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The acceptability of an online intervention using positive psychology for depression: A qualitative study

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ABSTRACT

Background: Positive psychology interventions may usefully treat depression and can be delivered online to reduce the treatment gap. However, little is known about how acceptable patients find this approach. To address this, the present study interviewed recent users of a positive psychology self-help website.

Methods: In-depth semi-structured interviews explored the experiences of twenty-three participants from a larger feasibility study. A stratified purposive sampling strategy selected participants with varying intervention experience according to their intervention logins, as well as varying age, gender and depressive symptoms. Framework analysis was used to explore patterns and linkages within and between participants' accounts.

Results: Acceptability varied between participants. Those who found it more acceptable felt it was relevant to their depression and reported feeling empowered by a self-help approach. Conversely, participants for whom it was less acceptable perceived the positive focus irrelevant to their depression and found the emphasis on self-action unsupportive.

Conclusions: The acceptability of an online positive psychology intervention may be facilitated by a patients' preference for a psychological focus on the positive. However, patients may also have distinct preferences for online self-help. Future research should investigate the importance of the therapeutic orientation of online self-help interventions and whether patients' preferences for these can be reliably identified. This could help to target online self-help in clinical practice.

1. Introduction

Positive psychology interventions are brief cognitive and behavioural exercises that aim to increase positive feelings, behaviours, and thoughts. Evidence suggests that such interventions may improve wellbeing and reduce symptoms of depression (Bolier et al., 2013b; Sin and Lyubomirsky, 2009). Increasingly online means, e.g. smartphones and websites, are used to disseminated packages of positive psychology interventions as self-help for people with clinical and subclinical depression (Bolier et al., 2013a; Roepke et al., 2015; Schueller and Parks, 2012). Such online dissemination is a strategy to sustainably improve access to mental health interventions (Bolier et al., 2013a; Bolier and Abello, 2014) in response to the vast numbers of people globally experiencing depression (World Health Organization, 2009). It reflects a general trend in the use of online means to make low-intensity psychological interventions more available to help bridge the treatment gap (Department of Health, 2014; Hollis et al., 2015; Mental Health Network NHS Confederation, 2014; Mental Health Taskforce, 2016).

A second reason positive psychology interventions are deemed suitable for online dissemination is that they are viewed as inherently more appealing and may have fewer barriers to entry, compared to accessing traditional forms of therapy, or so-called problem-focused approaches (Layous et al., 2011; Schueller and Parks, 2012; Seligman et al., 2006). Anecdotal reports suggest such interventions generate overwhelmingly positive feedback even with patients with clinical depression (Seligman et al., 2006). However, others have suggested that people with depression may find positive psychology interventions inappropriate or unattractive (Kaczmarek et al., 2013) as, by its nature, depression is associated with reduced interest in previously enjoyable activities and deficits in motivation (Bylsma et al., 2008). It has also been argued that for people experiencing psychosocial difficulties a focus on the positive might be exhausting and stressful (La Torre, 2007)

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and may not help people cope with the real and complex issues they face (Moskowitz et al., 2012).

To date however, few studies have investigated the acceptability of delivering positive psychology online. One study reported that almost 60% of participants with depression were indifferent to, or dissatisfied with, an online intervention using components of positive psychology however, this study did not collect data on reasons for dissatisfaction (Bolier et al., 2013a). These researchers suggested that participants might have been dissatisfied with the intervention content, and felt unable to complete it, or that the intervention website may have lacked suitably attractive design. The lack of acceptability data limits the development, evaluation and implementation of potentially effective interventions for people with depression.

Qualitative studies are a useful way of exploring patient experiences of interventions and have often be used to understand acceptability of and engagement with other therapeutically oriented online interventions (Knowles et al., 2014). The aim of this study was to explore the views of participants who had recently used an online positive psychology intervention within a feasibility study, to address the research question: What is the acceptability of an online positive psychology intervention for depression?

2. Method

2.1. Design

In an exploratory qualitative study purposively selected participants were interviewed about the acceptability of online positive psychology. The study conduct and reporting adheres to the consolidated criteria for reporting qualitative research (COREQ) (Tong et al., 2007).

2.2. Sampling

Participants were sampled from a feasibility study evaluating the delivery of an online positive psychology intervention to patients self-identifying as depressed (ISRCTN96366571). The feasibility study recruitment was self-referral in response to adverts in GPs, mental health services, counselling services and online. Eligibility for participation was checked during a brief telephone call with a researcher to ensure participants were aged ≥18, had regular internet access, sufficient command of English and endorsed of one of the Whooley screening items (Whooley et al., 1997). Following online consent and baseline questionnaire completion, participants were provided with intervention access for six weeks. They were invited to log in and practice any component once per week for six weeks, receiving weekly reminders of this, with the option of more frequent practice.

Table 1 summarises the intervention content, which adapted components from positive psychotherapy (Seligman et al., 2006).

Participants were.

Fig. 1 summarises the stratified purposive sampling strategy (Ritchie et al., 2014) used to select feasibility study completers according to their age, gender and number of intervention logins. The sampling criteria were based on the emergent feasibility study sample. When sampling, attention was also paid to participant's baseline depression symptom severity, measured via the PHQ-9 during the feasibility study (Kroenke et al., 2001) Participants were selected until the authors felt that data saturation was reached, i.e. that further interviews may not provide new insights (O'Reilly and Parker, 2013).

2.3. Study procedure

Following informed consent, participants were interviewed in-person (n = 16) or via video call software (i.e. FaceTime or Skype) (n = 7), according to participants' preference. Interviews were semi-structured (Yeo et al., 2014) and based on a refined topic guide, provided in supplement A, which included key questions and suggested probes regarding the helpfulness of the intervention and factors helping and hindering its use.

Interviews were completed on average within two weeks of feasibility study completion (range 1–44 days). To aid recall and/or elaboration participants often accessed the intervention website prior to, or during, the interview (n = 15, 65%). Interviews lasted on average 50 min (range 34–85 min). Participants received remuneration to the value of £20 in cash or as an electronic Amazon voucher, depending on interview modality. Local research governance and national ethics approvals were received for the study (North West - Manchester National Research Ethics Committee 16/NW/0447).

2.4. Analysis

Interviews were audio-recorded and transcribed, omitting any identifiable information. The transcripts were then analysed using framework analysis, a pattern based approach using a framework matrix to display summarised data and explore linkages between participants accounts (Ritchie and Spencer, 1994).

Data were approached with a realist viewpoint, whereby participants accounts were viewed as grounded in reality, whilst acknowledging the role of social context (McEvoy and Richards, 2003).

The study team was multidisciplinary. The first author and lead analyst and second author who supported the analysis were health service researchers, whilst a psychiatrist specialising in psychotherapy and a general practitioner provided supervision and oversight of the analysis. The credentials and possible influences of the authors on the study conduct and analysis are provided in detail in Supplementary Table B.1.

An organising framework, shown in Table 2, was created to index

Table 1
Positive psychology components used in self-help website.

Positive psychology component	Description	Component adapted from Seligman et al. (2006)
Strengths quiz	Participants select five character strengths from 24 statements	Values in Action Inventory of Strengths (VIA-IS)
Strengths plan	Based on selected strengths the website provides a tailored suggestion of how to use a selected strength and provides a space to record a plan	Cultivation of signature strengths
Good things	The website gives space for participants to record good things that happen and why	Blessings journal
Enjoy	Audio instructions guide participants on using their five senses to enjoy physical sensations and give a space to record enjoyable moments	Savouring
Connect	Tips are provided on having positive conversations with others and space is given to record these connections	Active constructive responding
Saying thanks	The participant is encouraged to say, text or email thanks to someone who has helped him or her and record it online	Gratitude letter
Sharing strengths	Based on selected strengths the website provides a tailored suggestion of how to share their strength to help others and provides a space to record a plan	Gift of time

Age and gender Intervention logins	Females aged ≤35	Females aged ≥36	Males aged ≤35	Males aged ≥36
Below average (<4)	2	2	1	1
Average logins (=4)	2	3	1	1
Above average (>4)	3	2	1	1

Fig. 1. Final sampling frame for sample target (n = 20)

Table 2
Organising framework developed to index qualitative data.

Category	Subcategory
1.Effects of intervention	1.1 Management of thoughts and feelings
	1.2 Behaviour changes
	1.3 Seeing progression
	1.4 Rewards for intervention use
2. Nature of self-help	2.1 Patient taking action
	2.2 Understanding the why and how of activities
	2.3 Feeling valued
	2.4 Responsiveness to individual needs
3. Feeling connected	3.1 Direct social networking with other users
	3.2 Indirect social support
	3.3 External support services
4. Person-intervention fit	4.1 Familiarity with depression
	4.2 Current treatment context
	4.3 Familiarity with intervention content
	4.4 Mental health app/website familiarity
	4.5 Digital literacy
	4.6 Perceived usefulness of online writing
	4.7 Personality
5. Fit with depression	5.1 Depression affecting intervention access
	5.2 Depression affecting benefitting from intervention
	5.3 Activities understand/acknowledge depression
	5.4 Resources about depression

the transcript data. Its development was partly inductive, e.g. based on factors observed during initial familiarisation, and partly deductive, e.g. based on prior knowledge and existing literature (Gale et al., 2013). The framework was checked and refined by the second author to ensure no categories were omitted or overlapping.

Once indexed, data summaries were created that reduced the data whilst keeping the participants' voice (Gale et al., 2013), using the NVivo 10 framework tool (QSR International Pty Ltd., 2012). The second author reviewed a selection of 20% (n = 5) transcripts to ensure the credibility of the indexing and summaries (Morse et al., 2002).

Mapping and interpretation involved reading across the framework (by participant), reading down (by subcategory), detecting elements, organising these into dimensions and combing findings into higher-level themes. The framework tool enabled analysts to identify and compare explanatory factors between participants. This process of abstraction and interpretation involved moving back and forth between the transcripts, the framework and the emerging themes (Ritchie and Spencer, 1994). Throughout this stage the authors met regularly to discuss the emerging patterns, linkages, and explanations to ensure these were distinct, credible, and trustworthy (Morse et al., 2002).

3. Results

3.1. Sample

Twenty-three participants, of 43 that were approached, took part. Reasons for not participating included actively (n = 4) or passively declining, i.e. not responding to requests for interviews (n = 10), or not attending arranged interviews due to mental health (n = 4), or other practical issues (n = 2).

Participants were predominantly female (70%), were on average 36 years of age (range 18–58) and reported moderately severe symptoms of depression, according to their median score of 18 on the PHQ-9, measured at baseline as part of the feasibility study (range 5–25).

The sample included sufficient participants of the required age, gender and range of depression severity in those with below average (n = 9) and above average logins (n = 12). However, the sampling frame target of seven participants with average logins was not achieved (n = 2). Non-completers of the interviews had slightly lower use of the intervention compared to those who completed it but there were no other demographic differences between completers and non-completers. Full details of participants are Supplementary Table B.2 and a comparison to non-completers in Table B.3.

3.2. Overview of findings

In the analysis two subgroups of participants were identified with differing perceptions of acceptability: those who perceived some benefit from the intervention and those who perceived no benefit. These differing perceptions could be explained by two factors depicted in Fig. 2; the extent to which participants perceived the intervention to be relevant to their depression and the extent to which they found the intervention supportive and empowering.

The differing perceptions of benefit appeared unrelated to participants' depression profile (e.g. symptom severity, treatment history, and treatment context) or to how much participants used the intervention. For example, there were participants with mild and moderate depression in both subgroups. Further, it did not appear related to participants' digital literacy (e.g. daily experience with technology, its use for

Some benefit	No benefit
Recognising small achievements, pleasures, awareness of strengths, new activities. Shorter and longer term benefits	Unhelpful and unable to benefit from. Highlighted depression and low functioning
Factor 1: Relevance to depression	
Tone of positivity OK, credible intervention components	Positivity overwhelming and disconnected from experiences, exercises unrealistic and 'typical' advice
Factor 2: Feeling empowered vs. unsupported	
Appreciate invitation to take action and gain sense of autonomy and value	Struggle to motivate self to take action and have sense of isolation

Fig. 2. Explanatory factors of differing perceptions of the benefit online positive psychology intervention.

health management). For example, participants in both subgroups discussed that they had a range of experience with technology both in their day-to-day life, but also for managing their health.

3.3. Subgroups

3.3.1. Some benefit

Participants who perceived some benefit from the intervention described that it helped them to recognise and acknowledge small day-to-day achievements that they would have otherwise discounted. Participants reported being more aware of daily pleasures and subsequently feeling calmer or more joyful. The intervention helped to interrupt the downward spiral of negative thinking or overthinking typifying depression, and improved participants' frame of mind.

> "It kind of gets you thinking about what's going on in your experience at that point in time, rather than um, just wondering around letting it all go past you basically, because you're caught in your own head with your own thoughts. So it was nice to sort of like someone saying like 'kind of pay attention to this'. It kind of brings you to the present really."
>
> (Participant 188, M, above average logins)

The strengths focus was appreciated as it helped participants to recognise personal strengths, provided a confidence boost and made participants feel more hopeful.

> "I did like the one a lot about finding a strength and sharing a strength 'cos I think when you feel really low you tend to think you haven't got any strengths. So that's really positive to think about a strength and share it with someone."
>
> (Participant 132, F, above average logins)

Participants in this subgroup varied in how long they felt the intervention benefits lasted. One view was that whilst the impact was positive, it was brief.

> "I'd do the exercise and […] I'd see some positivity and stuff but then 'cos of my mood it fluctuate so much it's hard to regulate my mood, then maybe like even an hour later I could go downhill bit by bit."
>
> (Participant 260, F, above average logins)

Despite the limited impact, participants recognised it was still useful to have the positive experience. For others, intervention benefits lasted longer. Participants noticed behavioural changes, such as being more social, being more aware of others' needs and completing a greater range of activities,

> "I think it made me a bit more *active* again, because […] like just going for a walk round the park and then that made me want to do sport again […]. So I guess it could have been recording that doing, going for a walk was a good thing to see that I had *done* something then made me want to go for another *walk*, and that made me want to do some *sport* and then doing exercise in *itself* is a little bit of good isn't it? So [0.5] I guess it opened up a chain."
>
> (Participant 198, M, above average logins)

3.3.2. No benefit

In contrast, other participants perceived no benefit from the intervention and described how it did not resonate with them.

> "I have been going through quite a bad time the last few months, so um, [0.4] I didn't, agh [sighs[…] I didn't really find it particularly helpful. I kind of went on it now and again […] but I didn't really feel [0.3 sighs heavily] sort of totally connected to […] I think a lot's been going on so it was kind of…I'm not seeing a lot of positive thinking really."
>
> (Participant 159, M, average logins)

This idea that this particular intervention was not suitable was not a particular concern for some.

> "I had different types of help: like group therapy or one-to-one therapy or body therapy – you know, like I had a few things, so it was a bit like it's not the therapy is shit; it's just like this just didn't work, like this wasn't for me"
>
> (Participant 253, F, below average logins)

Others found it more concerning that the intervention did not benefit them and reported that it highlighted their depression and confronted them with it. Participants described already feeling less capable when depressed and that not finding the intervention beneficial felt like another failure.

> "There was only one activity that I did, I think twice, which was about changing the way, like writing down the positives out of something rather than thinking of it in a negative way[…] I liked the activity but then it also made me feel as if: um, why am I not thinking this way for example – if that makes sense. […]. like why… um, if they're basically suggesting that you should think this way why is that everybody else does think that way but not myself."
>
> (Participant 179, F, below average logins)

Participants who did not perceive the intervention as beneficial responded negatively to the idea of keeping a written record of the exercises online. Participants described feeling like they were being asked to write 'essays' and that this was not useful.

> "I can write my Strengths on my own piece of paper you know, and throw away. I can write some Good Things on there and throw away. And the only thing you have on there that I couldn't do on paper is 'Connect' you know? That's the only thing. But I can go to Facebook and connect with people with depression on there. It doesn't appeal to me you know to be really honest it's just a generic website where I type things on there you know."
>
> (Participant 258, M, below average logins)

3.4. Factor 1 explaining acceptability: Relevance to depression

The first factor that seemed to explain the differing perceptions of intervention benefit was the extent to which the intervention was perceived to be relevant to depression.

3.4.1. Extent of feeling understood and relevant to needs

Those who perceived some benefit from the intervention broadly reported that they found the tone of the intervention accepting of depression. They mentioned that although the components might appear difficult in the face of depression, such as finding a good thing when you feel negative, they nevertheless found at least one relevant component.

> "It can actually be quite challenging because you might think *nothing* good has happened, everything in my life is bad or whatever, you know you might have that sort of catastrophising feeling, but I think it's good because you're really having to focus and *find* something um, that was good. And of course there are good things that happen. You know, however small it is."
>
> (Participant 102, F, above average logins)

Participants differed in which intervention component they found most relevant. For some the 'strengths plan' and 'sharing strengths' exercises were less relevant as they required a big change in thinking.

> "I just felt um, you know 'cos it was asking you to think about the good things about yourself, initially when I read that I thought 'oh shut up, there's noth[ing], I don't have anything good about myself [laughter]'. So I can't use this site. Er, [0.5] I am quite used to thinking that, so I guess that didn't affect me that much but it wasn't…[0.8] it was hard to think the opposite to what I think about

myself"

(Participant 177, F, below average logins)

For others, the strengths aspect was a useful source of ideas and helped reinforce one's positive actions.

Despite finding some intervention components relevant participants discussed how their depression affected their ability to make full use of the intervention. Participants discussed that that when feeling low they had less mental energy to give. Also as a consequence of not being very active, participants reported having few 'good things' or moments they had enjoyed to add to the site. Consequently, participants recognised they might have had more benefit had they been feeling a little better.

In contrast, the subgroup of participants who perceived no benefit reported that the intervention content appeared irrelevant to their needs, which was an insurmountable issue. The intervention was experienced as too positive, seemed to 'mask' their feelings and thus felt disconnected from their experience.

"I think it just mentioned all the good points and it makes you feel you can't *achieve*; […] to me it's not acknowledging the depression, it's just saying these are all the positive things, but where is about your illness, so maybe more understanding that when you feel *down*, just linking it rather than saying 'this will make you happy' – because even happy things don't get rid of the depression – they can help and it's not…it didn't feel it was acknowledging that kind of thing"

(Participant 160, F, above average logins)

These participants reported that it was overwhelming to receive suggestions that seemed unrealistic for their situation.

"I guess something I found difficult is that it was…it's difficult to describe; it was all these kind of like positive things, rather than feeling like I was being kind of met where I was *at*, and kind of working from there and moving up? I think that was something that kind of overwhelmed me, was like how I needed to think of all these 'good things' and things that I 'enjoy' and it didn't really feel *doable*."

(Participant 170, F, below average logins)

Participants who perceived no benefit described feeling unable to complete the intervention components. They described how they were unable to think of a single 'good thing' to add, nor were they experiencing pleasurable sensations to add to 'enjoy'. Participants mentioned feeling isolated from friends and so could not complete the 'connect' components and as they were not seeing themselves in a positive light they could not identify, let alone share, their strengths.

3.4.2. Familiarity with intervention components

Whilst participants in both subgroups reported that the intervention content was somewhat familiar (e.g. they had heard it previously), participants responded differently to this. In those who perceived some benefit from the intervention, familiarity with the content fostered the intervention's credibility and reinforced techniques for managing their depression.

"I used to try to do that ['enjoy'] as well – try and focus on thing[s] – but this is…motivates you more because it's actually not you doing it; there's somebody else who's actually thought of this, so […] it is a valid thing that I can do and it's more guided than your own thing: so it's still quite useful."

(Participant 157, F, above average logins)

Yet, not all participants who experienced benefit were familiar with the positive psychology content, for some it was new.

In contrast, all participants in the subgroup who reported no intervention benefit were familiar with the intervention content and felt it was standard advice. Consequently, the intervention provided did not add to what they already knew. In part, an issue was that participants had tried and not benefited from the activities.

"*Part* of the reason I didn't use it so much was that it was already similar to stuff that I was already *doing*? Um, and part of it 'cos the stuff that I was already doing didn't seem to be helping anyway [laughs] so I thought not much point in doing *more* of it"

(Participant 152, M, below average logins)

For others, there was a sense that they had heard it all before and therefore did not see the intervention offering anything relevant or novel.

3.5. Factor 2 explaining acceptability: Feeling empowered vs. feeling unsupported

The second factor that differed between participants was the extent to which the intervention was perceived as empowering. Participants had differing viewpoints of the emphasis on the person themselves taking action. They also had different experiences of feeling valued by the intervention.

3.5.1. Patient taking action

The subgroup of participants who benefited found comfort and a sense of achievement came with being in control of the intervention. They appreciated having a private space to document feelings and activities. This appeared related to personal preferences for independently getting on with things. Participants appreciated that the intervention was 'self-generating', i.e. based on them taking responsibility for taking action for themselves.

"That's definitely one of the um, big advantages of that: that it's interactive and you can have your input and not just reading, receiving or, you know?"

(Participant 217, M, below average logins)

This idea of being motivated to take action was clearly contrasting in those who perceived no benefit from the intervention. For these participants, being invited to take action was difficult, as they struggled to motivate themselves when left to get on with something and to generate answers for the intervention components. For some, being asked to take action was perceived as though they were to being told what to do, almost like a child being given homework activities. They saw themselves as being both the input and output of the intervention and being asked to give without receiving a helpful response.

"I feel it was quite sort of limited – I don't know really why – but then it's kind of like you're just left on your own; so in a way there's no real input other than what you're putting in and so it's just like a bit of a one-way *process?* So you're not…you're still not really getting [0.4] the *help.*"

(Participant 159, M, average logins)

3.5.2. Feeling valued

Those who found some benefit experienced a sense of value from the intervention.

"I felt like supported by something – even if it's not like a person [laughs]. So maybe just like a little bit less *alone*"

(Participant 145 F, above average logins)

The site was described as a 'friend in the corner'. Some related this sense of supportiveness to the reminders received as part of the research study, which felt like someone was thinking of them. Participants also felt that indirectly the researcher was 'there' in the site as it had the appearance of a live site that someone was taking care of, even if their activity on the site was not being monitored.

In contrast, those who did not find a benefit discussed how it did not seem to value them. They described feeling unable to relate to others in wider society and so coming to the intervention looking for help and to feel less alone, but instead were still talking to themselves. In part this

was to do with the site being automated.

> "Some might feel really comfortable with doing it all remotely and not really having a face in front of them and that made them feel safe. But for me it's already quite robotic and quite impersonal and it felt like oh no, it…I felt *worse*. Er, it just kind of accentuated the, the loneliness."
>
> (Participant 253, F, below average logins)

4. Discussion

4.1. Main findings

This study developed an understanding of what makes online positive psychology interventions acceptable and potentially beneficial to patients with depression. Acceptability was facilitated by participants' perception of the positive psychology content as relevant to their depression and the extent to which they perceived the self-help format as empowering. Conversely, participants who experienced the positive psychology content as disconnected from their depression, and the self-help format as unsupportive reported a lack of acceptability and perceived benefit. The differing perceptions appeared unrelated to measurable factors, such as number of intervention logins or depression profile (e.g. symptom severity, treatment history, and treatment context) but appear to be attitudinal differences. The findings suggest that matching patients to the psychological content of an online intervention may facilitate acceptability. Secondly, the findings indicate that there need to be different formats of online interventions including varying levels of support to meet patients' differing needs.

4.2. Strengths and limitations

The main strength of this study is the purposive sampling, which enabled a diverse sample with a range of experiences and viewpoints on the online positive psychology intervention. A second strength is that, to the authors' knowledge, this is the first qualitative study of patient experiences of online positive psychology, thus enabling a systematic analysis of patients' experiences. However, the study is limited by the fact that participants often required access to the intervention during, or prior to, their interview to refresh their memory of it. This sometimes led to discussions of the appearance and design of the intervention rather than the impact of its psychological content, data that had limited utility for understanding acceptability. A second limitation is that above average users of the intervention were overrepresented in the sample as those who used the intervention less did not agree to participate in the interviews. This may limit the extent to which this paper understands those who may have had less favourable perceptions. A further limitation is that the researcher who developed the online intervention conducted all interviews. This may have led to social desirability bias, e.g. over-reporting acceptability or under-reporting negative perceptions. However, the data indicates that participants reported a range of experiences and a multidisciplinary team conducted the analysis, with excerpts provided to support authors' interpretations.

4.3. Clinical and research implications of findings

Previously researchers disagreed on the acceptability of positive psychology interventions to those experiencing depression. The current findings suggest that this disagreement may be a consequence of the fact that patients have varying preferences for positive psychology interventions. This suggests that whilst some do indeed find positive psychology acceptable, as has been reported (Layous et al., 2011; Schueller and Parks, 2012; Seligman et al., 2006), others find the ideas overwhelming and irrelevant to helping them cope with their depression, as has also been suggested (La Torre, 2007; Moskowitz et al., 2012). This would suggest that patients might need to be matched to psychological content of online interventions in order to increase their acceptability and potentially effectiveness. It has previously been suggested that responsiveness to personal needs and sensitivity to patients' identity is a key facilitator of acceptability in other therapeutically oriented interventions (Knowles et al., 2014). This is understandable given the context of online interventions if patients are unguided, there is likely a need to feel the intervention is designed for them, rather than just a generic one-size fits all approach.

The second finding that some patients liked and perceived value from the self-help intervention, whilst others found this a somewhat isolating experience, supports previous research suggesting it is difficult to balance the levels of collaboration and connectedness in online interventions. Knowles et al. (2014) argue that online interventions with a low level of collaboration (e.g. without contact between experts and peers) can feel empowering, but can also be perceived as burdensome. Similarly, those with a low level of connectedness (e.g. without actual interaction or identification) can enable privacy and safety yet can feel isolating. It has been suggested that increasing the level of collaboration and connectedness may improve how supported and empowered patients feel but risks promoting passivity and increasing burden (Knowles et al., 2014). The implication is that online interventions should include varying levels of support to meet patients' differing needs, since it is unlikely to be possible to balance these varying demands within a single intervention.

If further research is to investigate whether online interventions should be matched to patient preferences for psychological content and collaboration and connection with others, several aspects ought to be addressed.

Firstly, it is unclear how one can reliably ascertain patient preferences. There has been much research and debate regarding how to measure treatment expectancy in face-to-face psychological treatment, which would indicate that this is a difficult task (Constantino et al., 2012). Setting that aside, if it were possible to find out what patients want, the question then becomes how to direct patients towards an appropriate online intervention, without using up resources. Previous research has used administrative staff or therapists to guide users towards relevant content, in order to tailor their experience of the intervention, which is thought to facilitate engagement (Carlbring et al., 2011; Richards and Richardson, 2012). However, this limits the scalability of interventions and undermines the apparent benefit of online interventions that once developed, they require little further resource to disseminate (Muñoz, 2010). Instead, this tailoring process could be automated with a use of a short questionnaire, the results of which could help identify an appropriate intervention. However, care must be taken to ensure this does not create a barrier to entry, as again an apparent benefit of online interventions is that they are easily accessible for patients (Hill et al., 2017; Hollis et al., 2015). In future, research must therefore focus on whether it is possible to match patients to interventions, whilst also investigating technological solutions to this. Throughout these stages of research there should be continual consultation with potential users to assess and ensure acceptability, as recommended in the person-based approach to developing digital interventions (Yardley et al., 2015).

The above suggestions are based on the assumption that it is problematic for patients to engage in an intervention for which they are unsuited, i.e. find unacceptable or perceive it not to be beneficial. It has been argued that there may be opportunity costs for patients engaging in online interventions that they perceive to be ineffective; not only does it prevent them from accessing another intervention with a greater chance of success, it may in future prevent patients from engaging in treatment as they become pessimistic about their likelihood of benefit (Murray et al., 2009). Future research is needed to investigate these assumptions, as it is possible that there is no long term consequence for patients who find an online intervention unacceptable, they simply stop logging in and move on. Rather than waste further resource on developing the aforementioned solutions, the consequences of a lack of

acceptability must be checked.

4.4. Conclusion

The findings suggest that the acceptability of online positive psychology is influenced by patients' perception of the relevance of the positive in the context of depression. Acceptability was also influenced by patients' perception of self-help, either as empowering or unsupportive. Future research should investigate the importance of the therapeutic orientation of online interventions and the role of support and whether patients' preferences for these can be reliably identified. This could help to target online self-help in clinical practice.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.invent.2018.07.003.

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