



# Exploring the Benefits and Acceptance of Blended Positive Psychotherapy as an Adjunctive Treatment for Clients with Residual Depressive Symptoms: A Mixed-Method Study

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## Abstract

A proof-of-concept study was conducted to explore the acceptability and potential benefits of a blended positive psychotherapy intervention for clients with residual depressive symptoms. A single-arm pilot study was conducted in 2022 and 2023 with 24 Dutch adults experiencing residual depressive symptoms after treatment. Clients who had recently received an evidence-based treatment for depressive disorder were approached to participate in this study through opportunity sampling. The intervention consisted of nine sessions with a therapist and a six-week self-guided digital positive psychology intervention. Acceptability was examined using semi-structured interviews ( $n = 15$ ). Participants filled out questionnaires pre- ( $n = 21$ ), mid- ( $n = 14$ ) and post-intervention ( $n = 8$ ). Potential benefits were assessed in terms of changes in mental well-being (MHC-SF), depression (PHQ-9) and personal recovery (QPR). Quantitative data and qualitative data were analysed using linear mixed-effects models and framework analysis, respectively. The analyses were primarily based on Sekhon's theoretical framework of acceptability. Linear mixed-effects analyses showed changes over time in most mental health indicators, including mental well-being (Hedge's  $g = 1.58$ ), depression ( $g = 1.43$ ) and personal recovery ( $g = 1.96$ ). Most of the interviewed participants considered blended positive psychotherapy a valuable adjunctive treatment; it connected well with their wish to become more positive in their daily life without ignoring difficult experiences. For some participants, shifting towards a positive treatment approach was difficult, resulting in early dropout. This study's findings suggest that blended positive psychotherapy is acceptable to most people with residual depressive symptoms after treatment. Its impact is yet to be established in larger samples of studies involving more robust designs.

**Keywords** Blended positive psychotherapy · Depression · Adjunctive treatment

## Introduction

Although most types of psychotherapy for depression are effective, experts claim that a considerable number of depressive clients respond moderately to treatment (Cuijpers, 2017). They have difficulty achieving stable remission and often experience residual depressive symptoms such as depressed or irritable mood, loss of enjoyment, insomnia or fatigue (Israel, 2010). Importantly, the presence of residual depressive symptoms appears to be a robust risk factor for future depressive episodes and is associated with diminished quality of life (e.g. Bockting et al., 2015; Verhoeven et al., 2018). Therefore, continuation of treatment is warranted in these cases. Fortunately, several treatments for clients with residual depressive symptoms, such as preventive cognitive therapy (de Jonge et al., 2019), rumination-focused treatment (Teismann et al., 2014) and attentional bias modification

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(Jonassen et al., 2019), have shown promising effects; these therapies primarily focus on repairing underlying dysfunctional processes.

Another promising approach for depressive individuals involves specific focus on positive emotional and psychological functioning in therapy (Bohlmeijer & Westerhof, 2021). In fact, a growing body of evidence indicates that mental health should not only be understood as the absence of mental illness symptoms but also as the presence of mental well-being (Bohlmeijer & Westerhof, 2021). Mental well-being comprises the presence of emotional well-being (the presence of positive emotions over negative emotions) (Diener et al., 1999) as an indicator of feeling well. Two other indicators, representing living well, include psychological well-being (characterised by aspects linked to positive personal functioning, such as having a purpose in life and a sense of identity) (Ryff, 2014) and social well-being (reflecting the quality of an individual's connection to society) (Keyes, 1998). In addition to residual symptoms of depression, lower levels of mental well-being increase the risk of future mental disorders (e.g. Schotanus-Dijkstra et al., 2017). Hence, complete recovery or complete mental health can most accurately be defined as the absence of mental illness and the presence of mental well-being (Stephens et al., 2023).

A form of treatment that specifically focuses on enhancing mental well-being is positive psychotherapy (PPT), which systematically amplifies clients' positive resources (Rashid, 2015). PPT primarily comprises positive psychology interventions (PPIs) which reportedly reduce depression effectively and enhance mental well-being levels both in the general public and in clinical populations (Carr et al., 2020; Chakhssi et al., 2018). Notably, a recent meta-analysis of randomised controlled trials assessing the effects of PPT shows its short-term efficacy in increasing positive psychological outcomes and decreasing depression (Hoppen & Morina, 2021). One pathway through which PPT may be effective for clients with residual depressive symptoms involves a focus on enhancing positive emotions such as joy, calmness, pride and satisfaction. Depressive clients frequently report that they find it difficult to experience positive emotions, even when negative emotions have already diminished (Craske et al., 2016). In addition, depression has been related to ineffective emotion regulation strategies such as avoidance of positive stimuli and downregulation of positive emotions (Naragon-Gainey & Watson, 2021). On its part, PPT enhances positive emotions by promoting awareness about them and amplifying them through techniques such as savouring and gratitude (Stone & Parks, 2018). However, PPT also aims to promote positive cognitions about self and the future through, for example, awareness and application of personal strengths, best possible self-visualisation and the development of self-kindness (Rashid, 2015; Schotanus-Dijkstra et al., 2019).

Importantly, a considerable body of evidence shows that providing a blended treatment (i.e. combining face-to-face sessions with digital technology such as smartphone applications) can positively influence treatment outcomes (Ebert et al., 2018). For example, supplemented technology-driven methods can increase patients' self-efficacy levels, as the possibility of working on mental health between sessions encourages a client's trust in his/her abilities to self-manage and adapt (Kelders & Bolier, 2021).

To sum up, PPT is a promising treatment approach that specifically focuses on positive skills and resources that promote a holistic view of mental health. In this context, the current mixed-methods pilot study is the first to explore the potential benefits and acceptance of blended PPT as an adjunctive treatment for clients with residual depressive symptoms.

## Methods

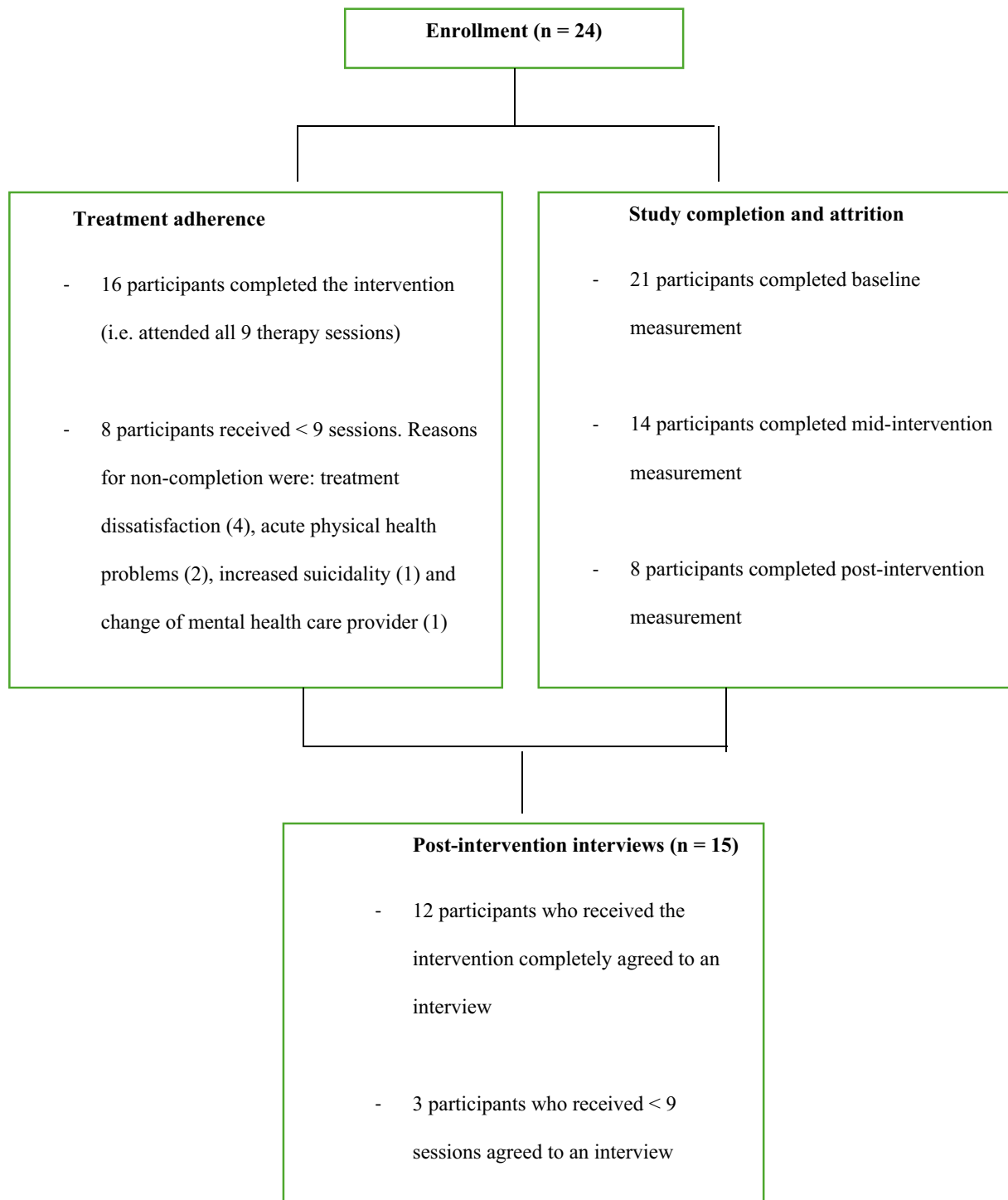
### Design

A single-arm proof-of-concept design was used to evaluate this study's outcomes. Both quantitative and qualitative data were collected. The quantitative part of the study involved pre-, mid-, and post-intervention measurements. Meanwhile, the qualitative part of the study consisted of semi-structured post-intervention interviews aimed at gaining more insights into treatment acceptance.

The Ethical Board of the University of Twente approved this study (proposal number: 220167). The study was registered in the Netherlands, Trial Register (registration 2022-13526).

### Participants

Between March and June of the year 2022, 24 participants were recruited from a Dutch mental healthcare institute via opportunity sampling. This study's inclusion criteria were individuals who: (1) were diagnosed with a disorder within the depressive spectrum according to DSM-V criteria established by a clinician, (2) were 18 years or older, (3) had recently completed evidence-based therapy for depression, (4) had an indication regarding continual of psychological treatment, (5) had sufficient command over the Dutch language and (6) were willing and able to use the available smartphone application. Notably, individuals with a severe alcohol or drug addiction or a full-blown personality disorder were excluded from this study (Fig. 1).



**Fig. 1** Participant flow. *Note* Two participants did not complete any measurements but only had a post-intervention interview

**Therapists**

The therapy sessions were provided by eight therapists working at an outpatient mental health care unit (PHHaas-trecht) in the Netherlands. All of them were familiar with

cognitive behavioural therapy (CBT) interventions (as per protocol) in routine clinical practice. They provided treatment to at least two participants. Notably, supervision meetings for therapists were arranged on a biweekly basis during the first five months of the study and monthly for the last four months.

## Intervention

The participants attended nine face-to-face therapy sessions. The first three sessions focused on discussing a diary that each participant was asked to keep. In their diaries, the participants monitored their well-being levels and described cognitions that had the potential to prematurely interrupt these positive moments. These cognitions were discussed and, if relevant, changed into more realistic and helpful thoughts. In the subsequent six sessions, the six lessons of the application (hereon, app) called Training in Positivity (TiP) were discussed; the contents of these lessons are presented in Table 1. Notably, this app was introduced after each participant's second therapy session. Participants received instructions via email asking them to download the relevant app from a website (<https://www.traininginpositiviteit.nl>).

TiP can be used on a laptop, smartphone or tablet. Its setup (i.e. structure, design, navigation and persuasive design features) is based on apps developed earlier (see Tonis et al., 2024). It consists of six topics related to various PPIs. The exercises provided in the app had to be repeated three times before its users could move on to the next module.

## Procedure

Therapists from the mental healthcare institute PHHaasrecht were asked to register eligible and interested clients for participation in this study. The registered clients were informed about this study by email. After a week, they were contacted by the main researcher (FH) who checked if they had any questions and asked them whether they wanted to participate in the study. Clients who agreed were scheduled for nine treatment sessions. One week before the start of the

therapy, they received a link (via email) to an informed consent form and online questionnaires. In the weeks after the fourth and the last therapy sessions, they received respective links to the mid- and post-questionnaires. After the participants completed the intervention, they were invited to an interview about their experiences regarding blended PPT. For a balanced perspective on the acceptability of the intervention, participants who withdrew from the study and did not receive the whole intervention (i.e. <9 sessions) were also invited to give an interview.

## Materials

### Quantitative Questionnaires

To assess changes in mental well-being, personal recovery, depression, personal growth, meaning in life, self-efficacy and savouring, the participants completed online pre-, mid- and post-intervention measures. The 14-item Mental Health Continuum Short Form (MHC-SF; Franken et al., 2018) was used to assess their mental well-being. The participant's scores were averaged to a scale score that ranged from 0 (low) to 5 (high mental well-being). The nine-item Patient Health Questionnaire (PHQ 9; Kroenke et al., 2001) was used to assess the frequency of participants' depressive symptoms in the preceding 2 weeks; higher scores indicated more severe depressive symptoms (0–4: none/minimal; 5–9: mild; 10–14: moderate; 15–19: moderately severe; 20–27: severe). Moreover, the 15-item Questionnaire about the Process of Recovery (QPR; Kraiss et al., 2019) was used to assess personal recovery, with higher scores reflecting more experiences of personal recovery. The seven-item personal growth subscale from Ryff's Scales of Psychological Well-being (Van Dierendonck, 2004) was used to measure

**Table 1** Six lessons of the training in positivity application

Lesson	Description	Objectives	Audio exercises
Savouring	Remember and write down three good things that happened that day	Participants practice paying attention to everyday moments of well-being	Mindful savouring
Personal strengths	Get insights into your strengths by asking others what strengths you have	Participants learn to promote positive cognitions about themselves self by focusing on their personal strengths	Mental visualisation of flow experiences
Optimism	Set three concrete goals for yourself in various life-domains	Participants learn to set clear and realistic personal goals and learn how to work towards these goals	Visualisation of best possible self
Compassion	Learn to be self-compassionate by being kind to your own vulnerabilities	Participants learn how to cope with fragile emotions such as sadness, anxiety, shame and guilt	Experiencing a compassionate other
Benefit finding	Re-evaluate difficult incidents that occurred by thinking about the lessons learned from these setbacks	Participants practice finding positive meanings in difficult experiences without trivialising	Appreciation of life lessons
Positive relations	Perform acts of kindness for three people	Participants learn how to strengthen interpersonal relationships	Savouring experiences of connectedness

the participants' experiences of personal growth. In addition, the 10-item Meaning in Life Questionnaire (MLQ; Steger et al., 2006) was used to assess the experience of meaning in life (five items) and the search for meaning in life (five items). The 10-item General Self-Efficacy Scale (GSES) (Teeuw et al., 1994) was used to measure self-efficacy, while the four-item Reminiscing subscale of the Savouring Beliefs Inventory (SBI; Bryant, 2003) was used to assess the participant's capacity to savour. Further, satisfaction with the treatment was only measured post-intervention, with the seven-item Client Satisfaction Questionnaire (CSQ; De Brey, 1983). The internal consistency of all the included scales was deemed adequate (all Cronbach's  $\alpha$  values > 0.70).

### Qualitative Interview

In this study, the participants were interviewed either in person ( $n = 10$ ) or via video call ( $n = 5$ ), according to their preferences. A semi-structured interview schedule was developed to explore the acceptability of and any experienced changes caused by the treatment provided in this study. This schedule consisted of four topics: expectations and goals ("Did you have any expectations or goals before the commencement of the therapy?"), therapy experience ("How did you experience the various exercises in the therapy?"), change ("Have you perceived any change since you started the therapy?") and app ("What are your experiences with the app?"). Notably, probes were used to encourage participants to elaborate on their answers. Any topics raised by the interviewees, if relevant to the research question, were further explored. All the interviews lasted for 45–60 min; they were audio recorded and transcribed verbatim.

## Analysis

### Quantitative Analysis

Treatment adherence was analysed by comparing differences at baseline between participants who completed the intervention (i.e. participated in 9 sessions) and participants who did not (i.e. participated in < 9 sessions), using the Mann–Whitney U tests; differences in post-intervention dropout were also analysed by comparing baseline characteristics using these tests. Changes observed over the pre- and post-intervention stages were analysed with JASP (version 0.17.1) using linear mixed-effect models (LMEMs). Moreover, LMES were utilised to account for the nested structure of the study's data and because they could adequately handle missing data and did not delete participants on a list-wise basis. Specifically, LMES with restricted maximum likelihood estimation were specified for participants with random intercepts and a fixed effect of time to examine the change over time. Moreover, Pairwise Tukey's Honest Significance

Difference tests were performed as post hoc tests to determine if significant differences existed between the pre-, mid- and post-intervention stages. Within-group effect sizes were calculated using observed means and standard errors, while effect sizes were reported as Hedge's  $g$ , accounting for small sample biases. Effect sizes < .5 were considered small, those  $\geq .5$  were considered medium, and those  $\geq .8$  were considered large. Importantly, a significance level of  $\alpha = .05$  was used for all analyses.

### Qualitative Analysis

The interviews taken for this study were analysed by two coders (FH, EB) using a combination of deductive and inductive approaches in a framework analysis. First, the coders familiarised themselves with the data by reading all transcripts multiple times. Second, both coders arranged relevant text fragments deductively, according to the categories mentioned in Sekhon's theoretical framework of acceptability (Sekhon et al., 2017); this model identifies seven important factors in the description of the acceptability of an intervention: affective attitude, ethicality, burden, opportunity costs, intervention coherence, perceived effectiveness and self-efficacy. Third, all codes in one category were further analysed into subcategories using an inductive approach (i.e. the categories were derived from the data collected). The two coders met frequently (after 3, 6, 9, 12 and 15 interviews) to compare and discuss their findings. Thereafter, all observed differences were discussed with a third coder (CD) until a consensus was reached. After each meeting, the coding scheme was further refined and adapted.

## Results

A total of 24 clients participated in the current study. Their mean age was 48.3 ( $SD = 13.9$ ) years. Out of all the participants, 16 were female. Moreover, 14 participants reported that they were in an intimate relationship, four were divorced, one was a widower and five participants were single. Further, 14 participants had a paid or a volunteer job, one was a student, seven were unemployed and two participants were reportedly retired. All participants had undergone intermediate vocational training or possessed a higher form of educational qualification.

Participants who completed the intervention ( $n = 16$ ) were generally younger ( $M = 43.2$  years,  $SD = 13.7$ ,  $mdn = 43.0$  years) than those who did not complete the intervention ( $n = 8$ ) ( $M = 58.0$  years,  $SD = 10.0$ ,  $mdn = 62.0$  years) ( $U = 22.5$ ,  $p = .024$ ). At baseline, those who had completed the intervention reported higher scores in terms of mental well-being levels (MHC-SF:  $M = 2.6$ ,  $SD = 0.6$ ,  $mdn = 2.4$ ) than the non-completers (MHC-SF:  $M = 1.8$ ,  $SD = 0.8$ ,

mdn = 1.9) ( $U = 80.0, p = .046$ ). No other differences were found in outcomes between completers and non-completers at baseline measurement. Within the group of intervention completers, post-intervention dropouts did not significantly differ regarding any of the demographic or baseline measures as compared to participants who completed the post-intervention measurement.

## Changes Over Time

The results of the linear mixed-model analyses, post hoc tests and effect sizes are presented in Table 2. Indeed, the mixed-model analyses indicated changes over time in mental well-being, depressive symptoms, personal recovery, savouring, meaning in life and search for meaning. Meanwhile, Hedges' effect sizes ranged from 0.54 to 1.96. Notably, the participants demonstrated no changes in personal growth or self-efficacy. This study's post hoc tests indicated that differences between T0 and T1 were not significant for most outcomes, except for savouring. Within-group effect sizes were mostly large regarding the improvements between T0 and T2 (except for the search for meaning in life and savouring, which revealed moderate effect sizes).

## Satisfaction with Treatment

A total of eight participants completed the Client Satisfaction Questionnaire (CSQ) during the third assessment. Out of them, seven participants evaluated the quality of the treatment as good while one participant considered it to be excellent. Four of the participants agreed that the number of sessions they had received was sufficient and two found it amply sufficient, whereas two others found the number of sessions insufficient. All of the participants assessed

the therapy within the range of “amply sufficient” to “very good” regarding the following: the extent to which it had met their needs, whether they would recommend the treatment to others, whether they were satisfied with the treatment and whether the therapy had helped them in dealing more effectively with their problems.

## Qualitative Findings

### Affective Attitude

The first component in Sekhon's model is affective attitude, describing how a participant feels about an intervention. In our study, more than half of the participants described the therapy as a mostly *interesting, positive and pleasant experience*: “I think it was a beautiful way of looking at things (...) I just think it was a very beautiful therapy” (0104). Some participants reported more ambivalent feelings about the therapy. For instance, in the *fixed therapy program*, they felt they were less free to discuss other personal issues during the sessions. However, it appeared that participants who felt that their therapist was sensitive to their personal needs were not too bothered by the fixed program: “I did feel she was really thoughtful and supportive and she did try to make room for a moment uh how are you feeling” (0106). In contrast, the *absence of a good match between the therapist and the participant* had, in two cases, a detrimental effect on how participants felt about the therapy: “With (therapist's name) it really felt like a gimmick (...)” (0121). These participants found that the therapist ignored their personal needs.

Various participants liked the fact that the therapy was blended and noticed additional benefits of the app; for example, they claimed that the app *helped them to be actively involved* or provided a *good complement to the sessions*.

**Table 2** Observed means and standard deviations per outcome, time point per outcome and fixed effects for time from linear mixed-effects models and post hoc Tukey's Honestly Significance Difference Tests (HSD), from baseline to middle of treatment and baseline to end of treatment

	Pre-intervention n = 22		Mid-intervention n = 14		Post-intervention n = 8		Fixed effect time (F)	Within-group effect sizes Hedges' g	
	M	SD	M	SD	M	SD		Z 0-1	Z 0-2
	Mental well-being (MHC-SF) range: 0-5	2.3	0.7	2.7	0.6	3.2		0.3	10.9**
Depression (PHQ-9) range: 0-27	10.5	5.3	8.6	4.8	4.2	2.4	7.9*	-1.3 (0.36)	-2.8* (1.43)
Personal recovery (QPR) range: 0-60	47.8	9.1	51.1	8.3	61.3	3.2	14.3***	1.2 (0.37)	4.0*** (1.96)
Personal growth (PGS) range: 9-54	40.3	5.4	41.3	5.9	43.0	5.9	0.2	0.6 (0.16)	0.4 (0.44)
Savouring (SBI) range: 4-28	18.8	5.2	20.9	3.5	21.9	3.3	10.5**	2.3* (0.44)	2.9** (0.54)
Meaning in life (MLQ) range: 5-35	17.8	5.8	20.2	7.1	26.8	5.7	13.5**	1.3 (0.34)	3.9*** (1.47)
Search for meaning (MLQ) range: 5-35	21.9	6.6	24.2	4.9	24.9	7.4	7.3*	1.6 (0.34)	2.5* (0.39)
Self-efficacy (GSES) range: 10-40	31.6	4.6	29.2	4.9	33.5	3.7	$9.01 \times 10^{-4}$	-2.2 (0.49)	0.6 (0.42)

Hedge's g effect sizes are presented in brackets

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

However, the flow of the app was evaluated rather critically by most participants. Many participants were reportedly annoyed that it was *impossible to read back previous exercises*. Another criticism involved the fact that the participants were *not allowed to navigate freely* as the app had a fixed timeframe of use. In addition, a few participants reported a *lack of synchronicity* with respect to the therapy sessions. Meanwhile, others either experienced *difficulties getting started* with the material without the guidance of a therapist or were dissatisfied with the *audio exercises or push notifications*.

### Ethicality

The second component in Sekhon's model, ethicality, is understood as the extent to which a given intervention is a good fit with regard to an individual's value system. In this study, almost all participants reported that there had been specific exercises in the therapy sessions that *strongly appealed to them* because they matched the participants' values and needs. Various participants *wished to add more positivity to daily life* and concluded that the content of the therapy corresponded well with their expectations. A number of participants described that they liked the fact that the therapy was complete and holistic in the sense that *both positivity and negativity had a place*. In addition, a few participants concluded that as a follow-up treatment, *it connected well with the previous treatment*. On the other hand, all the participants who had withdrawn from the therapy concluded that it was *not relevant to their personal needs or values*: "There are quite a lot of things improved in those six months but I didn't become happier or enjoy life more and that was the goal for me" (0109).

### Burden/Opportunity Costs

The third component in Sekhon's model, burden, relates to the perceived effort that is required to participate in a given intervention, whereas the category "opportunity costs" is defined as the extent to which benefits, profits or values must be relinquished to engage in the intervention. In our study, both categories were combined into one category as we found it too difficult to distinguish between the two. Notably, most participants found that the intervention had achieved a reasonable balance between the effort that was required to complete it and the benefits that it brought. However, a few participants found that the intervention contained *too many exercises* and that some of the exercises took *too much time*. A number of participants also reported that they experienced the therapy as *rather confrontational* and, thus, difficult to navigate at times. "It was incredibly challenging...uh a lot of looking at yourself uh raising things you actually prefer to forget..." (0122).

### Intervention Coherence

The fifth component, intervention coherence, refers to the extent to which a participant understands the given intervention and how it works. In this study, it seemed that most participants had been able to "personalise" the treatment by *integrating the new ideas within themselves*: "I learned that (...) there doesn't necessarily have to be a bigger goal in life to make it meaningful" (0124); "Positive psychology is like you are always good enough" (0119). In this regard, a few participants concluded that the *structure of the therapy program* was helpful as it gave a sense of coherence to the therapy.

### Perceived Effectiveness

Perceived effectiveness, the sixth component, relates to the extent to which the client perceives that a given intervention is likely to achieve its purpose. In this study, most participants who completed the therapy concluded that it was effective in improving their mental well-being levels. Various participants reported that they had become *more aware of positivity* in daily life, had learned to *turn negative thoughts into more helpful ones*, had gained *new insights* on how to increase their well-being levels or reported that their *self-acceptance had increased*: "Yes I feel stronger (laughs) that also comes from more balance, yes thinking in possibilities, also weighing up the good" (0107). In addition, some participants realised they were more likely to *engage in enjoyable activities* in daily life post-therapy, and a few of them reported that they were *less inclined to procrastinate* in daily tasks, had experienced *improved interpersonal relationships* or had managed to sometimes *find positive meaning in rather painful experiences*: "Later I thought, when I went home (...) I thought very much of uhm but it did make you...for me God is very important for example...it did bring me very close to God so it did make me in that sense...yes it has been good" (0104).

A few other participants were considerably more ambivalent about the therapy. Two participants reported *contra-effects of the therapy*, such as a relapse in dysfunctional behaviour or increased depressive feelings: "When I started this, I thought I would become more positive in life (...) but it is uh actually I became more depressed than I was" (0102). Further, the three participants who had withdrawn from the therapy concluded that the therapy had *added nothing relevant*.

### Self-Efficacy

Self-efficacy, the seventh component in Sekhon's model, refers to the participant's confidence that they can perform the behaviour required to participate in the given

intervention. In this study, more than half of all the participants reported *difficulty in doing homework*. Some participants concluded they could have benefitted more from the therapy if they had more self-discipline, while others confessed that they were so busy frantically avoiding making mistakes in homework that it had hindered their practice: “The homework very often didn’t work out very well for me and I realise that I didn’t have the maximum effect” (0105). Whether or not these participants felt frustrated about their lack of self-efficacy with the therapy exercises depended strongly on the kind of conclusions they drew about themselves. Some participants were prone to self-criticism and they made negative evaluations of themselves, which led to feelings of failure: “Now when I look back on it, I think all the time...I didn’t try hard enough, I didn’t do well” (0102). In contrast, others showed more compassion towards themselves. Moreover, some participants *doubted if they would be able to maintain their newly learned skills*: “I still do find it difficult for myself uh whether I’m really going to manage uh (laughs) that you can really keep it up to get back to this” (0119).

## Discussion

This mixed-methods pilot study was aimed at assessing the potential mental health benefits and acceptability of blended PPT for clients with residual depressive symptoms. As mentioned, a total of 24 clients participated in the study. Pre- and post-intervention measurements showed improvements in their depressive symptoms, mental well-being and personal recovery. These changes aligned well with the qualitative analysis of the 15 post-intervention interviews in which participants reported they had learned to turn negative thoughts into more helpful ones, had gained new insights on how to increase their well-being levels and had won self-acceptance. Importantly, we also found improvements in terms of savouring and meaning in life (MiL). Here, it must be noted that savouring plays a key role in enhancing positive emotions (Ford et al., 2016). It is defined as the capacity to attend to the joys, pleasures and other positive feelings that can be experienced in one’s life. In this respect, exercises such as keeping a well-being diary (session) and the Savouring lesson of the application were provided to promote the participants’ savouring of experiences. Moreover, MiL reflects positive functioning and relates to mental well-being (Hill et al., 2017; Jebb et al., 2020), while a lack of MiL is associated with mental disorders, including depression (Steen et al., 2019). Thus, in the current intervention we introduced exercises such as asking the participants to fill out a lifeline to stimulate their reflections on the meaning of life events (session) and the Benefit Finding lesson of the application. In turn, we found that the changes in

savouring and MiL were in line with those found in the post-intervention interviews. Many participants reported that they had not only become more aware of positivity in daily life but they were also more likely to choose to engage in enjoyable activities than before. Other participants reported they had found more positive meaning, sometimes even in rather painful experiences. Indeed, both the presence of meaning and the search for meaning increased in our study. In this regard, one must remember the scholarly claim that one’s search for MiL becomes positively associated with well-being if the search is successful (see King & Hicks, 2021; Newman et al., 2018).

Our findings corroborated those of previous studies which have indicated that positive psychology interventions have a significant impact on mental health in clients struggling with depressive and other psychological symptoms (Carr et al., 2020; Chakhssi et al., 2018; Hoppen & Morina, 2021). However, improvement was not indicated by all outcome measures in our study. Personal growth, for example, did not change. Indeed, it is often assumed that achieving significant changes in personal growth through therapy requires more time, whereas the current intervention was developed as a short-term treatment (see Jankowski et al., 2020). Self-efficacy also did not change, although we expected that a specific blended approach would positively influence participants’ treatment-related self-efficacious beliefs (Kelders & Bolier, 2021).

The second aim of this study was to assess the acceptability of the blended PPT treatment. In this respect, the post-intervention scores on the CSQ showed that the participants were generally highly satisfied with the intervention. In our post-intervention interviews, the majority of participants described the therapy as a mostly positive, interesting and pleasant experience. These findings were in line with those of two other recently conducted studies that explored how positive CBT (Geschwind et al., 2020) and an online PPI (Walsh et al., 2018) were experienced by clients. On the other hand, the results of this study also showed that PPT is not suitable for everyone. Walsh et al. (2018) suggested that the level of acceptability regarding PPT was primarily based on whether a client considered a positive approach relevant to their depression. In the current study, three interviewed participants reported explicitly that the therapy did not resonate with them as their expectations of the treatment were not met. Moreover, other important factors reported in the interviews that diminished the acceptance of some participants were the following: an inflexible therapy program, lack of match with the therapist, feelings of inability to perform certain exercises in the therapy due to time constraints or task complexity and the experience of contra-effects. One specific factor undermining the acceptance of the blended treatment was the lack of certain functionalities in the application used. For example, participants could not read back



the exercises that they had completed earlier, nor were they reportedly allowed to navigate freely through the app provided. Further, about one-third of this study's participants withdrew from the intervention. This finding raised the question of whether only a specific group of clients would benefit from PPT. We found that intervention completers had higher initial levels of well-being than non-completers. This finding was in line with those of a study by Lopez-Gomez et al. (2019) who observed that clients who had reported increased positive functioning in daily life in the recent past at baseline had shown more improvement post-therapy in the PPI condition (as compared to that in a CBT condition).

The above findings suggest PPT would be the best option for clients who can already notice some positive experiences in their lives. However, further studies with larger samples are required for a more holistic and nuanced understanding of the predictors of PPT.

### Strengths and Limitations

One crucial strength of this study was its mixed-methods approach to the study topic. Indeed, interviews were held with participants who received the whole intervention (i.e. took 9 sessions) as well as participants who withdrew from the intervention (i.e. took < 9 sessions). Consequently, a balanced perspective on acceptability was achieved. On the other hand, this study had several limitations. First, it was a pilot study, with a small sample size and without a control group. However, we aimed to explore the acceptance and potential benefits of the treatment, not to assess the efficacy of blended PPT. Second, one-third of the selected participants withdrew from the study, while only eight participants completed the post-intervention measurement. This finding perhaps indicated that blended PPT was effective only for a select group of clients and that the participants who did not respond well to the treatment dropped out of the study at an early stage. Consequently, our results could be biased, suggesting more positive change than that which actually occurred. On the other hand, all participants who completed the intervention but did not fill out the post-intervention measurements agreed to an interview. Further, no differences at baseline were found between those who completed post-intervention measurements and those who did not.

### Conclusion

The abovementioned findings of this study suggest that blended PPT is acceptable to most people with residual depressive symptoms after treatment. However, its impact is yet to be established in larger samples of prospective future studies that should use more robust designs.

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### Declarations

**Competing Interests** The authors have no relevant financial or non-financial interests to disclose and have no competing interests to declare that are relevant to the content of this article.

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