance of psychological flexibility to routine psychotherapy. Increases in clients' psychological flexibility were generally observed following brief episodes of routine therapy for a heterogeneous sample of clinical concerns. This study's therapy providers reported utilizing diverse and integrated theoretical orientations in their work. While almost all theoretical orientations and therapists included in this study have not traditionally included an explicit focus on altering psychological flexibility, significant small improvements in it generally occurred for clients nonetheless.

Other studies have indicated that psychological flexibility processes mediated the effect certain therapies had on outcomes (Bramwell and Richardson 2018; Stockton et al. 2018). Although the current study did not analyze mediation, changes in psychological flexibility were significant predictors of outcomes and explained 42% of flourishing and 23% of general distress scores. These results suggest that future mediation analyses might be warranted to investigate if psychological flexibility processes are functionally important processes in generating the outcomes of the mix of therapy brands typically found in routine psychotherapy.

Several aspects of this exploratory study's conditions limit interpretations of the findings and implicate a need for further research. To start, we only measured psychological flexibility and treatment outcomes at baseline and post-treatment, did not use a control group, and analyzed predictive relationships among the variables. Therefore, this study did not evaluate if changes in psychological flexibility caused or preceded changes in treatment outcomes or vice versa during routine psychotherapy. While several studies have included measurement of session-by-session changes in psychological flexibility and treatment outcomes and examined their temporal and causal relationships, such studies only investigated therapeutic models or procedures that explicitly targeted psychological flexibility (Gloster et al. 2017b; Wiggs and Drake 2016). Psychological flexibility's relevance as a therapeutic process of diverse forms of psychotherapy would be clarified by conducting similar studies for other effective treatment models.

Due to the counseling center's prohibitions on using outcome monitoring to compare its therapists with each other, another limitation was the inability to control for the presence of ACT treatment episodes in the analyzed samples. Although only 1 in 11 therapists was trained in and used ACT, we could not specify how much or little the ACT therapist's treatment episodes accounted for the changes in psychological flexibility in the complete sample. Future studies that control for therapists' explicit use of ACT would further advance clarity on psychological flexibility changes as a relatively common therapeutic process of routine psychotherapy. Lastly, the exclusive use of university students of limited diversity in the sample, the absence of DSM diagnostic labeling of clinical concerns, and the incomplete breadth of therapeutic models applied by the study's therapists limit the generalizability of this study's findings.

While prior research on therapies that did not explicitly address psychological flexibility indicated that CBT for specific diagnoses nevertheless strengthened some aspects of psychological flexibility, this exploratory study's findings suggest that psychological flexibility's relevance might extend to other diverse theories within routine psychotherapy. Further examination of psychological flexibility's potential as an important therapeutic process in the future

of evidence-based therapy is justified given these findings, its basic and applied research support, and its breadth of relevance to broad concerns of human functioning.

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## Compliance with Ethical Standards

**Conflict of interest** The authors of this study have no conflicts of interest to declare.

**Ethical Approval** The Institutional Review Board of Lehigh University provided ethical approval for this study and authors' research conduct was compliant with the ethical principles of that institution and of the American Psychological Association.

**Informed Consent** All participants in this study provided informed consent for their involvement.

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