Patients' in-session experiences and symptom change: Session-to-session effects on a within- and between-patient level

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ABSTRACT

Objective: Knowledge of patients' in-session experiences that lead to symptom change in psychotherapy is limited. This study aims to investigate the within- and between-patient relationships between three in-session processes in psychotherapy (*coping skills, therapeutic relationship quality*, and *emotional involvement)* and symptom change on a session-by-session level.

Method: Participants (n = 1550) with various disorders, including primarily depression and anxiety, were treated with CBT in a German outpatient clinic. Symptom distress was assessed before each session and patients' in-session experiences were assessed at the end of each session using session reports. *Person-mean centering* was applied to disaggregate within- and between-patients. Within- and between-patient process scores were tested in multilevel models as predictors of next session symptom change.

Results: On a within-patient level, better session-specific coping skills, better therapeutic alliance, and deeper emotional involvement were followed by next session symptom improvements. In a combined model, only coping skills specifically predicted next session symptom change. Additionally, these coping skills were especially helpful when combined with a better therapeutic relationship quality. On a between-patient level, better therapeutic alliance and more coping skills were associated with lower symptom scores during treatment, while deeper emotional involvement was associated with higher symptom scores. Testing these between-patient effects in a combined model left only coping skills (the more, the greater symptom improvement) and emotional involvement (the deeper, the less symptom improvement) as significant predictors. These two also exhibited a combined effect on symptom change on the between-patient level.

Discussion: The results highlight the importance of a thorough disaggregation of within- and between-patient variability in psychotherapy process-outcome research as well as the consideration of several potentially important time-varying covariates. While coping skills showed to be the most central for subsequent symptom change, therapeutic relationship quality only seemed to be a facilitative factor in enhancing these effects, but was not sufficiently helpful on its own.

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Empirical psychotherapy research has provided compelling evidence for the average effectivity of psychotherapy (e.g., Lambert, 2013). However, the mechanisms that lead to intraindividual change are still not well understood (Kazdin, 2014). Knowledge of these mechanisms could allow interventions to be tailored to individual patients and thus reduce the number of patients who do not profit from the provided treatment (e.g., Fisher, 2015; Lutz et al., 2014).

Different patient in-session experiences have been discussed as initiators of therapeutic change (e.g., Crits-Christoph, Connolly Gibbons, & Mukherjee, 2013). In the present study, the session-to-session effects of three in-session experiences on subsequent symptom change are investigated. Specifically, interpersonal experiences (InterExp), problem coping experiences (CopExp), and affective experiences (AffExp) are tested as predictors of session-to-session symptom change over the course of treatment.

InterExp reflect patients' subjectively perceived quality of the relationship with their therapists. The therapeutic relationship is conceptualized in accordance with Bordin (1979) definition of bonds in his threefold "bonds, tasks, goals" alliance concept. The alliance-outcome relation is one of the most intensively researched

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topics in process-outcome research. A recent meta-analysis found a stable small to moderate alliance-outcome correlation independent of therapeutic orientation (Horvath, Del Re, Flückiger, & Symonds, 2011).

CopExp are constituted by patients' perceived corrective experiences with regard to mastery and clarification. Mastery describes a process in which the therapist helps the patient to find a more functional way to cope with their problems. Clarification describes a process by which the patient perceives improved knowledge of his own cognitive and emotional schemata (i.e., cognitive changes) and may be induced by means of Socratic questioning in cognitive behavioral therapy (CBT). The process of mastery is usually underlined in CBT, as many interventions aim to improve patients' coping strategies (e.g., social skills training). Accordingly, research revealed a higher prevalence of mastery experiences in treatments conducted by CBT therapists (Stangier, von Consbruch, Schramm, & Heidenreich, 2010). Both processes — mastery and clarification — are linked in modern CBT and have been shown to predict symptom reductions at the end of the treatment (Flückiger, Grosse Holtforth, Znoj, Caspar, & Wampold, 2013; Mander et al., 2013).

AffExp take place when a patient's problem is addressed in an affectively engaging way, resulting in high emotional involvement. For example, in CBT, this could be realized by the discussion of negative schemas, which are associated with negative emotions. In this way, the patient should gain a deeper understanding of their own emotional schemata and their emotional reactions. Historically, AffExp were more central to experiential psychotherapies (for a review see Elliott, Greenberg, & Lietaer, 2004). For CBT interventions, previous research has evidenced a positive association between emotional experiences in therapy and symptom improvement (Castonguay, Goldfried, Wiser, Raue, & Hayes, 1996).

Recently, an important distinction has been introduced for the analysis of psychotherapy process-outcome associations: Longitudinal relationships can be separated into within- and between-patient associations (e.g., Falkenström, Granström, & Holmqvist, 2013; Hoffart, 2014). Within-patient effects focus on comparisons between measurements taken from the same patient at different time points, whereas between-patient associations focus on comparisons between patients. Lately, within-patient associations have generated considerable interest, as they have two advantages over between-patient effects. First, given the fact that associations found on the within-patient level cannot be explained by differences in stable patient characteristics, many alternative explanations can be excluded and causality between the examined variables is more likely (e.g., Falkenström, Ekeblad, & Holmqvist, 2016). Second, clinical theories of therapeutic change mechanisms are formulated on the within-patient level; for example, if a patient engages in positive activities, this patient should experience subsequent symptom improvements. Therefore, within-patient associations provide a better test of clinically relevant hypotheses and can be directly translated into clinical recommendations (e.g., Hoffart, 2016).

With regard to the in-session experiences examined in the present investigation, prior research typically did not disentangle within-from between-patient effects. For example, Flückiger et al. (2013) found higher patient-reported InterExp and CopExp in an early phase of the treatment to be associated with better ultimate treatment outcome (Flückiger et al., 2013), whereas AffExp showed no additional predictive value. Similar results were reported by Mander et al. (2013), who compared the patients' outcomes depending on their average Inter-/Cop-/AffExp over the course of treatment. Since neither of these studies used the described disaggregation of within- and between-patient effects, it is unclear whether these results also apply to the clinically relevant within-patient level.

Studies that have examined within-patient process-outcome associations have mainly focused on the alliance-outcome relationship (e.g., Falkenström et al., 2016; Hoffart, Øktedalen, Langkaas, & Wampold, 2013; Zilcha-Mano, Hungr, & Muran, 2016). As stated above, InterExp resemble the concept of the therapeutic alliance. As such, prior research on the within-patient alliance-outcome association could inform our hypotheses concerning the within-patient relations of InterExp and symptom change. The vast majority of these studies found a positive association between the alliance in one session and symptom change in the next session. That is, the better the alliance a patient reported in one session, relative to his/her average alliance scores, the more symptom change was observed in the following session.

Although it has been repeatedly shown that the alliance exhibits positive effects on symptom change, it is still unclear whether the alliance is helpful in itself or if a good alliance is a facilitator of the successful application of specific techniques such as exposure and Socratic questioning (e.g., Horvath, 2006; Webb, Auerbach, & DeRubeis, 2012). In order to test whether a good alliance is a sufficient therapeutic ingredient or the context in which techniques can better exhibit their effects, Webb et al. (2012) specifically called for studies that examine interactions between the alliance and technique variables.

As described above, in CBT, CopExp are induced by cognitive and behavioral techniques. Thus, prior research on the within-patient associations of these variables with outcome could inform our hypotheses concerning the CopExp-symptom change association. On a within-patient level, it has been shown that a higher amount of applied cognitive methods (Sasso, Strunk, Braun, DeRubeis, & Brotman, 2015a) and Socratic questioning (Braun, Strunk, Sasso, & Cooper, 2015), as well as higher levels of patients' homework engagement (Conklin & Strunk, 2015) are followed by lower symptom distress in the subsequent session. Notably, Braun et al. (2015) showed that the effects of Socratic questioning on next session change in depressive symptoms hold while controlling for the quality of the therapeutic alliance in that session. In the same study, the alliance, on the other hand, could not explain significant subsequent symptom change beyond therapists' adherence to Socratic questioning.

Thus far, no study specifically investigated the within-patient associations between AffExp and symptom change in CBT. The only study that investigated the session-to-session effects of AffExp on subsequent symptom change was conducted by Fisher, Atzil-Slonim, Bar-Kalifa, Rafaeli, and Peri (2016) in a psychodynamic outpatient clinic. These authors showed a small but consistent positive within-patient association between in-session AffExp and next-session functioning. Sessions in which patients reported more AffExp than they usually did, were followed by more improvements in patients' levels of functioning in the next session (Fisher et al., 2016).

Based on the reported findings, the following hypotheses are investigated regarding the within- and between-patient associations of patients' in-session InterExp, CopExp, and AffExp with session-to-session symptom change:

Hypothesis 1. *Based on the findings from* Flückiger et al. (2013) *and* Mander et al. (2013), *we assume that patients with more InterExp and CopExp over the course of therapy will show, on average, more change in symptom distress from session-to-session (between-patient effect). Accordingly, for AffExp, we expect to find no relation to symptom change.*

Hypothesis 2. *Considering the summarized findings on within-patient process-outcome relations, we assume that, when tested in separate models, time-specific levels of a patient's InterExp/CopExp/ AffExp will predict subsequent change in symptom distress from*