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Abstract

Background: The psychotherapeutic process has increasingly become the focus of scientific research. One aspect that has been relatively neglected to date is the experience and effect of flow during therapy sessions. While it has been theoretically assumed that flow should be present in both patient and therapist as well as support the therapeutic outcome, the empirical evidence is extremely incomplete.

Methodology: In order to systematically assess patients' experience of flow, a cross-sectional study consisting of an online questionnaire with 123 participants was conducted in German speaking Europe. The following questionnaires were applied: a socio-demographic questionnaire, a questionnaire assessing therapy variables, Flow-Kurzskala (FKS), the German version of the Working Alliance Inventory-short revised (WAI-SR), Bochumer Veränderungsbogen (BVB-2000) for therapy outcome, Berner Patientenstundenbogen 2000 (PSTB) for intra-session experiences and the German version of the Intersession Experience questionnaire, the Inter-Session-Fragebogen (ISF).

Results: Descriptive analysis supported the assumption that patients do experience flow during psychotherapy. Their experience of flow was significantly correlated with therapy outcome and working alliance, as well as intra- and inter-session experiences. Therapy variables, such as psychotherapeutic orientation, number of prior sessions and therapy setting (online vs. in person) were not associated with flow experience.

Conclusion: These results indicate that flow might play an important role in the therapeutic process. However, substantial further research is needed in order to fully understand the effect of flow in the psychotherapeutic process.

Keywords: Flow, Psychotherapy, Psychotherapeutic Process, Working Alliance, Process-Outcome Research

Abstract (German)

Hintergrund: Der psychotherapeutische Prozess ist zunehmend in den Fokus wissenschaftlicher Forschung gerückt. Ein Aspekt, der bisher relativ vernachlässigt wurde, ist das Erleben von Flow während der Therapiesitzung. Es wurde theoretisch angenommen, dass Flow sowohl bei Patient*innen als auch Therapeut*innen vorhanden sein sollte, und dass diese Erfahrungen das Psychotherapieergebnis positiv beeinflussen. Jedoch ist die empirische Evidenz derzeit relativ mangelhaft.

Methodik: Um das Flow-Erleben von Patient*innen systematisch zu erfassen, wurde 123 Teilnehmer*innen, welche sich zum Zeitpunkt der Studie in Psychotherapie befinden, ein Onlinefragebogen vorgelegt. Folgende Fragebögen wurden angewendet: soziodemografischer Fragebogen, Fragebogen zur Erfassung von Therapievariablen, Flow-Kurzskala (FKS), die deutsche Fassung des Working Alliance Inventory-short revised (WAI-SR), Bochumer Veränderungsbogen (BVB-2000), Berner Patientenstundenbogen 2000 (PSTB) und der Inter-Session-Fragebogen (ISF).

Ergebnisse: Die deskriptive Analyse unterstützt die Annahme, dass Patient*innen während der Psychotherapie Flow erleben. Flow-Erfahrung korrelierte signifikant mit dem Therapieergebnis und der psychotherapeutischen Beziehung sowie mit Erfahrungen innerhalb und zwischen den Therapiesitzungen. Therapievariablen, wie psychotherapeutische Orientierung, Anzahl der vorangegangenen Sitzungen und Therapiesetting (online vs. persönlich) waren nicht mit Flow-Erfahrungen assoziiert.

Schlussfolgerung: Diese Ergebnisse weisen darauf hin, dass Flow eine wichtige Rolle im therapeutischen Prozess spielen könnte. Um die Wirkung von Flow im psychotherapeutischen Prozess vollständig zu verstehen, bedarf es jedoch noch weiterer Forschung.

Schlüsselbegriffe: Flow, Psychotherapie, psychotherapeutischer Prozess, Working Alliance, Prozess-Outcome Forschung

1 Introduction

The efficacy of psychotherapy for the treatment of mental disorders has been extensively proven. Nonetheless, the question remains what makes psychotherapy effective. For a long time, scientific research has focused on different psychotherapeutic orientations, due to the pressure to legitimize psychotherapeutic treatment of mental disorders compared to other treatment methods. This culminated in Luborsky, Singer and Luborsky's (1975) Dodo Verdict, suggesting that all psychotherapeutic orientations are equally effective. Only recently, factors that are not specific to any particular theoretical orientation, often referred to as common factors, have become the focus of extensive research (Wampold & Imel, 2015). Additionally, more research now focuses on the process of psychotherapy, instead of just comparing outcomes. For example, the generic model of psychotherapy attempts to create a transtheoretical framework for the identification of factors and processes that are essential for therapeutic success across different psychotherapeutic methods (Orlinsky, Rønnestad, & Willutzki, 2004). In the light of this, increased attention has been given to aspects of the psychotherapeutic process that have been neglected so far, such as intersession processes (Zeeck, Hartmann, & Orlinsky, 2004).

An additional factor that might be present across different therapeutic orientations is the experience of flow (Grafanaki, Brennan, Holmes, Tang, & Alvarez, 2007; Riva, Freire, & Bassi, 2016). While it is theoretically assumed that flow should be present in both patient and therapist during the therapy session and that flow should aid the therapeutic process (Grafanaki et al., 2007), the empirical evidence is unfortunately inadequate. While a single study has assessed therapist's flow experience systematically (Thome, 2020), no such study can be found for patient's flow. This study therefore aims to systematically investigate patients' flow during the therapy session.

The following provides a short overview of the contents and structure of this thesis. The theoretical section starts with a general overview of flow research relevant to this study. Specifically, the close association of flow and health relevant concepts (such as psychological wellbeing and stress) is presented therefore indicating why flow could be a relevant factor in the psychotherapeutic process. In Chapter 2.2 the efficacy of psychotherapy and psychotherapeutic common factors are discussed. Chapter 2.3 provides an overview on the existing literature and empirical evidence regarding flow in psychotherapy. While extensive

empirical evidence is lacking, several theoretical assumptions about this phenomenon have been made. Based on the theoretical background, Chapter 3 describes the aims of this study and the research questions that have been developed. Flow will be assessed using an online questionnaire administered to patients, who are currently in psychotherapy. Additionally, working alliance, intra-/intersession-process and therapy variables will be assessed. Chapter 4 provides an overview of the methods and a detailed discussion of all questionnaires. The results of the study will be presented in chapter 5. Finally, these will be discussed in detail and limitations and implications will be examined.

2 Theoretical Background

2.1 Flow

The concept of flow was first described by Mihály Csíkszentmihályi (Csikszentmihalyi, 1975) as a state in which a person is completely immersed in an activity, loses a sense of time and the awareness of self. Csikszentmihalyi described flow as the optimal experience (Csikszentmihalyi, 1990) and many people report this while exercising or during artistic expressions such as drawing or playing an instrument.

Csikszentmihalyi first identified this experience while studying athletes and artists (Csikszentmihalyi, 1975). With the aim of identifying what makes an activity inherently motivating and enjoyable (Engeser & Schiepe-Tiska, 2014), he conducted multiple interviews on different activities such as rock climbing, dancing, chess, basketball and surgery (Csikszentmihalyi, 1975). These interviews led to the first description of flow as a psychological construct.

Csikszentmihalyi concluded that some activities are done for the sake of the activity itself – this was a clear contradiction to the predominant paradigm in psychology at the time, behaviourism (Engeser & Schiepe-Tiska, 2014). Csikszentmihalyi later went on to co-found the field of positive psychology (Seligman & Csikszentmihalyi, 2000). The goal of positive psychology is to study "the conditions and processes that contribute to the flourishing or optimal functioning of people, groups, and institutions" (Gable & Haidt, 2005). To this day, flow plays an important part in this field of research (Csikszentmihalyi, 2000).

Since the identification of flow by Csikszentmihalyi, flow research has been expanded to various different subjects such as social situations (Sawyer, 2007; Walker, 2010), business and work environments (Csikszentmihalyi, 2003; Csikszentmihalyi & LeFevre, 1989; Fullagar & Kelloway, 2009; Salanova, Bakker, & Llorens, 2006), education (Asakawa, 2004; Engeser, Rheinberg, Vollmeyer, & Bischoff, 2005), sports (Jackson & Csikszentmihalyi, 1999), wellbeing (Bassi, Steca, Monzani, Greco, & Delle Fave, 2014; Collins, Sarkisian, & Winner, 2009; Csikszentmihalyi, 1990), creativity (Byrne, MacDonald, & Carlton, 2003; Csikszentmihalyi, 1996; Sawyer, 2003), consumer behaviour (Ettis, 2017), social networks (Kaur, Dhir, & Rajala, 2016), online gaming addiction (Chou & Ting, 2003) and many more. Interestingly, it could be shown that the experience of flow is the same across culture, class, gender, and age, and can therefore be considered a universal experience (Nakamura & Csikszentmihalyi, 2002).

2.1.1 The components of flow

In addition to describing the flow experience, Csikszentmihalyi defined various components which comprise the flow experience (Csikszentmihalyi, 1975, 1990; Nakamura & Csikszentmihalyi, 2002):

- Balance between perceived challenge and skills
- Clear goals and immediate feedback
- Merging of action and awareness
- Centering of attention: focused and intense concentration on the given activity
- Loss of self-consciousness
- Feeling of control
- Autotelic nature: incentive lies in the activity itself
- Distorted time perception: time seemingly passes faster than usually

The components “balance between perceived challenge and skills” and “clear goals and immediate feedback” are often regarded as prerequisites rather than components for the experience of flow (Nakamura & Csikszentmihalyi, 2002).

2.1.1.1 Methodological Problems

There is a certain level of disagreement among researchers on how flow should be measured and which components should be included. Csikszentmihalyi himself and other researchers have described slightly different components throughout the years (Engeser & Schiepe-Tiska, 2012). For example, Csikszentmihalyi did not always included the component “distorted time perception” (Csikszentmihalyi, 1990). Furthermore, some have argued that the flow concept is lacking a clear, consistent operational definition (Engeser & Rheinberg, 2008; Hancock et al., 2019).

While flow is often intrinsically rewarding, the inclusion of ”Autotelic Nature” as a component of flow is not unproblematic (Engeser & Schiepe-Tiska, 2012). Although flow was initially described as an autotelic experience, later research has shown that flow is also commonly experienced in a work context (Fullagar & Kelloway, 2009). Individuals can thereby be assigned a task they would not themselves voluntarily do, but still experience flow while carrying out

the task. Because of this, some researches, and occasionally even Csikszentmihalyi himself, have not included ”autotelic nature” as part of their definition anymore (Rheinberg, Vollmeyer, & Engeser, 2003). Flow could therefore be defined as a state in which a person is completely immersed in an activity, regardless of whether the person does the activity for intrinsic or extrinsic reason (Engeser & Schiepe-Tiska, 2012).

The component “Balance between perceived challenge and skills” is also controversial. Originally defined as a balance of challenge and skills (Csikszentmihalyi, 1975), this was later altered, as this definition led to inconsistent results (Keller & Landhäuser, 2012b), showing that if challenge and skill are matched but below average, apathy is experienced. It was therefore later clarified that both challenge and skill should be high or above average (Nakamura & Csikszentmihalyi, 2002). Nonetheless, some still criticize the definition of flow that includes this component even with the aforementioned change in definition. This is due to significant interpersonal differences in the interpretation of the balance of challenge and skill (Rheinberg et al., 2003). For example, differences in achievement motivation (fear of failure vs hope of success) (Heckhausen, 1977) could lead to very different interpretations. Studies have proven this by showing that some people experience anxiety instead of flow, when both challenge and skill are high (Rheinberg et al., 2003).

2.1.2 Flow as a social experience

Early flow research focused on individuals performing alone. However, one can experience flow while in conversation with friends or while working as a team. Therefore, flow is not just a solitary experience – it can also take place in social situations (Aubé, Brunelle, & Rousseau, 2014; Bakker, 2005; Boffi, Riva, Rainisio, & Inghilleri, 2016; Csikszentmihalyi, 1992; Delle Fave & Bassi, 2009; Walker, 2010). Multiple studies have indeed shown that the quality of the flow experience improves in social situations and declines whenever the person is alone (Csikszentmihalyi, 1992; Larson & Csikszentmihalyi, 1978; Larson, Csikszentmihalyi, & Graef, 2014). This seems to be related to the level of connectedness that one experiences with another person (Csikszentmihalyi, M., & Larson, 1984), which enhances flow.

Studies have shown that some of the most enjoyable flow experiences occur during social interactions (Walker, 2010). Additionally, participants in highly interdependent teams reported more joy in flow (Walker, 2010). Flow was also associated with improved team performance (Aubé et al., 2014) and group creativity (Byrne et al., 2003).

In theory, social flow should be similar to solitary flow as the components for flow remain the same, regardless of the social context. However, there are some differences as social contexts introduce additional variables into the flow model (Walker, 2010). Walker (2010) lists agreement on goals, procedures and roles as prerequisites of social flow. Similarly, Sawyer argues that the ideal conditions for group flow are: mutual trust, shared group goals, blending egos, equal participation, familiarity with team mates, good communication and progress-orientation (Sawyer, 2003, 2007).

A further aspect of the social experience of flow is the idea of flow being a shared experience. In highly interdependent situations, such as psychotherapy, people may serve as agents of flow for each other (Walker, 2010). This could mean that social flow is a shared experience, if it develops in two partners at the same time (Riva, Rainisio, & Boffi, 2015). Certain relational aspects of situations might foster this experience (Riva et al., 2015).

Additionally, a study has suggested that flow is also transferable (Bakker, 2005). It found a positive relationship between teachers' flow and the experience of flow in their students (Bakker, 2005). A possible explanation for this finding is emotional contagion, where positive emotions may transfer between people (Hatfield, Cacioppo, & Rapson, 1993). One study on flow in coaching showed that both the coach and the client experienced flow during the coaching session (Wesson, 2010). These experiences were associated with relatedness, commitment, feedback, structuring of tasks by the coach and continued successful progress (Wesson, 2010). These findings support the hypothesis that flow is a shared experience between two people in certain interdependent situations.

To summarize, flow appears not only to be an individual experience but is commonly found in social situations and could also be considered a shared experience between two individuals. This is seemingly influenced by the relational nature of the situation and the perceived bond, connectedness or trust between the individuals.

2.1.3 Flow, wellbeing & flourishing

The connection between flow and wellbeing has been the focus of numerous studies. For example, subsequent to flow inducing experiences, increases in positive affect can be observed (Csikszentmihalyi, 1990; Fullagar & Kelloway, 2009; Rogatko, 2009). Additionally, increased flow-experience is also associated with increased life satisfaction, positive affect

and long term psychological wellbeing (Asakawa, 2004; Bassi et al., 2014; Collins et al., 2009; Csikszentmihalyi, 1990; Steele & Fullagar, 2009).

A possible explanation for this effect is that flow increases the motivation to challenge oneself and also helps individuals to master these challenges (Csikszentmihalyi, 1975; Peifer, 2017), which in turn leads to personal development. This should satisfy the need for competence, which according to Ryan and Deci's Self-Determination Theory is an essential requirement of wellbeing (Ryan & Deci, 2000). Similarly, Csikszentmihalyi has argued that flow leads to personal development and this in turn leads to happiness (Csikszentmihalyi, 1990)

Flow is also an integral part of Seligman's PERMA model of flourishing (Seligman, 2011). According to this theory, positive emotions, engagement, meaning, positive relationships and accomplishment contribute to flourishing. The experience of flow is directly linked to the engagement component, as people are highly engaged during flow experiences (Csikszentmihalyi, 1975). However, flow is also indirectly linked to other components of the PERMA model. As we will explain in detail later, flow is linked to performance and therefore the flow experience can additionally influence the accomplishment component. Moreover, as previously explained, flow also has a social component and can positively influence relationships. Finally, as flow inducing experiences lead to increases in positive affect, flow is also linked to the positive emotion component. Therefore, flow is closely linked to the whole concept of Flourishing.

In other studies, flow is also connected with an increase in personal resources such as self-efficacy (Salanova et al., 2006) and self-esteem (Wells, 1988). These increased resources also encourage future flow-experiences (Salanova et al., 2006). A possible explanation for this effect is Fredrickson's "Broaden and Build" theory (Fredrickson & Joiner, 2002). Positive emotions experienced after flow lead to a momentary broadening of the thought action repertories (Salanova et al., 2006). This in turn induces individuals to discover new ideas and actions, which can increase personal resources (Fredrickson & Joiner, 2002). For example, an individual could experience flow during work, which leads to positive emotions. Through these, the individual might attempt a new creative approach, that was not tried before. The successful application of this new approach could in turn lead to an increase in self-efficacy.

2.1.4 Flow and motivation/performance

Flow is not only connected with wellbeing but also with increased performance (Csikszentmihalyi, 1990; Engeser & Rheinberg, 2008).

The experience of flow during a task leads to more motivation and engagement (Csikszentmihalyi, 1975). On the one hand there is a short-term effect of flow on performance. During flow, there is an increased level of concentration and attention (Keller & Landhäuser, 2012a). This means that it is easier to stay focused on the task and the performance is more efficient (Engeser & Rheinberg, 2008). Therefore flow can be seen as a highly functional state, which increases performance (Keller & Landhäuser, 2012a). On the other hand, there is also a long-term effect. Experiencing flow can motivate individuals to perform the task more often and to set themselves more challenging goals, thereby increasing competency for the task and thus success. For example, research has shown that students who experienced more flow while studying achieved better results in their exams (Engeser et al., 2005). Additionally, another study found that the experience of flow predicted the commitment of students to their talent area four years later (Csikszentmihalyi, Rathunde, & Whalen, 1997).

Similarly, the experience of flow has been linked to creativity in numerous different studies (Csikszentmihalyi, 1996; Sawyer, 2007). For example, a study showed that music students who experienced more flow received higher creativity ratings on their compositions (Byrne et al., 2003). Similarly, it could be shown that the experience of flow predicted employee creativity (Zubair & Kamal, 2015).

2.1.5 Flow as the optimal psychological experience

"Flow is defined as a psychological state in which the person feels simultaneously cognitively efficient, motivated and happy" (Moneta & Csikszentmihalyi, 1996, p. 277) and is often described as the optimal experience (Csikszentmihalyi, 1990; Csikszentmihalyi & LeFevre, 1989; Nakamura & Csikszentmihalyi, 2002). There are three aspects to this optimal experience: the cognitive perspective, as flow aids with comprehension and concentration, the motivational perspective, as flow is characterised by engagement and the emotional perspective, as flow is associated with positive emotions (Riva et al., 2015). Therefore in flow, a person is seen as operating at full capacity (Nakamura & Csikszentmihalyi, 2002)

Similarly, Csikszentmihalyi has argued that the repeated experience of flow is associated with the development of a more complex and resilient self (Csikszentmihalyi, 1993;

Csikszentmihalyi et al., 1997). Therefore it is assumed that flow plays an important role in personality development (Bassi et al., 2014; Csikszentmihalyi, 1993; Delle Fave, Massimini, & Bassi, 2011)

2.1.6 Flow and stress

Contrary to many lay understandings of flow, in which it is assumed that flow experiences occur in happy or serene situations, an association between stress and flow has been identified (Peifer, 2012). This is not surprising given that flow experiences have been found in extreme sports (Csikszentmihalyi, 1975) and graffiti spraying (Rheinberg et al., 2003). Additionally, flow experience is associated with stress relevant parameters, such as cortisol or sympathetic activation (Peifer, 2012)

Studies have shown a reverse U-formed connection between physiological parameters and flow (Peifer, Schulz, Schächinger, Baumann, & Antoni, 2014), meaning that moderate cortisol values show the highest correlation with flow experiences. Moderate cortisol values are also associated with higher performance, which could partially explain the previously mentioned link between flow and performance. Given these physiological underpinnings, Pfeifer (2012) has proposed a new working definition of flow:

"Flow is a positively valenced state (affective component), resulting from an activity that has been appraised as an optimal challenge (cognitive component), characterized by optimized physiological activation (physiological component) for full concentration on coping with environmental/task demands (behavioural component)."

Thus, flow can be seen as a state of activation, a moderate, positive form of stress (Peifer, 2012). Through cognitive reappraisal, a stressful situation can be converted into a flow experience (Csikszentmihalyi, 1990). Flow can therefore contribute to the stress coping process (Peifer, 2012).

The above findings support the idea that flow is also experienced in difficult situations and that by helping to master the challenges of these situations, it can increase performance and wellbeing.

2.2 Psychotherapy Research

The effectiveness of psychotherapy in treating mental disorders has been extensively proven (Lambert, 2013; Luborsky, Singer, & Luborsky, 1975; Shapiro & Shapiro, 1982; Smith & Glass, 1977; Wampold & Imel, 2015). An early meta-analysis estimated that, on average, a patient in psychotherapeutic treatment has a better outcome than 75% of untreated individuals (Smith & Glass, 1977). Additionally, there is substantial evidence that psychotherapy produces clinically meaningful outcomes (Lambert, 2013). However, the question remains which aspects of the psychotherapeutic process leads to a positive result. This is commonly referred to as process-outcome research (Orlinsky et al., 2004).

All the aforementioned studies showed no differences regarding the effectiveness of different therapeutic methods (Lambert, 2013). This led Luborsky, Singer and Luborsky (1975) to suggest the "Dodo Verdict", referencing the Dodo bird from Alice in Wonderland: "Everyone has won and all must have prizes", suggesting that all psychotherapeutic methods are equally effective. Although this verdict was confirmed by later meta-analysis (Wampold, Minami, Baskin, & Callen Tierney, 2002; Wampold et al., 1997), it still remains controversial (Budd & Hughes, 2009; Chambless, 2002; Crits-Christoph, 1997).

There are a number of different explanations for these findings (Lambert, 2013):

- Different methods achieve the same results but by different processes
- Different outcomes are not detected because of methodological issues e.g. (Budd & Hughes, 2009; Chambless, 2002)
- Different methods are effective because of common factors shared by all methods (Norcross, 2011; Wampold & Imel, 2015)

2.2.1 Common factors

Rosenzweig (1936) was the first to suggest that common factors are responsible for the efficacy of psychotherapy. He stated that "all methods of therapy when competently used are equally successful" (Rosenzweig, 1936, p. 413). Common factors are the dimensions of the psychotherapeutic process, such as therapeutic alliance or safe environment, that are not specific to any particular therapeutic methods (Lambert, 2013). These common factors account for significant variance in psychotherapy outcomes (Wampold & Imel, 2015).

Lambert (2013) describes four factors which influence psychotherapeutic outcome: common factors, extra-therapeutic factors (such as client factors), specific factors (therapeutic methods) and expectancy. He argues on a theoretical level that approximately 30% of improvement in psychotherapy is due to common factors, 40% can be linked to extra-therapeutic factors, 15% to specific factors and the rest, 15%, to expectancy (Lambert, 2013). A meta-analysis suggests that common factors are responsible for 49,6% of improvements (Cuijpers et al., 2012), supporting Lambert's theory.

Common factors are sometimes also referred to as nonspecific factors. The term "nonspecific" implies that these factors are theoretically unspecific, inherently unobservable and auxiliary to specific factors (McAleavey & Castonguay, 2015). Therefore, multiple authors have argued that the term nonspecific should be avoided entirely (Castonguay, 1993; Omer & London, 1989). Furthermore, it is important to note that even though these factors are universal, they should not be seen as trivial. Specifically, as these factors are central to psychotherapy, they should receive more focus in terms of theory, research and practice (Wampold, 2015).

Ever since Rosenzweig postulated the importance of common factors, researchers have tried to identify additional specific factors to the aforementioned (Wampold & Imel, 2015). For example, meta-analytic evidence has shown the association between goal consensus/collaboration and outcome (Tryon & Winograd, 2011). Recent reviews have identified 22 common factors in research literature (Tschacher, Junghan, & Pfammatter, 2014). In comparison, Lambert (2013) lists 34 common factors grouped into 3 categories: support, learning and action.

This chapter does not aim to list all common factors suggested in research literature, but only to discuss the factors relevant for the presented study of flow in psychotherapy. For an overview of all common factors see Lambert (2013) and Tschacher (2014).

2.2.1.1 Working alliance

The most intensely researched common factor is the concept of working alliance (Norcross, 2011). This describes the working relationship between the patient and the therapist (Bordin, 1979). According to Bordin, the concept of the working alliance includes three components: agreement about the goals of the therapy, agreement about the tasks in therapy and the development of a bond between the therapist and the patient (Bordin, 1979). It is considered

a pan-theoretical concept, meaning it can be applied to all psychotherapeutic methods (Bordin, 1979; Hatcher & Gillaspy, 2006).

Multiple meta-analyses have shown that working alliance is associated with therapy outcome (Flückiger, Del Re, Wampold, & Horvath, 2018; Horvath, Del Re, Flückiger, & Symonds, 2011; Horvath & Symonds, 1991; Martin, Garske, & Davis, 2000). Additionally, the association with outcome was shown in couples- and family- therapy (Friedlander, Escudero, Heatherington, & Diamond, 2011), internet based psychotherapy (Flückiger et al., 2018) and child/adolescent therapy (Shirk, Karver, & Brown, 2011). Some estimate that the therapeutic alliance is significantly more important than the psychotherapeutic method (Norcross, 2011; Wampold & Imel, 2015).

2.2.1.2 Rogers' conditions of therapeutic personality change

Rogers (1957) postulated three aspects of the therapeutic relationship which are necessary for change to occur through therapy: empathy, positive regard, and congruence/genuineness. In addition, he argued that these conditions are not only necessary but also sufficient for therapeutic change (Rogers, 1957). Meta-analyses have supported the association between empathy and outcome (Elliott, Bohart, Watson, & Greenberg, 2011), positive regard and outcome (Farber & Doolin, 2011), and congruence/genuineness and outcome (Kolden, Klein, Wang, & Austin, 2011).

2.2.1.3 Frank's common factor model

Frank and Frank (1991) describe four factors common to all approaches of psychotherapy. The first factor describes the "emotionally charged, confiding relationship with a helping person" (Frank & Frank, 1991, p. 40). This shows similarities with the prior mentioned bond component of the working alliance. The second factor characterizes a "healing setting" which provides safety for the patient (Frank & Frank, 1991, p. 41). The third factor describes "a rationale, conceptual scheme, or myth that provides a plausible explanation for the patient's symptoms" (Frank & Frank, 1991, p. 42). This rationale does not have to be empirically validated, it is only relevant that both patient and therapist believe in it. Lastly, the final factor is a "ritual or procedure that requires the active participation of both client and therapist" (Frank & Frank, 1991, p. 43). This ritual has to be in accordance with the prior mentioned rationale, conceptual scheme or myth.

2.2.1.4 Grawe's common factor model

Based on a meta-analysis, Grawe (1994) suggests 4 common factors: mastery/coping, clarification of meaning, problem actualization, and resource activation. The first factor describes how the patient learns to cope with situations experienced in the past. The second factor includes a motivational appraisal of the patient's goals and values. The factor problem actualization represents the fact that problems should be re-activated during therapy, as these can thus be more easily resolved (Grawe, 1997). The final factor describes the activation of resources in therapy to help the patients realize their potentials (Grawe, Donati, & Bernauer, 1994). Grawe (1997) also emphasizes the immense importance of the psychotherapeutic relationship, for therapeutic change.

2.2.1.5 Orlinsky and Howard 's generic model of psychotherapy

The generic model of psychotherapy can be describe as a research-based meta-theory, which attempts to create a transtheoretical framework for the identification of factors and processes that are essential for therapeutic success (Orlinsky, 2009; Orlinsky & Howard, 1987; Orlinsky et al., 2004). The model differentiates between input variables (e.g. therapeutic setting, patient or therapist variables), process variables and outcome variables (e.g. life satisfaction or symptom reduction) (Orlinsky et al., 2004). The six process variables of the model (therapeutic contract, therapeutic operations, therapeutic bond, participants' self-relatedness, in-session impacts and temporal processes) can be also be viewed as common factors (Orlinsky, 2009).

2.2.2 Intersession experiences

Most research on the psychotherapeutic process focuses on what transpires during the therapy session. However, the process should also include the time between therapy sessions (Orlinsky, 2009). Unfortunately relatively little is known about these intersession experiences due to lack of research (Zeeck et al., 2004).

Intersession experiences are defined as all thoughts, feelings and actions regarding therapy that occur between therapeutic sessions (Zeeck et al., 2004). For example, remembering aspects of the last therapy session or patients doing therapy homework. This could show how a patient transfers new aspects learned in therapy into their everyday lives. Of the few studies that exist on this topic, it has been shown that intersession experiences are associated with

therapeutic alliance (Hartmann, Orlinsky, & Zeeck, 2011) and treatment outcome (Hartmann, Orlinsky, Weber, Sandholz, & Zeeck, 2010; Jöchler, 2010). Some have even argued that these intersession experiences could be seen as a link between therapy sessions and therapy outcome (Zeeck et al., 2004).

2.2.3 Excursion: Psychotherapy during the COVID-19 pandemic

While this current study is being conducted, the COVID-19 pandemic is in progress. Many believe that following this pandemic the world will experience a serious mental health crisis (Galea, Merchant, & Lurie, 2020). Early Meta-analyses have already shown that psychological wellbeing has decreased and depression, anxiety and stress levels have significantly increased (Luo, Guo, Yu, Jiang, & Wang, 2020; Vindegaard & Benros, 2020). Some have therefore argued that psychotherapy should be an essential part of coping with the ongoing pandemic (Swartz, 2020). For example, cognitive-behavioural therapy methods could be used to modify maladaptive thoughts regarding the pandemic, such as fear of contamination.

Due to social distancing guidelines and quarantine regulations, the pandemic has also led to significant changes in the psychotherapeutic setting. Studies found a significant decrease in psychotherapy through personal contact and a significant increase in psychotherapy online or via telephone during the first lockdown in the spring of 2020 (Humer et al., 2020; T. Probst, Stippl, & Pieh, 2020).

Meta-analyses to date have shown that online based treatments are safe and clinically effective for depression or anxiety disorders (Osenbach, O'Brien, Mishkind, & Smolenski, 2013; Tuerk, Keller, & Acierno, 2018) and psychiatric disorders in general (Carlbring, Andersson, Cuijpers, Riper, & Hedman-Lagerlöf, 2018). Meta-analytic evidence suggests that the working alliance-outcome relationship is also present in online treatment forms (G. H. Probst, Berger, & Flückiger, 2019). It should however be noted that almost all of these reviews are based on cognitive behavioural therapy (CBT) as the intervention, which makes the generalization of the effects difficult (Carlbring et al., 2018). Furthermore, most of the aforementioned reviews (the working alliance-outcome review being an exception) only looked at primary outcomes, so questions remain if there are changes in the psychotherapeutic process at all.

In conclusion, online therapy seems to deliver similar effects as in person treatment. However, it remains unclear whether this is achieved through the same processes. Substantial further research is needed to answer this question.

2.2.4 The importance of positive psychology in clinical settings

The focus in the clinical setting is commonly on negative aspects, for example symptoms and their reduction (Ryff & Singer, 1996). Health is thereby often seen as the absence of illness. For example, therapy is considered a success, when the depressive symptoms of a patient are no longer present. However, health is much more than the absence of illness (Keyes, 2002, 2007). As early as 1948, the WHO defined health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, n.d., para. 1).
Therefore, positive psychology needs to be included and promoted in the clinical setting, not only to eliminate symptoms but also to improve wellbeing (Wood & Johnson, 2016). This underlines the importance of focusing on positive aspects in psychotherapeutic research.

2.3 Flow and Psychotherapy

As previously mentioned, specific psychotherapy techniques cannot account for the effectiveness of psychotherapy. Seligman (2012) argues that this is due to the aforementioned common factors, such as trust, attention, and rapport, which are relevant in all forms of psychotherapy. He states that many of these common factors are in reality techniques of positive psychology (Seligman, 2012). Seligman thereby argues that mechanisms and variables described in positive psychology are already major influencing factors in psychotherapy.
For example most psychotherapists, regardless of therapeutic methods, help their patients build and improve a wide variety of strengths, such as courage, interpersonal skills or the capacity for pleasure (Grawe, 1997; Seligman, 2012). These strength-building strategies might explain the effectiveness of therapy in general. As previously mentioned, flow can play an important role in developing such strengths. Flow could therefore be an important aspect of these strategies that has been quite neglected in research so far.

2.3.1 Flow in clinical populations

A study was able to show that healthy people experienced more flow in general than hospitalized patients who suffered from anxiety disorders, depression or alcohol problems (You, 2001). Furthermore, in the same study, more frequent experience of flow was associated

with higher life satisfaction, lower depression/anxiety scores and better stress processing mechanisms.

At the same time, studies have also shown that flow can be experienced in difficult circumstances. Flow experiences have been discovered in adults and children with chronic disabilities (Delle Fave, 2007; Delle Fave et al., 2011), patients in motor rehabilitation programs (Sartori et al., 2014), patients in hospitalized treatment for eating disorders (Preziosa, Riva, & Delle Fave, 2008; as cited in Delle Fave et al., 2011), patients in a psychiatric rehabilitation program for schizophrenia (Lanfranchi, Frecchiami, & Delle Fave, 2011; as cited in Delle Fave et al., 2011), patients with psychoses, mood disorders, and personality disorders in a psychiatric rehabilitation centre (Bassi, Ferrario, Ba, Delle Fave, & Viganò, 2012) and ambulatory psychiatric patients with anxiety disorders (Delle Fave & Massimini, 1992). Some of these findings also suggest that flow is an important factor in treatment adherence and outcome (Delle Fave et al., 2011; Sartori et al., 2014).

These findings also support the idea that flow can be experienced in difficult situations and may help to master the challenges of these situations.

2.3.2 Fostering flow outside of psychotherapy

Some have argued that it would be beneficial to encourage patient to participate in activities that produced flow outside of the therapy process (Fava & Tomba, 2009; Massimini & Delle Fave, 2000; Nakamura & Csikszentmihalyi, 2002; Riva et al., 2016; You, 2001). This could help reduce symptoms, aid social reintegration and therefore support meaningful improvement (Massimini & Delle Fave, 2000). Additionally, studies have shown that the general experience of flow in daily life can be increased through intervention programmes (Delle Fave et al., 2011; Nakamura & Csikszentmihalyi, 2002).

Fostering flow outside the therapeutic process is explicitly addressed in positive psychotherapy. This field of psychotherapy is defined as the application of concepts and principles of positive psychology and positive psychological interventions (PPI) to the treatment of mental disorders (Laireiter & Furchtlehner, 2018). Positive psychotherapy aims to improve positive emotions, engagement and meaning instead of focussing on reducing symptoms (Seligman, Rashid, & Parks, 2006). For example, part of treatment can be to try to increase engagement and therefore also increase flow experience. One of the possibilities to increase engagement is to identify clients' signature strengths and to encourage them to use

these strengths more frequently or in a new way (Seligman et al., 2006). For example, a patient with the signature strength of creativity can be encouraged to try new art classes, in which the patient would most likely experience flow. This intervention has proven to increase happiness and reduce depressive symptoms (Proyer, Gander, Wellenzohn, & Ruch, 2015; Sin & Lyubomirsky, 2009). Similarly, fostering flow is also part of the so called wellbeing therapy (Fava & Tomba, 2009).

2.3.3 Theoretical link between flow and psychotherapy

Multiple authors have argued that flow should be experienced by both the patient and the therapist during psychotherapy (Grafanaki et al., 2007; Riva et al., 2016; You, 2001). You (2001) has argued that the "good moments" in psychotherapy (Mahrer & Nadler, 1986), are closely associated with the components of flow. These "good moments" describe when a client shows improvement or progress (Mahrer & Nadler, 1986). You (2001) therefore declared that psychotherapy is a process that can evoke flow, and that this has positive effects on the wellbeing of the patient and the therapy outcome.

As we have described so far, flow is commonly experienced in social situations and can even be a shared experience between two people. For example, flow experiences were identified during coaching sessions (Wesson, 2010). Even though coaching and psychotherapy have substantial differences, they do share a similarity in their one-on-one setting. Given this, it can be assumed that the therapeutic setting could lend itself to the experience of flow.

As mentioned previously, the experience of a bond or connectedness is essential for flow in social situations. Similarly, the therapeutic alliance plays a vital role in psychotherapy. This focus on mutual trust and commitment might foster the experience of flow (Riva et al., 2016). This would mean that the experience of flow should be closely associated with the development of an affective bond (Grafanaki et al., 2007).

On the psychotherapist side, flow has been included in the Therapist Work Involvement Scale by Orlinsky & Rønnestad (2005). Specifically, flow is part of the healing involvement, which describes a therapist's concept of their work as a positive influence (Orlinsky & Rønnestad, 2005). Healing involvement is characterised by affirming and supportive behaviour, as well as by the application of constructive coping strategies.

In conclusion, flow should be experienced by both patient and therapist during the therapy session. Some have argued that these flow experiences could foster positive experiences and significantly aid the therapeutic process (Grafanaki et al., 2007; Riva et al., 2015)

2.3.4 Flow during psychotherapy - empirical evidence

While flow experience per se is a highly researched subject, there are only a few empirical studies concerning the flow experience during psychotherapy sessions.

One study showed that psychotherapists commonly experience flow during their sessions (Thome, 2020), indicating that this experience occurs with about 70% of patients. This flow experience during psychotherapy was associated with higher quality of life of the psychotherapist and healing involvement. These findings are relevant to the flow experience of the patient in psychotherapy, as studies have shown that flow can be transferred between two people (Bakker, 2005). Interestingly, flow experience was also associated with certain therapeutic methods. Systemic therapists experience flow significantly more often than cognitive-behavioural or psychoanalytic therapists. This might be due to the different emphases placed on the interaction between patient and therapist across diverse therapeutic methods. However, since there is only one study on therapists' flow experience during sessions, substantially more research is needed to fully understand this phenomenon.

Similarly, only very little is known about patients' experience of flow during therapy sessions. In a qualitative case study, Grafanaki and McLeod (1999) tried to identify helpful and hindering events in experiential psychotherapy. They discovered that the significant/helpful moments in therapy were often characterised by an experience of flow (Grafanaki & McLeod, 1999). These moments contribute to therapeutic outcome and support the patient's sense of mastery and hope (Grafanaki et al., 2007). During these moments of flow, the therapist and client shared a mutual experience (Grafanaki & McLeod, 1999). Such moments where associated with high levels of connection and mutual trust (Grafanaki et al., 2007). These findings are in line with the previously mentioned theoretical association between flow and good moments in psychotherapy (You, 2001). Taken together, it can be assumed that flow is associated with certain significant moments in therapy.

Another study concerning flow experiences in psycho-dramatic psychotherapy found that patients experienced flow during group therapy (Krautschneider, 2013). These flow experiences were associated the with duration of therapy. However, it should be noted that

the sample size of this study is very small (*N*=15), and all patients were from the same therapy group.

In conclusion, the empirical data regarding flow experience during psychotherapy sessions is extremely limited. To date, no study has systematically assessed flow experience of patients across different therapeutic methods. While some studies exist, they are usually confined to one very specific therapeutic method and the sample size is quite small. Additionally, no studies exist on the effect of flow during therapy. While multiple authors suggest that the experience of flow should significantly support the therapeutic process, no empirical evidence can be found for this notion.

3 Aims and Research Questions

As shown in the above section, it has been theoretically assumed that patients experience flow during psychotherapy and that this experience is associated with therapeutic relationship and a better therapy outcome. The aim of this study is to systematically assess these claims across different therapeutic methods, in an exploratory way.

Furthermore, as the empirical evidence on this subject is rather thin, exploratory data analysis will be conducted. The relationship between flow experience in therapy and intra-session experiences, inter-session experiences and therapy variables will be analysed. Additionally, it will be assessed whether flow mediates the relationship between established common factors (such as working alliance) and therapy outcome.

As this study is being conducted during the COVID-19 pandemic it will also be analysed whether flow can be experienced during online therapy. This should provide further insight into the therapeutic process of online therapy and whether there are any differences compared to face-to-face therapy.

As discussed prior, the condition “balance of perceived challenge and skills” could also lead to anxiety instead of flow. However, this component is not considered in theoretical analyses of flow during psychotherapy. Therefore, the anxiety aspect of this component will be included in the exploratory analysis of this study to assess whether it influences flow experience during therapy sessions.

3.1 Research Questions

The following research questions and hypotheses where developed based on the existing empirical evidence.

Question 1: Do patients experience flow during psychotherapeutic sessions?

> Question 1.1: To what extent do patients experience flow during psychotherapeutic sessions?
>
> Question 1.2: When during psychotherapeutic sessions do patients experience flow?
>
> Question 1.3 How long does the flow experience last during psychotherapeutic sessions?

Question 2: Is there a connection between flow experience in therapy and the therapeutic alliance? Therapeutic alliance will be assessed with the Working Alliance Inventory-short revised (WAI-SR), which will be discussed in detail in section 4.3.4.

Hypothesis 1.1: There is a positive correlation between the Flow scale of the FKS and the total score of the WAI-SR.

Hypothesis 1.2: There is a positive correlation between the Flow scale of the FKS and the scale Bond of the WAI-SR.

Hypothesis 1.3: There is a positive correlation between the Flow scale of the FKS and the scale Task of the WAI-SR.

Hypothesis 1.4: There is a positive correlation between the Flow scale of the FKS and the scale Goal of the WAI-SR.

Question 3: Is there a connection between flow experience in therapy and the therapy outcome? Therapy outcome will be assessed with the Bochumer Veränderungsbogen (BVB-2000), which will be discussed in detail in section 4.3.5

Hypothesis 2.1: There is a positive correlation between the Flow scale of the FKS and the total score of the BVB 2000?

Hypothesis 2.2: There is a positive correlation between the Flow scale of the FKS and the scale Positive Change in the BVB 2000?

Hypothesis 2.3: There is a positive correlation between the Flow scale of the FKS and the scale Reduction of Burden in the BVB 2000?

Hypothesis 2.4: There is a positive correlation between the Flow scale of the FKS and the scale Change in Interaction in the BVB 2000?

Question 4: Is there a connection between flow experience in therapy and intra-session experiences?

Question 5: Is there a connection between flow experience in therapy and intersession experiences?

Question 6: Is there a connection between flow experience in therapy and the following therapy variables?

Question 6.1: Is there a significant difference in flow experience between online/ telephone therapy sessions and face-to-face therapy session?

Question 6.2: Is there a significant difference in flow experience due to psychotherapist's gender

Question 6.3: Is there a significant difference in flow experience based on the number of prior therapy sessions?

Question 6.4: Is there a significant difference in flow experience between different psychotherapeutic orientations?

Question 7: Does flow experience in therapy mediate the relationship between working alliance and outcome?

Question 8: Does flow experience in therapy mediate the relationship between in-session experiences and outcome?

Question 9: Does flow experience in therapy mediate the relationship between inter-session experiences and outcome?

<u>Flow anxiety component:</u>

Question 10: Is the relationship between flow experience in therapy and working alliance moderated by the flow anxiety component?

Question 11: Is the relationship between flow experience in therapy and the outcome of psychotherapy moderated by the flow anxiety component?

Question 12: Is the relationship between flow experience in therapy and in-session experiences moderated by the flow anxiety component?

4 Method

4.1 Design

This is a cross-sectional online study that consists of several questionnaires. The study was conducted in German.

4.2 Participants

The following inclusion criteria were set:

- The participants had to be over 18 years of age
- At the time of the assessment, participants had to be in psychotherapy for at least one month. Only therapy for the treatment of mental disorders was included. Psychotherapy for personality development (German “Selbsterfahrung”) or therapy as part of psychotherapists’ education or training was excluded.
- The participants were in individual therapy (no group therapy).

Power analysis was conducted using the statistical tool G-Power (Erdfelder, Faul, Buchner, & Lang, 2009). A sample size of N=67 was calculated, assuming a medium effect for the main hypotheses (correlation, α=.05, power=.80).

4.3 Measures

All measurements are described in detail in this chapter.

4.3.1 Sociodemographic data

Age, gender, current country of residence and highest level of education were obtained. If a participant indicated that they were under 18 years old they were immediately excluded from the study.

4.3.2 Therapy variables

The questionnaire for collecting therapy variables was self-compiled. The following data was collected:

- Type of therapy (individual or group therapy)
- Duration of therapy (less than a month, 1-3 months, 4-6 months, 7-9 months, 10-12 months, 13-24 months or more than 24 months)
- Therapy frequency (multiple times a week, weekly, biweekly, monthly, every two months, less than every two months)

- Number of sessions prior to completing this questionnaire (less than 10, 11-20, 21-30, 31-50, 51-100, more than 100)
- Gender of psychotherapist
- Received diagnosis

If participants indicated that they had initiated therapy less than a month prior to the study or that they were attending group therapy, they were subsequently excluded from the study. Additionally, the psychotherapeutic orientation was obtained. The four major clusters of psychotherapeutic methods (cognitive behavioural therapy, psychodynamic therapy, humanistic therapy and systemic therapy) were presented as options. Additionally, an option was presented for participants to indicate if the therapeutic method was unknown. Multiple examples were given for each cluster.

In addition, changes in therapeutic setting with regard to the current Corona situation were determined. Participants were asked whether any therapy sessions were conducted online or via telephone during the previous month. If participants indicated that this was the case, they were presented with an additional short questionnaire. This contained the following questions: “How many therapy sessions were conducted online or by phone during the last month?” (one, two, three, four or more), “Was your last therapy session conducted online or by phone?”, If yes: “Were there any technical difficulties during the therapy session?”. Determining the setting of the last therapy session is crucial for this study, as flow experiences were assessed for this session.

4.3.3 Flow

To assess flow experience, the Flow-Kurzskala (FKS) [Short Scale of Flow] was used (Rheinberg & Vollmeyer, 2003). The FKS contains ten statements, which are to be rated on a seven-point scale (“does not apply” to “applies fully”). Participants were asked to rate each statement with regard to their last therapy session. The FKS has been used in multiple studies to assess flow experience and has shown a high coefficient alpha (α = .90). In addition to the overall Flow score, two subscales can be calculated: Absorption (4 items, α = .80) and Automated Process (6 items, α = .92). As previously discussed, the balance of perceived challenge and skill could also lead to anxiety. The FKS also includes a 3-item Anxiety scale (α = .80 to .90).

Furthermore, three exploratory questions were developed: “When, during the therapy session, did you experience the previously mentioned phenomena?” (at the start, first half,

second half, at the end, multiple times), “How long did this experience last?” (isolated moments, approximately one minute, one to ten minutes, up to 20 minutes, up to 30 minutes, almost the entire session) and ”How often do you experience these phenomena outside of therapy during a normal week (pre covid)?” (never, 1-3 times, 4-6 times, 7-10 times, more than 10). These exploratory questions should help describe the flow experience and provide a more detailed description of patients’ flow experience.

4.3.4 Working alliance

Working alliance was assessed by the German version of the Working Alliance Inventory-short revised (WAI-SR) (Munder, Wilmers, Leonhart, Linster, & Barth, 2010; Wilmers et al., 2008). This questionnaire is based on the aforementioned working alliance theory of Bordin (Bordin, 1979). Importantly, this questionnaire can be used regardless of therapeutic methods or orientation and has been assessed in both inpatient and outpatient samples. The German WAIS-SR contains an overall score (12 items, α = .90-.93) and three subscales: Task (4 items, α = .85), Goals (4 items, α = .81-.91) and Bond (4 items, α = .83).

The high intercorrelation between the WAI-SR subscales (in particular Tasks and Goals), raises the question whether the two factors can be differentiated. Therefore, the overall score will be used for most analyses.

4.3.5 Outcome

Therapy outcome was measured with the Bochumer Veränderungsbogen (BVB-2000) [Bochumer Change Scale] (Willutzki, Ülsmann, Schulte, & Veith, 2013). This questionnaire assesses outcome directly. Retrospectively, the participants can indicate how much has changed since the beginning of psychotherapy. The BVB-2000 contains 26 items which are rated on a 7-point scale, where "1" or "7" describes full agreement with one or the other pole and the value "4", as the neutral centre of the scale, describing the lack of any subjectively perceived change. In addition to the overall score, the BVB-2000 has three subscales consisting of Explicit Positive Change, Reduction of Burden and Change in Interaction.

The BVB-2000 has shown high internal consistency (26 Items; α = .96) and statistically significant relationships with other therapeutic success measures.

4.3.6 Intra-Session experiences

Intra-Session experiences were assessed with the Berner Patientenstundenbogen 2000 (PSTB) [Berner Patient Session Scale] (Flückiger, Regli, Zwahlen, Hostettler, & Caspar, 2010). This

questionnaire is used to examine a broad spectrum of psychotherapeutic processes which may occur during therapy sessions. The PSTB is based on the prior mentioned common factors of Grawe (mastery/coping, clarification of meaning, problem actualization, and resource activation). The questionnaire contains 22 items, which are rated on a 7-point bi-polar scale ("-3" not at all, "0" neither "+3" exactly). The questionnaire consists of six subscales: Therapeutic Relationship (3 items, α = .83), Experiencing Self-Esteem (3 items, α =.81), Mastery (3 items, α =.85), Coping (3 items, α = .80), Therapy progress (1 item), Feeling Secure (4 items, α =.85), Feeling of control (3 items, α =.79) and Problem actualization (2 items, item intercorrelation .73).

The questionnaire was presented regarding the last therapy session. Multiple items had to be altered slightly as the questionnaire was not completed directly after the therapy session itself. For example, item 1: "Today I felt comfortable in my relationship with the therapist." was altered to "I felt comfortable in the relationship with the therapist." The following items were also changed along the same line: 1, 3, 4, 6, 14, 17.

4.3.7 Inter-Session experiences

Inter-Session experiences were measured using the German version of the Intersession Experience Questionnaire IEQ (Orlinsky, Geller, Tarragona, & Farber, 1993), called the Inter-Session-Fragebogen (ISF) (Hartmann, Orlinsky, Geller, & Zeeck, 2003). Studies have shown that the German and English versions have an almost identical factor structure (Hartmann et al., 2011).

The ISF contains six subscales: one scale regarding the intensity of intersession experiences (6 items, α =.72), three scales regarding the contents of intersession experiences: Reimagining (6 items, α =.73), Applying Therapy (3 items, α =.79), Relationship Fantasy (5 items, α =.77), and two scales regarding the emotional quality of intersession experiences: Positive Emotions (9 items, α =.88) and Negative Emotions (8 items, α =.88).

Three more subscales exist: two subscales regarding the context of intersession experiences and one subscale measuring social exchange. These subscales were not included in the study due to methodological problems regarding these factors and unsatisfactory internal consistency (e.g. social exchange α =.43).

4.4 Procedure

The online questionnaire was programmed in SoSciSurvey. Participants were informed of the general procedure of the study, inclusion criteria and the anonymity of their answers. Specifically, participants were informed that demographic information such as age or gender would not allow any clear conclusions to be drawn about their person and that their therapist would not gain access to the answers. Additionally, it was explained that participation in this study is on a voluntary basis and that the questionnaire may be terminated at any time. Participants were then requested to give informed consent before completing the questionnaire. If participants denied consent, they were unable to take part in the survey. The questionnaires were presented in the following order: sociodemographic data, therapy variables, FKS, PSTB, BVB-2000, WAI-SR, ISF, taking approximately 10-15 minutes to complete the full study. In addition, it was programmed in a way that skipping questions was not permitted.

Participants for this research were recruited online. Information concerning the study was posted in the following groups: Facebook groups regarding mental illness, online forums for mental illness, university Facebook groups and survey sharing groups on Facebook. All the aforementioned groups were German speaking. In the last three weeks of the study, an explicit request for male participants was added, as the majority of participants prior to this date were female. The study was online from February 8th 2021 to April 12th 2021.

4.5 Statistical Analysis

All statistical analysis will be conducted using IBM SPSS Statistics 24. Descriptive analysis will be conducted and scale reliability will be confirmed using Cronbach α.

Hypotheses 1 and 2 will be tested using Pearson's correlation coefficient (r). Bias corrected and accelerated (BCa) bootstrap 95% confidence intervals (CI) will be reported. Bootstrapping makes fewer assumptions than the traditional approaches (Wright, London, & Field, 2011) and should therefore be applied for correlation CIs (Field, 2013). The following guidelines will be employed for effect size interpretation: r = .10 is considered a small effect, r = .30 is considered a medium effect and $r \geq .50$ is considered a large effect (Cohen, 1988). Significance level is set at α = 5%. Therefore, results are to be deemed significant if $p < .05$. Bonferroni-Holm's correction will be applied to account for accumulation of alpha errors (Holm, 1979). Requirements for statistical procedures will be tested as following: Linearity of relationship to

be analysed via scatter plots and extreme outliers via boxplots (Field, 2013). On the basis of the central limit theorem, according to which the sample distribution from a sample size of $N > 30$ is approximate to a normal distribution (Bortz & Schuster, 2010), it can be assumed that the available data is normally distributed.

Exploratory data analysis will be conducted as follows: Questions 4 and 5 will be analysed in the same way as Hypotheses 1 & 2, with one exception. As this is an exploratory data analysis no correction for accumulation of alpha errors will be applied. Consequently, some of the exploratory results may be coincidental and need further studies to be confirmed. Question 6.1 & 6.2 will be analysed using t-Test for independent sample and question 6.3-6.4 will be analysed using a one factor ANOVA. In the case of significant results, the strength of the effect will be reported using Cohens *d*. The following guidelines will be employed for effect size interpretation: $d = .20$ is considered a small effect, $d = .50$ is considered a medium effect and $d \geq .80$ is considered a large effect (Cohen, 1988). Requirements for questions 6 will be tested as following: Levene test for equality of variances, Kolmogorov-Smirnov test for normality in each group. If requirements are not met, the following non-parametric tests will be applied: for question 6.1 and 6.2 Mann-Whitney U-test and for questions 6.3 and 6.4 Kruskal-Wallis H-test.

Mediation analysis will be conducted for Questions 7 & 8, using the SPSS Makro Process v3.5.3 (Hayes, 2017). Indirect effect *b* and 95% CI will be reported. The confidence interval for the indirect effect is a bootstrapped CI based on 5000 samples, together with heteroskedasticity consistent standard errors. Effects are deemed significant if the confidence interval does not include zero. Simulation studies have shown that bootstrapping is one of the more valid and powerful methods (MacKinnon, Lockwood, & Williams, 2004) and should be used whenever possible for moderation and mediation analysis (Preacher, Rucker, & Hayes, 2007).

Moderation analysis will be conducted for Questions 9, 10 and 11, using the SPSS Makro Process v3.5.3. Mean centring for products will be applied. The confidence interval is a bootstrapped CI based on 5000 samples, together with heteroskedasticity consistent standard errors. Johnson-Neyman method will be applied to assess zone of significance for the moderator.

5 Results

5.1 Descriptive Analysis

5.1.1 Sample size

238 people started the survey. Of these, 236 people 136 (57%) completed the questionnaire and two participants denied their consent. On average participants needed 13.5 minutes to complete the questionnaire. Of the 136 participants who completed the questionnaire, eight were excluded for not meeting the inclusion criteria (seven participants were in therapy for less than a month and one participant was in group therapy). Additionally, five cases were excluded due to a relative speed index above 2 (Leiner, 2019). The relative speed index aims to identify meaningless data based on the speed of survey completion. Thus, the final sample size consists of *N* = 123 participants.

5.1.2 Demographic characteristics

5.1.2.1 Age and Gender

Of the 123 participants, 108 (87.8%) indicated that they were female and 13 (10.5%) indicated that they were male. One person (0.8) indicated that they were diverse.

Table 1 gives an overview of participants' age. 52% of participants indicated that they are younger than 30 years old.

Table 1

Age of Participants

Age	*n*	%
18-24 years	37	30.1
25-29 years	27	22.0
30-34 years	12	9.8
35-39 years	17	13.8
40-45 years	12	9.8
45-49 years	4	3.3
50-54 years	6	4.9
55-59 years	4	3.3
60-64 years	3	2.4
65 years and older	1	0.8

5.1.2.2 Highest educational level and country of residence

65 participants (52.8%) indicated that they currently live in Germany, 53 participants (43.1%) in Austria and 5 participants (4.1%) in Switzerland.

52% of participants indicated that they have a university or postgraduate degree. Table 2 gives an overview of participants' highest educational level.

Table 2

Highest Educational Level of Participants

Highest educational level	*n*	%
Middle school	6	4.9
High school/some college	33	26.9
Apprenticeship	15	12.2
University or postgraduate degree	64	52.0
Other	5	4.1

5.1.3 Therapy variables

5.1.3.1 Start of therapy, therapy frequency and number of prior sessions

Table 3 shows the start of participants' current therapy. 60% of participants had been in therapy for at least one year at the time of the survey.

Table 3

Start of Therapy

Start of Therapy	*n*	%
1-3 months ago	14	11.4
4-6 months ago	17	13.8
7-9 months ago	10	8.1
10-12 months ago	7	5.7
13-24 months ago	26	21.1
More than 24 months ago	49	39.8

Table 4 gives an overview over participants' current therapy frequency. About half of the participants were going to therapy once a week.

Table 4

Therapy Frequency

Therapy frequency	*n*	%
Multiple time per week	8	6.5
Weekly	58	47.2
Every 2 weeks	32	26.0
Once a month	17	13.8
Once every two months	2	1.6
Less than once every two months	6	4.9

Table 5 provides an overview of the number of therapy sessions participants have attended to date in their current therapy. Approximately 40% of participants indicated that they have attended more than 50 therapy session.

Table 5

Number of Sessions to Date

Number of sessions	*n*	%
Less than 10	14	11.4
11-20	28	22.8
21-30	11	8.9
31-50	20	16.3
51-100	23	18.7
More than a 100	27	22.0

5.1.3.2 Psychotherapeutic orientation and gender of psychotherapist

90 participants (73.2%) indicated that their therapist is female, while 31 participants (25.2%) indicated that their therapist is male, and two participants (1.6%) declined to answer the question.

47 participants (38.2%) stated that they attend cognitive behavioural therapy, 39 (31.7%) attend psychodynamic therapy, 13 (10.6%) attend humanistic therapy and nine (7.3%) attend systemic therapy. Additionally, 15 participants (12.2%) indicated that they do not know the therapeutic orientation.

5.1.3.3 Diagnosis

Participants were asked to list the diagnosis for which they are in psychotherapy. 56 participants (45.5%) indicated that they received one diagnosis, 26 (21.2%) received two diagnoses, eight (6.5%) received three diagnoses and nine (7.3%) received four diagnoses. Additionally, 24 participants (19.5%) declined to answer the question.

Table 6 lists the diagnoses participants stated. Over half of the participants indicated that they suffer from depression.

Table 6

Diagnosis

Diagnosis	*n*	%
Depression	66	53.7
Trauma disorders	22	17.9
Anxiety disorders	21	17.1
Personality disorders	13	10.6
Adjustment disorder	9	7.3
Bipolar disorder	7	5.7
Eating disorder	7	5.7
Schizophrenia	5	4.1
ADHS	5	4.1
Obsessive Compulsive disorder	2	1.6
Substance abuse	2	1.6
Other	6	4.9

5.1.3.4 Changes in psychotherapeutic setting due to COVID-19

56 participants (46%) indicated that at least one session was conducted online or on the telephone due to the current Corona virus pandemic. Table 7 gives an overview of the number of virtual sessions during the last month.

Table 7

Number of Online or Telephone Therapy Session

	n	%
1	23	18.7
2	10	8.1
3	4	3.3
More than 3	19	15.4

In addition, 39 participants (32%) indicated that their last therapy session was conducted online. This is the therapy session where flow-experience was assessed in the survey. Of these 39 participants, 36% indicated that they experienced some sort of technical problem during the session.

5.1.4 Flow experience

Question 1: Do patients experience flow during psychotherapeutic sessions?

5.1.4.1 Flow-Kurzskala (FKS) [Short Scale of Flow]

The Flow score across all participants was 4.40 (SD=1.21) on average. The mean score of the Absorption subscale was 4.50 (SD=1.23) and of the Automated Process scale was 4.34 (SD=1.41). The Flow Anxiety subscale showed an average score of 3.71 (SD=1.72). Table 8 provides an overview of the mean FKS-Scores across different studies (Rheinberg et al., 2003). The mean Flow score in Psychotherapy was comparable to flow scores of students during a lecture.

Table 8

FKS Mean Scores (from Rheinberg et al., 2003)

Study	Flow	Absorption	Automated Process	Anxiety
Psychotherapy (*n* = 123)[a]	4.40	4.50	4.34	3.71
Graffiti spraying (*n* = 292)	5.16	5.12	5.21	4.3
Statistic exercise (*n* = 123)	4.57	4.52	4.65	3.68
Lecture – middle (*n* = 63)	4.43	4.51	4.30	3.02
Lecture – end (*n* = 63)	4.21	4.38	3.94	2.95

[a] Current study

5.1.5 Exploratory flow questions

Participants were asked to indicate at what stage of the therapy session they experienced flow. Over 70 participants (56.9%) indicated that they experienced flow multiple times in the last therapy session. More participants indicated that they experienced flow in the first or second half (16.3% each) than at the beginning (5.7%) or the end (4.9%) of the therapy session. Figure 1 provides an overview of the replies.

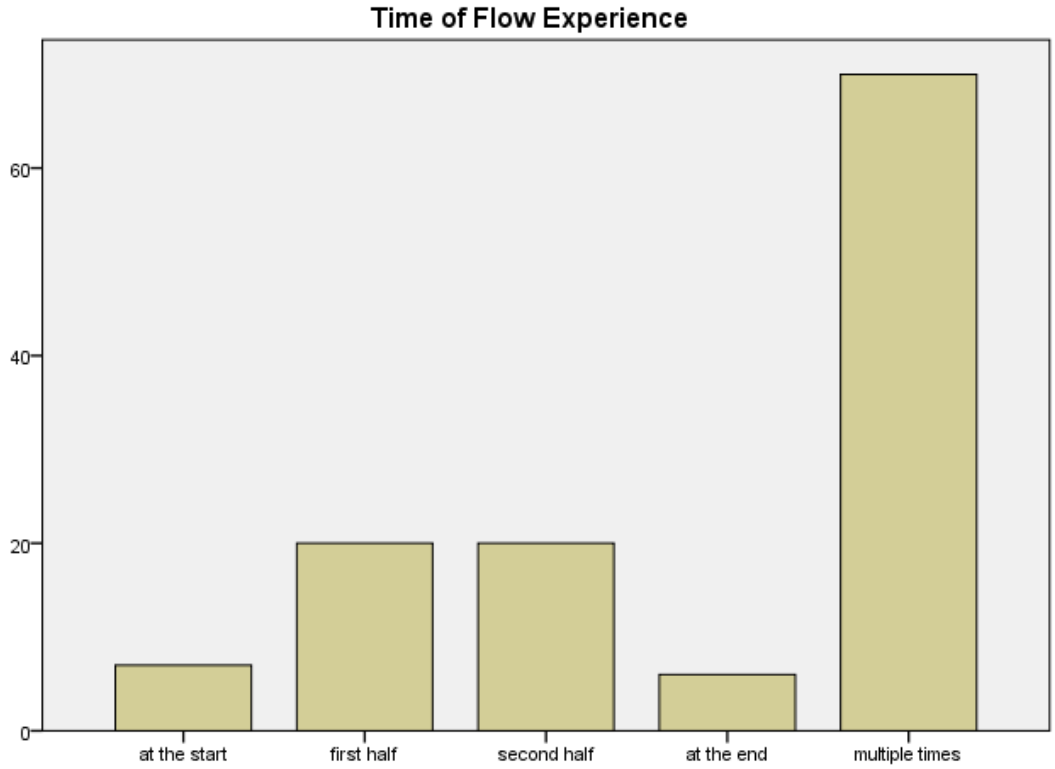

Figure 1. Time of Flow Experience

Additionally, the duration of the flow experience was assessed. Participants were asked “How long did this experience last?”. 44 participants (35.8%) indicated that the experience only lasted a few moments. However, 32 participants (26.0%) indicated that the flow experience lasted almost the entire session. The median was one to ten minutes. Figure 2 shows all replies regarding the duration of the flow experience.

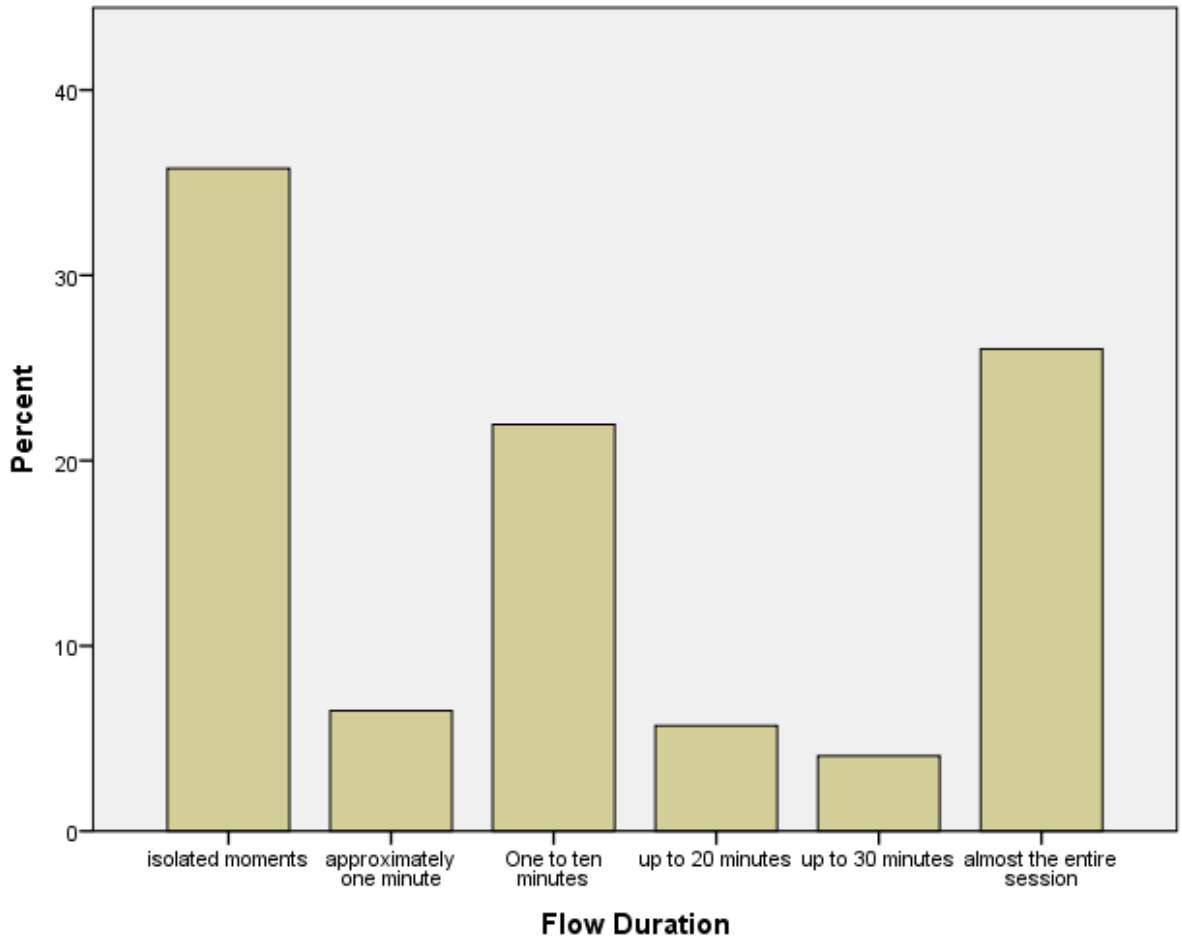

Figure 2. Duration of the Flow Experience

Participants were also asked to indicate how often they experienced flow outside of therapy during a normal week. The median was 4-6 times. Table 9 provides an overview of the replies.

Table 9

Flow outside therapy

	n	%
never	10	8.1
1-3 times	41	33.3
4-6 times	28	22.8
7-10 times	15	12.2
More than 10	29	23.6

5.2 Scale Reliabilities

5.2.1 Flow-Kurzskala (FKS) [Short Scale of Flow]

The Flow scale of the FKS shows good reliability (α = .85). The Automated Process and Anxiety subscales have adequate reliability (see Table 10). However, the Absorption subscale has low reliability (see Table 10).

Table 10

Reliabilities of the FKS scales (Cronbach's Alpha)

Scale	Number of Items	Cronbach α
Flow	10	.85
Absorption	4	.60
Automated Process	4	.85
Anxiety	3	.71

5.2.2 Working Alliance Inventory (WAI-SR)

All scales of the Working Alliance Inventory show good to excellent reliability. Table 11 gives an overview of Cronbach α's of all WAI-SR scales.

Table 11

Reliabilities of the WAI-SR scales (Cronbach's Alpha)

Scale	Number of Items	Cronbach α
WAI overall factor	12	.93
Bond	4	.83
Task	4	.90
Goals	4	.89

5.2.3 Bochumer Veränderungsbogen (BVB-2000) [Bochumer Change Scale]

All scales of the BVB-2000 show good to excellent reliability. Table 12 gives an overview of Cronbach α's of all BVB-2000 scales.

Table 12

Reliabilities of the BVB-2000 scales (Cronbach's Alpha)

Scale	Number of Items	Cronbach α
BVB overall factor	26	.96
Positive Change	10	.93
Reduction of Burden	9	.88
Change in Interaction	7	.85

5.2.4 Berner Patientenstundenbogen 2000 (PSTB) [Berner Patient Session Scale]

As previously discussed, some items of the PSTB were rephrased for this study. All subscales of the PSTB show adequate reliability. As the subscale Problem Actuation only contains two items, item intercorrelation is reported. Additionally, the subscale Therapy Progress only contains one item and is therefore not included. Table 13 gives an overview of the reliabilities of all PSTB subscales.

Table 13

Reliabilities of the PSTB scales (Cronbach's Alpha)

Scale	Number of Items	Cronbach α
Therapeutic Relationship	3	.81
Experiencing Self- esteem	3	.77
Mastery	3	.87
Coping	3	.79
Feeling Secure	4	.79
Feeling of Control	3	.77
Problem Actualization	2	.72[a]

[a] Item-intercorrelation

5.2.5 Inter-Session Fragebogen (ISF) [Intersession questionnaire]

The subscales Applying Therapy, Relationship Fantasy, Positive Emotions and Negative Emotions all have acceptable reliability (see table 14). However, the subscale Reimagining has low reliability. For the subscale Intensity, two items with corrected item-total correlation of < .20 were removed. After removing the two items, the subscale Intensity showed adequate reliability.

Table 14

Reliabilities of the ISF Scales (Cronbach's Alpha)

Scale	Number of Items	Cronbach α
Intensity	4[a]	.78
Reimagining	6	.68
Applying Therapy	3	.74
Relationship Fantasy	5	.77
Positive Emotions	9	.86
Negative Emotions	8	.85

[a] Two items removed

5.3 Hypothesis Testing

5.3.1 Hypothesis 1: Flow experience and working alliance

The requirements were analysed: no extreme outliers were identified and the linearity of relationship was assessed.

Hypothesis 1.1: There is a positive correlation between the Flow scale of the FKS and the total score of the WAI-SR.

FKS Flow scale was significantly correlated with WAI-SR total score, r = .52, 95% BCa CI [.36, .63], p < .001. This result remains significant after Bonferroni-Holm correction. This represents a large effect.

Hypothesis 1.2: There is a positive correlation between the Flow scale of the FKS and the scale Bond of the WAI-SR.

FKS Flow scale was significantly correlated with WAI-SR subscale Bond, r = .37, 95% BCa CI [.20, .53], p < .001. This result remains significant after Bonferroni-Holm correction. This represents a medium effect.

Hypothesis 1.3: There is a positive correlation between the Flow scale of the FKS and the scale Task of the WAI-SR.

FKS Flow scale was significantly correlated with WAI-SR subscale Task, r = .54, 95% BCa CI [.40, .66], p < .001. This result remains significant after Bonferroni-Holm correction. This represents a large effect.

Hypothesis 1.4 : There is a positive correlation between the Flow scale of the FKS and the scale Goal of the WAI-SR.

FKS Flow scale was significantly correlated with WAI-SR subscale Goals, r = .42 95% BCa CI [.26, .56], p < .001. This result remains significant after Bonferroni-Holm correction. This represents a medium to large effect.

5.3.2 Hypothesis 2: Flow experience and psychotherapy outcome

The requirements were analysed: no extreme outliers were identified and the linearity of relationship was assessed.

Hypothesis 2.1: There is a positive correlation between the Flow scale of the FKS and the total score of the BVB 2000

FKS Flow scale was significantly correlated with BVB total score, $r = .48$, 95% BCa CI [.32, .61], $p < .001$. This result remains significant after Bonferroni-Holm correction. This represents a medium to large effect.

Hypothesis 2.2: There is a positive correlation between the Flow scale of the FKS and the scale Positive Change in BVB 2000

FKS Flow scale was significantly correlated with BVB subscale Positive Change $r = .49$, 95% BCa CI [.30, .58], $p < .001$. This result remains significant after Bonferroni-Holm correction. This represents a medium to large effect.

Hypothesis 2.3: There is a positive correlation between the Flow scale of the FKS and the scale Reduction of Burden of the BVB 2000

FKS Flow scale was significantly correlated with BVB subscale Reduction of Burden $r = .47$, 95% BCa CI [.31, .60], $p < .001$. This result remains significant after Bonferroni-Holm correction. This represents a medium to large effect.

Hypothesis 2.4: There is a positive correlation between the Flow scale of the FKS and the scale Change in Interaction of the BVB 2000

FKS Flow scale was significantly correlated with BVB subscale Change in Interaction, $r = .42$, 95% BCa CI [.27, .55], $p < .001$. This result remains significant after Bonferroni-Holm correction. This represents a medium to large effect.

5.4 Exploratory Data Analysis

5.4.1 Flow and intra-session experiences

Question 4: Is there a connection between flow experience in therapy and intra-session flow experiences?

No extreme outliers were found, linearity of relationship was assessed. FKS was significantly correlated with all PSTB subscales except Problem Actualization. Table 15 provides an overview of all correlations. These results range between medium and large effects.

Table 15

FKS-PSTB Correlation (Pearson correlation)

PSTB- subscales	Flow			
	r	Significance (2-tailed)	BCa 95% CI	
			Lower	Upper
Therapeutic Relationship	.447	<.001	.29	.60
Experiencing Self-Esteem	.485	<.001	.33	.62
Mastery	.500	<.001	.35	.63
Coping	.492	<.001	.34	.64
Therapy Progress	.418	<.001	.23	.57
Feeling Secure	-.431	<.001	-.58	-.30
Feeling of Control	.339	<.001	.17	.51
Problem Actualization	.118	.192	-.07	.23

5.4.2 Flow and inter-session experiences

Question 5: Is there a connection between flow experience in therapy and intersession experiences?

Three outliers were identified for the subscale Relationship Fantasy and subsequently excluded from the analysis of this scale. No further outliers were identified.

FKS was significantly correlated with ISF subscales Positive Emotion r =.52 [.35, .66] p < .001 and Negative Emotion r = -.49 [-.64, -.23] p < .001. These results represent a medium to large effect. Additionally, FKS was significantly correlated with ISF subscales Intensity of IS-experiences r = -.22 [-.40, -.04] p = .014 and Reimagining r = -.23 [-.41, -.04] p = .012. These results represent a small effect. Table 16 provides an overview of FKS correlation with all ISF subscales.

Table 16

FKS-ISF Correlation (Pearson correlation)

ISF- subscales	Flow			
	r	Significance (2-tailed)	BCa 95% CI	
			Lower	Upper
Intensity	-.22	.014	-.40	-.04
Reimagining	-.23	.012	-.41	-.04
Applying Therapy	.128	.159	-.07	.31
Relationship Fantasies	-18	.052	-.35	-.01
Positive Emotions	.52	<.001	.35	.66
Negative Emotions	-.49	<.001	-.64	-.23

5.4.3 Flow and psychotherapy variables

5.4.3.1 Flow experience and online therapy

Question 6.1: Is there a significant difference in flow experience between online/ telephone therapy sessions and personal contact therapy sessions?

FKS Flow scores in online/ telephone sessions D(39) = 0.130, p = .093, did not deviate significantly from normal distribution; however personal contact sessions D(84) = 0.114, p = .009 FKS Flow scores significantly deviated from normal distribution. Therefore, the nonparametric Mann-Whitney U-test was applied.

FKS Flow scores in participants with online or telephone therapy (*Mdn* = 4.50) did not differ significantly from the scores of participants with personal contact sessions (*Mdn* = 4.70), *U* = 1383.50, *z* = -1.39, *p* = .166

5.4.3.2 6.2 Flow experience and psychotherapist gender

Question 6.2: Is there a significant difference in flow experience between psychotherapists' gender?

FKS Flow scores in participants with a male psychotherapist *D*(31) = 0.147, *p* = .085, did not deviate significantly from normal distribution; however the FKS Flow scores in participants with a female psychotherapist *D*(84) = 0.114, *p* = .009 significantly deviated from normal distribution. Therefore, the nonparametric Mann-Whitney U-test was applied.

FKS Flow scores in participants with a female psychotherapist (*Mdn* = 4.70) did not differ significantly from the scores of participants with a male psychotherapist (*Mdn* = 4.70), *U* = 1299.50, *z* = -0.57, *p* = .570.

5.4.3.3 Flow experience and number of prior sessions

Question 6.3: Is there a significant difference in flow experience based on the number of prior therapy sessions?

FKS Flow scores in participants with less than 10 therapy sessions *D*(14) = 0.124, *p* = .200, 21-30 therapy sessions, *D*(11) = 0.220, *p* = .143, 31-50 therapy sessions, *D*(20) = 0.163, *p* = .174, 51-100 therapy sessions, *D*(23) = 0.136, *p* = .200, and more than 100 therapy sessions *D*(27) = 0.112, *p* = .200, did not deviate significantly from normal distribution; however participants' Flow scores with 11-20 therapy sessions *D*(28) = 0.225, *p* = .001, FKS significantly deviated from normal distribution. Therefore, Kruskal-Wallis H-test was applied.

FKS scores were not significantly affected by the number of prior sessions, *H*(5) = 2.90, *p* = .716.

5.4.3.4 Flow experience and psychotherapeutic orientation

Question 6.4: Is there a significant difference in flow experience between different psychotherapeutic orientations*?*

FKS Flow scores in participants attending psychodynamic therapy *D*(39) = 0.139, *p* = .057, humanistic therapy *D*(13) = 0.162, *p* = .200, and systemic therapy *D*(9) = 0.234, *p* = .170, did

not deviate significantly from normal distribution; however the FKS scores of participants attending cognitive behavioural therapy $D(47) = 0.141$, $p = .021$, significantly deviated from normal distribution. Therefore, Kruskal-Wallis H-test was applied.

FKS scores were not significantly affected by psychotherapeutic orientations, $H(3) = 0.656$, $p = .883$

5.4.4 Flow and the relationship between working alliance and psychotherapy outcome

Question 7: Does flow experience in therapy mediate the relationship between working alliance and outcome?

There was a significant indirect effect of the WAI-SR total score on the BVB-2000 total score through the FKS Flow scores, $b = 0.22$, 95% CI [0.11, 0.35]. This constitutes a partial mediation. Figure 3 provides an overview of the mediation model.

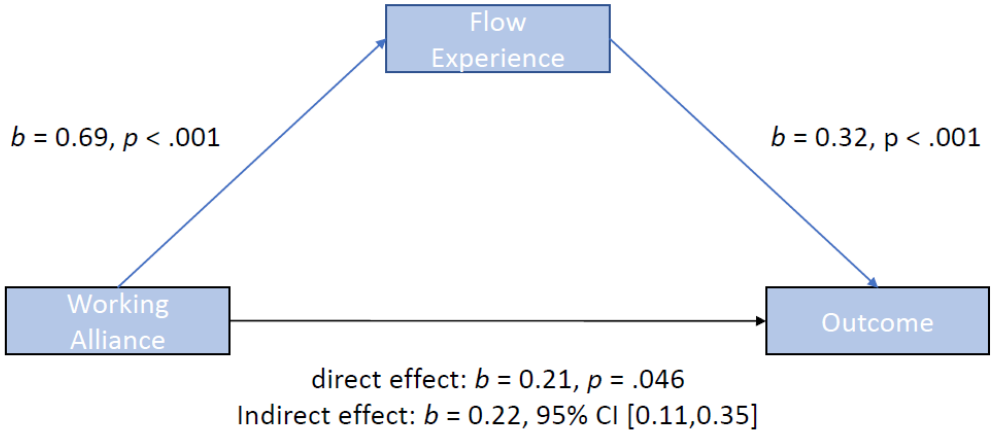

Figure 3. Mediation-Model

5.4.5 Flow and the relationship between intra-session experiences and psychotherapy outcome

Question 8: Does flow experience in therapy mediate the relationship between in-session experiences and outcome?

There was a significant indirect effect of all PSTB subscales on the BVB-2000 total score through the FKS Flow scores: Therapeutic Relationship $b = 0.16$, 95% CI [0.08,0.29], Experiencing Self-Esteem $b = 0.13$, 95% CI [0.06,0.22], Mastery $b = 0.06$, 95% CI [0.01,0.12],

Coping *b* = 0.12, 95% CI [0.04,0.19], Therapy Progress *b* = 0.08, 95% CI [0.04,0.13], Feeling Secure *b* = -0.11, 95% CI [-0.19,-0.05], and Feeling of Control *b* = 0.14, 95% CI [0.05,0.24]. All of which were partial mediation. Graphical representations for all mediation models can be found in the appendix.

PSTB subscale Problem Actualization was not included in this mediation analysis as prior analysis showed that there was no significant correlation between the FKS Flow scores and Problem Actualisation.

5.4.6 Flow and the relationship between inter-session experiences and psychotherapy outcome

Question 9: Does flow experience in therapy mediate the relationship between inter-session experiences and outcome?

There was a significant indirect effect of following ISF subscales on the BVB-2000 total score through the FKS Flow scores: Positive Emotion *b* = 0.16, 95% CI [0.04,0.28], Negative Emotions *b* = -0.13, 95% CI [-0.24,-0.03], Reimagining *b* = -0.13, 95% CI [-0.24,-0.03]. All of which were partial mediation. Graphical representations for all mediation models can be found in the appendix.

No significant moderation was found for ISF subscale Intensity *b* = -0.09, 95% CI [-0.22,0.03].

ISF subscales Applying Therapy and Relationship Fantasies were not included in this mediation analysis as prior analysis showed that there was no significant correlation between the FKS Flow scores and Applying Therapy/Relationship Fantasies.

5.4.7 Flow anxiety component and the relationship between flow and working alliance

Question 10: Is the relationship between flow experience in therapy and working alliance moderated by the flow anxiety component?

No significant moderation of the anxiety component on the relationship between the FKS Flow scores and the WAI-SR scores was found, *b* = 0.02, 95% CI [-0.05, 0.08], *t* = 0.55, *p* = .55

5.4.8 Flow anxiety component and the relationship between flow and psychotherapy outcome

Question 11: Is the relationship between flow experience in therapy and outcome of psychotherapy moderated by the flow anxiety component?

No significant moderation of the anxiety component on the relationship between the FKS Flow scores and the BVB-2000 scores was found, *b* = -0.03, 95% CI [-0.09, 0.04], *t* = -0.77 *p* = .44

5.4.9 Flow anxiety component and the relationship between flow and intra-session experiences

Question 12: Is the relationship between flow experience in therapy and in-session experiences moderated by the flow anxiety component?

No significant moderation between FKS Flow scores and PSTB subscales for the flow anxiety component was found: Therapeutic Relationship, *b* = 0.03 95% CI [-0.42, 0.11], *t* = 0.87 *p* = .383, Experiencing Self-esteem, *b* = 0.00 [-0.08, 0.08], *t* = 0.0 *p* = .999, Mastery, *b* = -0.05 [-0.16, 0.05], *t* = -1.03 p=.306, Coping, *b* = -0.01 [-0.11, 0.09], *t* = -0.10 *p* = .921, Therapy Progress, *b* = -0.03 [-0.17, 0.10], *t* = -0.47 *p* = .639, and Feeling Secure, *b* = 0.04 [-0.06, 0.14], *t* = 0.74 *p* = .458.

However, the flow anxiety component did significantly moderate the relationship between FKS Flow scores and PSTB subscale Feeling of Control, *b* = .11 [.03, .18], *t* = 2.72, *p* = .008. Figure 4 provides an overview of the relationship. High anxiety scores resulted in a weaker association between high flow scores and Feeling of Control.

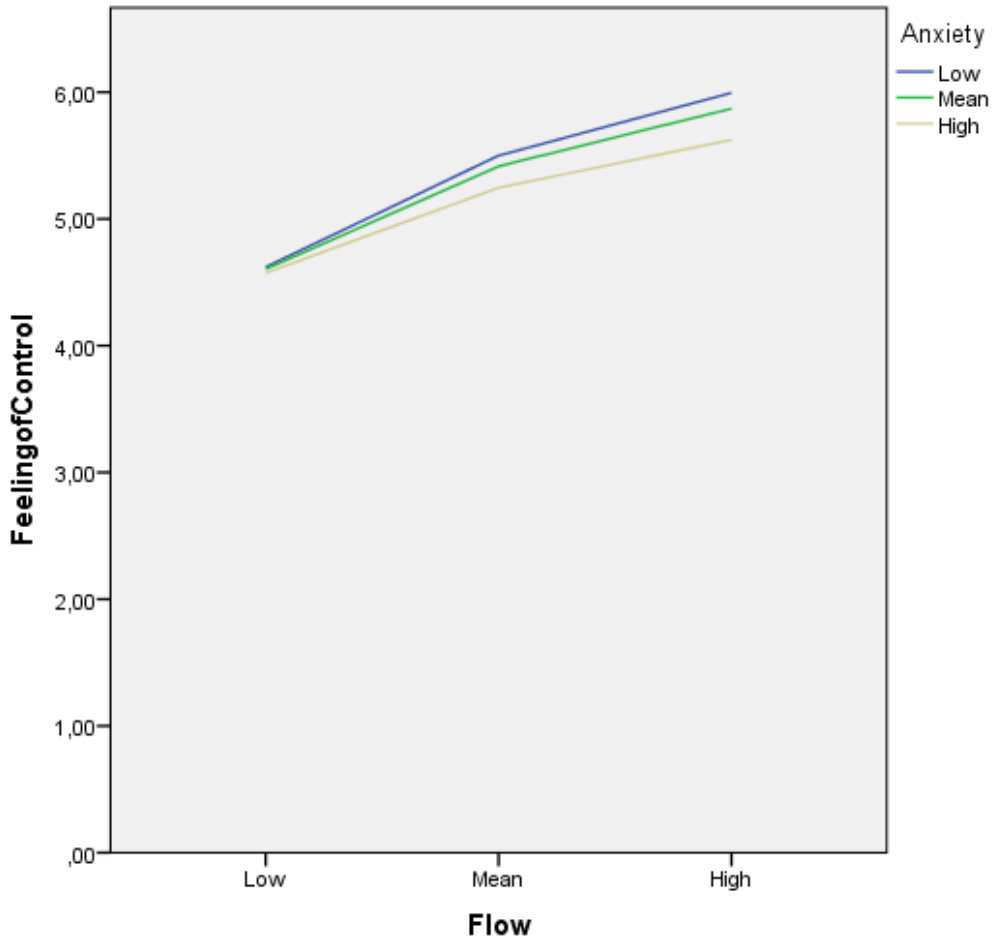

Figure 4. Moderation-Model of Flow Anxiety on Feeling of Control in therapy

6 Discussion

One of the main aims of this study was to assess the theoretical assumption that patients experience flow during psychotherapy. Descriptive analyses of the flow questionnaire and exploratory questions support this assumption. When comparing with other flow studies, it could be shown that flow scores during psychotherapy were comparable to students' flow scores during a lecture. Exploratory questions indicated that over 60% of participants experienced flow multiple times per session. Taken together, it can be stated that patients experience flow during psychotherapy. We now know that both psychotherapists (Thome, 2020) and patients can experience flow during the therapy session.

Furthermore, theoretical assumptions about the relationship of flow and therapy outcome were tested. Multiple researchers have stated that patients' flow experience during therapy sessions should be associated with better outcome. The results clearly affirm this assumption, as all hypotheses regarding flow experience and therapy outcome were confirmed. These findings are in line with aforementioned research (see chapter 1) which shows that increased flow experience is associated with increased life satisfaction and psychological wellbeing.

In addition, the results of this research also confirm the assumed relationship between flow and working alliance. Specifically, a significant positive correlation between the FKS Flow scale and WAI-SR scales was shown. These findings endorse the idea that a strong therapeutic relationship might foster the experience of flow.

In summary, all the above theoretical assumptions about flow in psychotherapy could be confirmed. Additionally, exploratory data analysis showed that flow is also associated with other important processes in psychotherapy. Flow scores were significantly correlated with almost all PSTB subscales: Therapeutic Relationship, Experiencing Self-Esteem, Mastery, Coping, Therapy Progress, Feeling Secure and Feeling of Control. These subscales represent important common factors, which are essential to therapy sessions and the psychotherapeutic process. Interestingly, the only subscale that was not associated with flow experience was Problem Actualization. A possible explanation for this finding is that the activation of problems might hinder the experience of flow. Overall, these findings suggest that flow experience is closely associated with multiple common factors of psychotherapy and plays an important role during a therapy session.

In this study, flow experience in psychotherapy was not only connected to processes during the therapy session, but also associated with intersession experiences. Flow experience was positively correlated with positive emotions and negatively with negative emotions experienced between therapy sessions. This is in line with aforementioned research (see Chapter 2.1.3) which has shown that increased positive affect can be observed directly following flow inducing experiences and that these experiences are associated with better affective wellbeing. Interestingly, flow experience was negatively correlated with intensity of intersession experiences and reimagining the therapy between sessions. No clear theoretical explanation can be found as to why more flow experience is associated with less intense intersession experience and less reimagining of therapy. It should however be mentioned that this was a rather small effect compared to all prior results.

Exploratory data analysis also investigated whether certain therapy variables are associated with flow experience. However, no significant difference in flow experience could be identified for the number of prior sessions, psychotherapist gender or psychotherapeutic orientation. These finding support the idea that flow is a universal experience during psychotherapy and is not limited to any specific aspects or theoretical orientations of therapy. It should be mentioned at this point that to fully assess differences in psychotherapeutic orientation, a larger sample size is needed. In this study the humanistic and systemic therapies were underrepresented.

With respect to the effects of the Covid pandemic, there was also no significant difference in flow experience between online or face-to-face therapy sessions. This might be surprising to many people who find online conversations less engaging and significantly more tiring. These findings are however in line with research that has shown that online psychotherapy is comparable to face-to-face therapy regarding outcome (Carlbring et al., 2018; Osenbach et al., 2013) and working alliance (G. H. Probst et al., 2019). These findings support the idea that online therapy is not fundamentally different than face-to-face therapy. Interestingly, these findings also indicate that further studies on the effect of flow in psychotherapy could also be conducted on online therapy.

The relationship between working alliance and therapy outcome is one of the best evidenced findings in psychotherapeutic process research (Norcross, 2011). Working alliance is

consistently associated with better therapeutic outcome (Flückiger et al., 2018; Horvath et al., 2011; Horvath & Symonds, 1991; Martin et al., 2000). Interestingly, it could be shown in this study that this relationship was mediated by flow experience. Similarly flow also mediated the relationship between all intra-session experiences and outcome. These findings further support the assumption that flow plays an important role in the psychotherapeutic process.

No theoretical characterization of flow in psychotherapy explicitly discusses the flow component "perceived balance of challenge and skill". As previously stated, this balance could also lead to anxiety in some people. It can be assumed that this could also be the case for patients in psychotherapy. Results of this study show that flow anxiety scores were comparable to those of students during a statistic homework, but lower than scores found for graffiti spraying. Moderation analysis showed that anxiety did not significantly influence the relationship between flow and therapy outcome or flow and working alliance. Additionally, only one significant moderation was identified for flow and intra session experiences. Specifically, anxiety moderated the relationship between flow and the PSTB subscale "Feeling of control". These results indicate that the anxiety aspect of "perceived balance of challenge and skill" only plays a minor role in the experience of flow during psychotherapy. One explanation for this finding is that the support from the psychotherapist causes challenges to seem less daunting and therefore more manageable.

As we have shown so far, all findings suggest that flow experience plays an important role in psychotherapy. A possible explanation for this is that flow increases engagement and motivation and therefore aids the psychotherapeutic process. For example, a patient experiencing flow during therapy would most likely be more engaged in the activity and therefore be more receptive to the therapist's inputs. Additionally, since flow experience can also increase motivation, it could be assumed that the experience of flow leads to a general increase in therapy motivation. Another explanation is that flow leads to an increase in positive emotion and thereby aids therapy outcome. Following Fredriksons "broaden and build theory", increased positive emotions can, in turn, lead to an increase in personal resources (Fredrickson & Joiner, 2002). Interestingly, it could be shown that flow experience was associated with increased positive emotions between therapy sessions, supporting the aforementioned explanation. Most likely these pathways are not mutually exclusive, and a combination of the above explanations contribute to the effect of flow.

To sum up, the experience of flow during the therapy session leads to more engagement, therapy motivation and affective wellbeing and therefore aids the psychotherapeutic process and therapy outcome.

6.1 Limitations

Certain limitations of this study should be discussed. The main limitation is that online studies, such as this, inherently lead to a selective sample. For example, over 50% of participants in this study were younger than 30 years old. Additionally, this sample was predominantly female and showed high educational levels. This raises the question whether this selective sample may have distorted the results.

It should also be discussed that flow was only measured once retrospectively. Ideally, multiple flow measurements would be conducted immediately after each therapy session. Unfortunately, this was not possible due to the limited resources of this study.

Lastly, it is important to mention that most of the data is of correlative nature. Therefore, no conclusions on causality or directionality of relationships should be made. In the Implications section below, it will be proposed how future research could overcome these limitations.

6.2 Implications

As shown in this study, flow seems to be a promising candidate for further psychotherapy process research. Data so far indicates that flow could play an important role in the therapeutic process. One might argue that flow could represent a previously neglected common factor of psychotherapy, since results suggest that flow is closely associated with therapy outcome and that this relationship is present across different therapeutic approaches.

Substantial further research is needed to fully understand the experience of flow during therapy sessions. Specifically, long term studies with multiple flow measurements are required to further examine the role flow plays in the therapeutic process. It has been assumed in previous research that the experience of flow leads to better therapeutic outcomes and that the therapeutic relationship is a prerequisite for the experience of flow. As mentioned in the limitations section above, the directionality of relationships could also not

be assessed in this study. While the results support these assumptions, long term studies are needed to fully investigate the relationships in detail.

Such studies should also assess whether flow experience is consistent throughout therapy. So far, no studies have discussed this aspect. It therefore remains unclear whether flow experience increases as therapy progresses. Additionally, it would be compelling to assess whether flow experience is stable between sessions or significant changes occur between sessions.

Additionally, as we have now shown that flow can be experienced by both therapist and patient, further research should examine therapist's and patient's experience of flow together. Theoretically, it has been assumed that flow in psychotherapy could be a shared experience. Further research should investigate this assumption. This would require studies in which both the patient's and therapist's flow experiences are examined after therapy sessions. Furthermore, research has shown that flow can be transferred between two people. As, this might also hold true for psychotherapy, further studies should assess this idea.

Lastly, it is important to explore how therapists could actively foster patients' flow during the therapy session. Unfortunately, this is a topic that has been neglected in almost all accounts of flow during psychotherapy to date. This question is however vital to allow for the practical application of this research. Therefore, studies should examine whether certain interventions used in therapy increase patients' experience of flow. Moreover, new interventions should be designed which actively promoted the experience of flow during therapy. This research needs to be addressed in order to allow for the practical application of flow research and to subsequently further improve the therapeutic process.

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Appendix

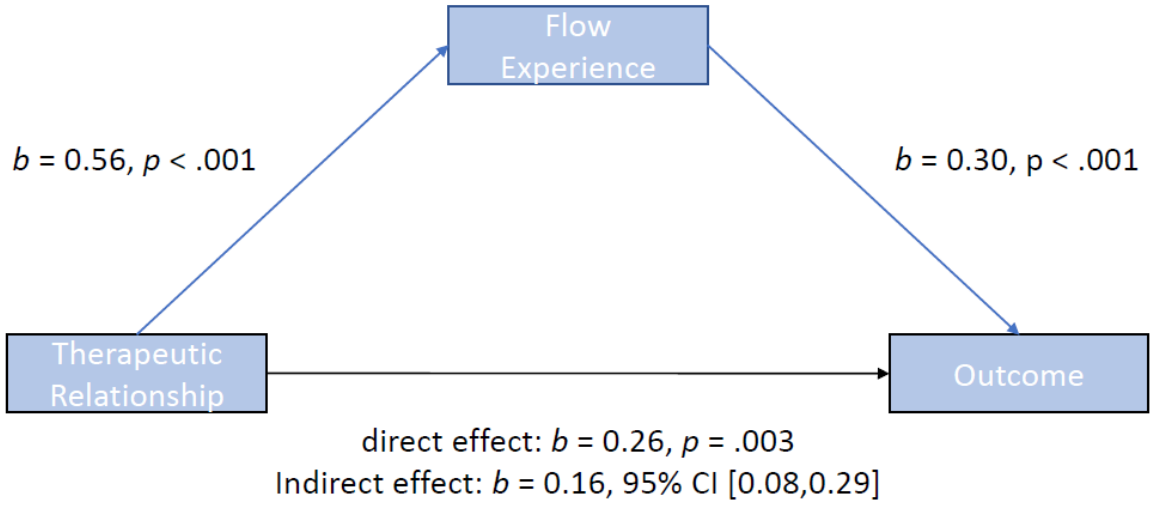

Figure 5 Moderation-Modell (PSTB-Therapeutic Relationship)

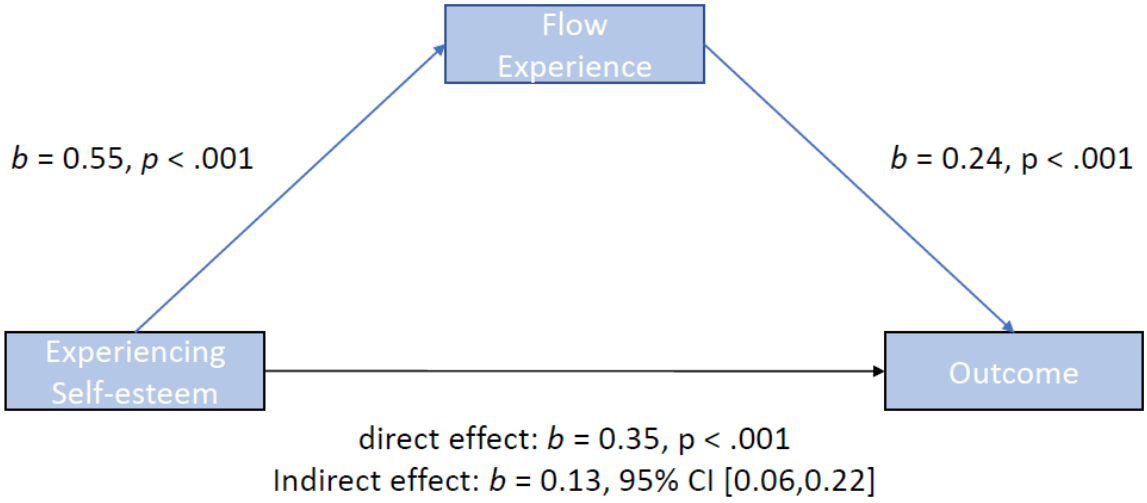

Figure 6 Moderation-Modell (PSTB-Experiencing Self-Esteem)

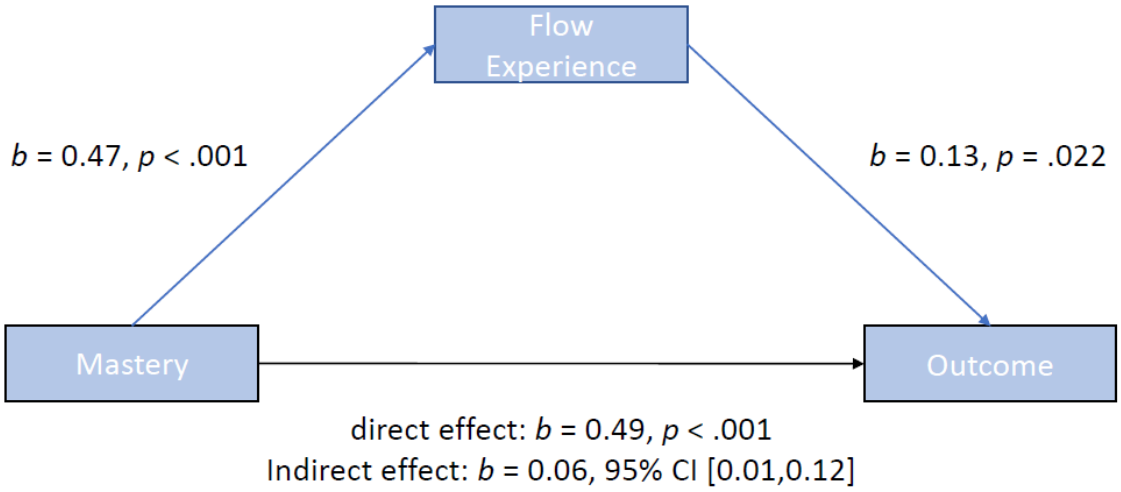

Figure 7 Moderation-Modell (PSTB-Mastery)

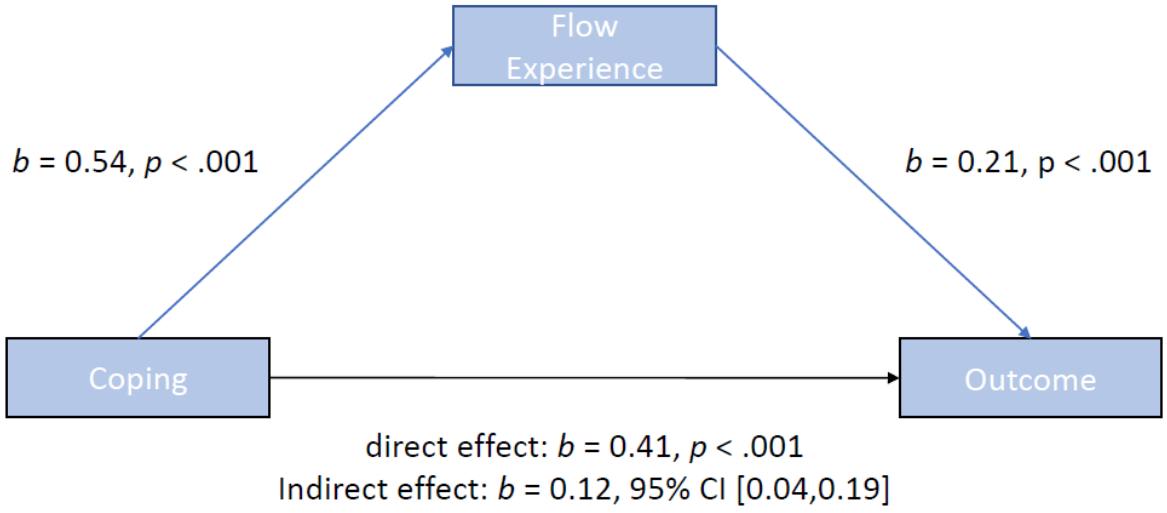

Figure 8 Moderation-Modell (PSTB-Coping)

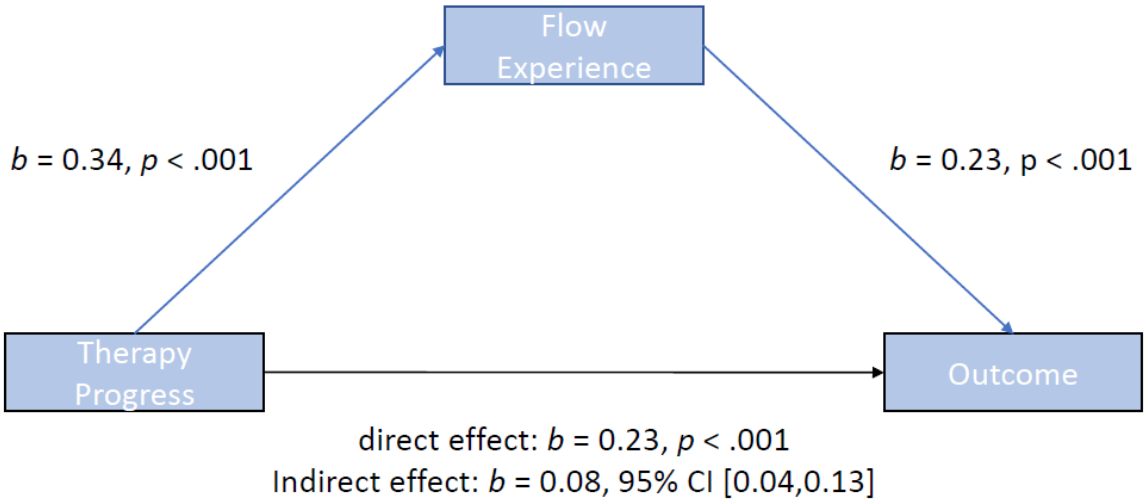

Figure 9 Moderation-Modell (PSTB-Therapy Progress)

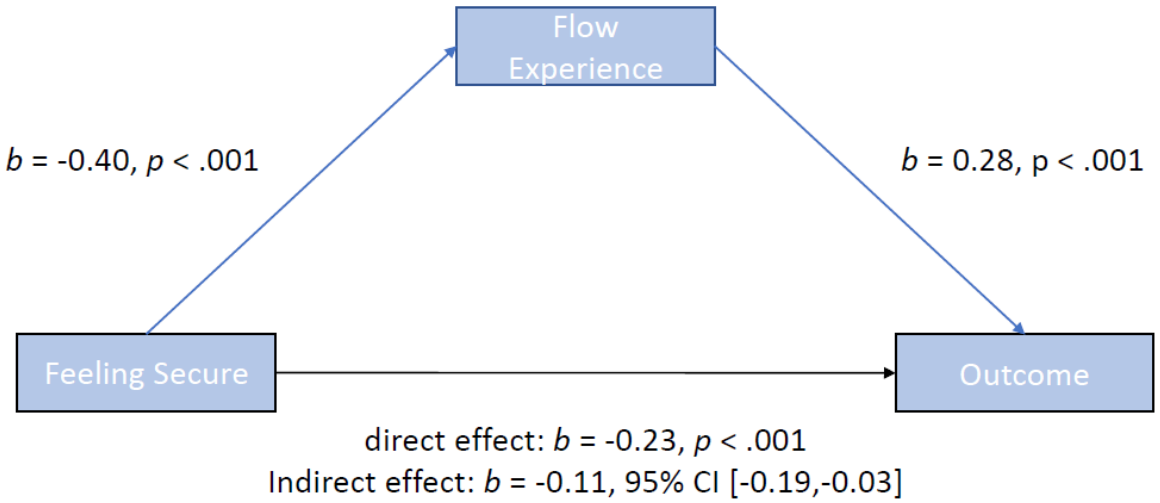

Figure 10 Moderation-Modell (PSTB-Feeling Secure)

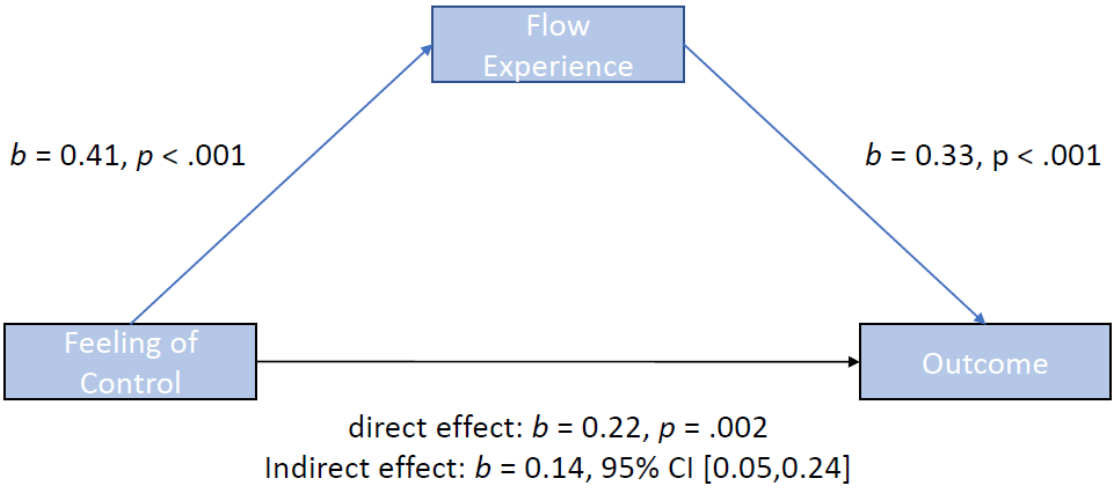

Figure 11 Moderation-Modell (PSTB-Feeling of Control)

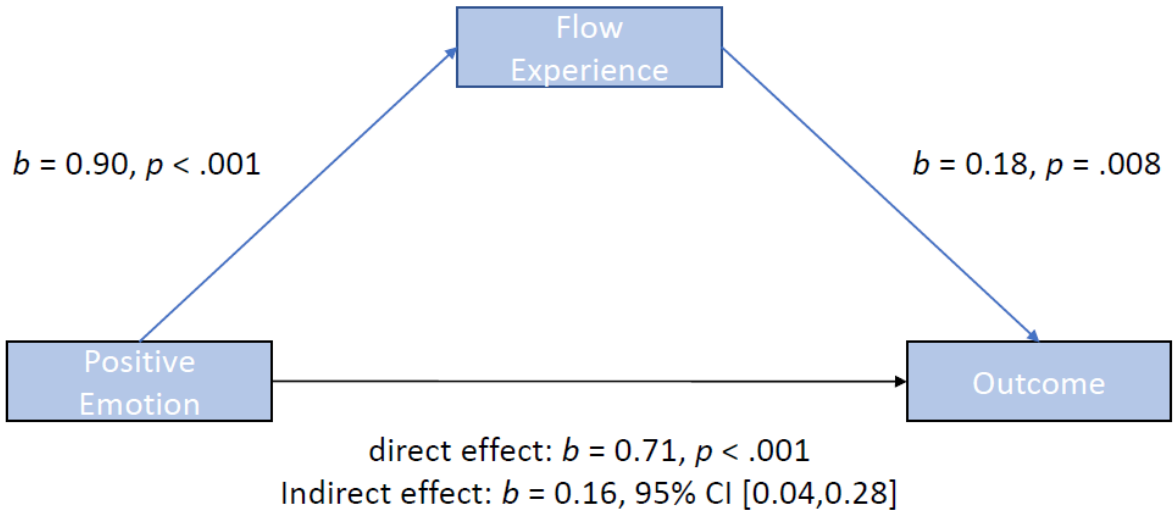

Figure 12 Moderation-Modell (ISF-Positive Emotions)

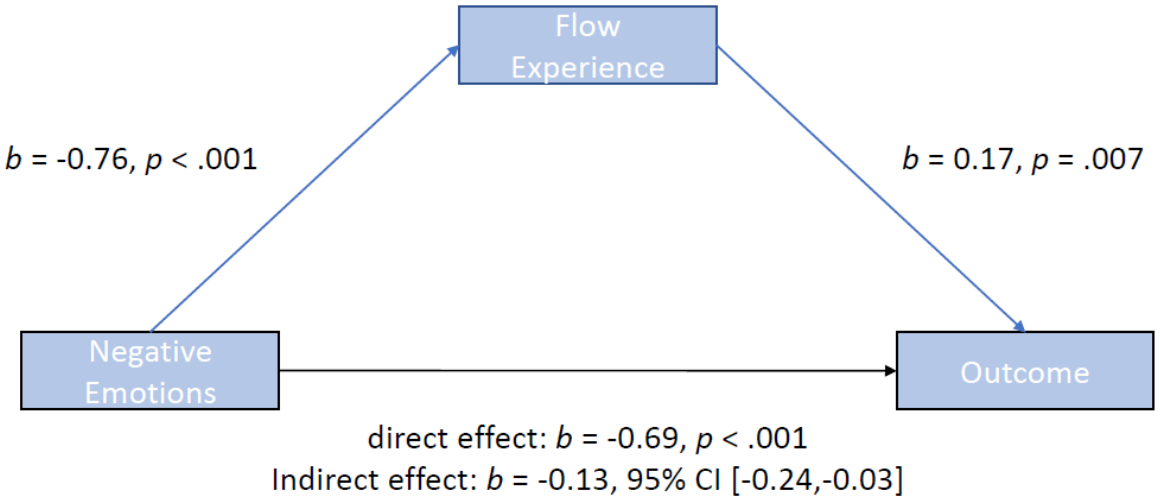

Figure 13 Moderation-Modell (ISF-Negative Emotions)

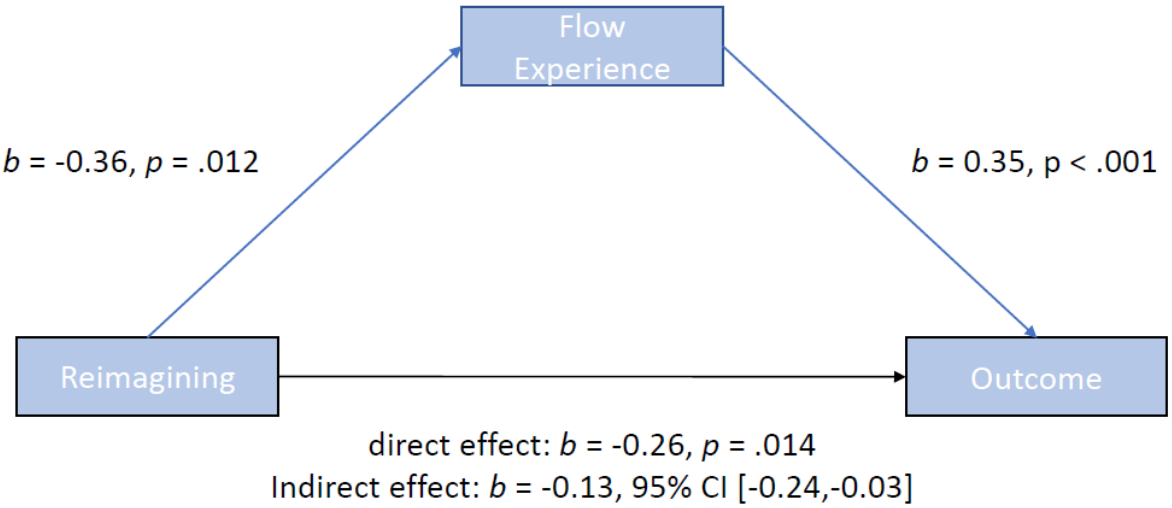

Figure 14 Moderation-Modell (ISF-Reimagining)