



Fighting OCD together: An experimental study of the effectiveness and acceptability of seeking and receiving emotional support for OCD

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ARTICLE INFO

Keywords:

Obsessive-compulsive disorder
Excessive reassurance seeking
Safety-seeking behaviour
Approach-supporting behaviour
Emotional support

ABSTRACT

Excessive reassurance-seeking in OCD has been linked to the maintenance of OCD, functioning as a type of checking ritual. Current treatments recommend the imposition of the extinction of seeking and providing reassurance; however, this is not well tolerated. Although it has been suggested that the provision of support may provide a more helpful alternative, there is no empirical evidence for this. In the present study, 36 participants with OCD engaged with two personalised semi-ideographic scenarios in which they imagined seeking and receiving reassurance and seeking and receiving emotional support in counterbalanced order. The primary outcome measure was anticipated urge to seek reassurance, which was found to significantly decrease in the imagined support condition relative to the imagined reassurance condition regardless of order of presentation. Emotional support was perceived as significantly more acceptable when compared to imagining reassurance in terms of higher ratings of perceived helpfulness in managing emotions, feelings of calmness and closeness, and the sense that they were fighting OCD together. These findings provide preliminary evidence for the value of encouraging the seeking and giving of emotional support as an alternative to reassurance. Implications for clinical work and further research are discussed.

1. Introduction

Obsessive-compulsive disorder (OCD) is a common and pervasive mental health disorder characterised by the presence of severe and disabling obsessions and compulsions, (American Psychological Association, 2023). Thought to have a lifetime prevalence of around 2% (Cervin, 2023). OCD is associated with increased autoimmune disorders (de la Cruz et al., 2022), long-term socioeconomic difficulties (Pérez-Vigil et al., 2018), significantly impaired quality of life (Eisen et al., 2006; Macy et al., 2013), and significant strains on peer and family relationships (Grover & Dutt, 2011; Walseth et al., 2017).

Cognitive theories of OCD focus on the threat of harm to self and/or others, and an inflated sense of responsibility for such harm, as the precipitating factors and motivators of the responses that maintain OCD (Rachman, 2002; Salkovskis, 1985; Salkovskis & Warwick, 1985; Smith et al., 2022). Compulsive behaviours motivated by responsibility beliefs are considered key maintaining responses, functioning as safety-seeking behaviours (SSB) intended to achieve certainty that harm or responsibility for it is eliminated (Salkovskis, 1991). Like most SSBs, however, checking has the effect of preventing disconfirmation and

maintaining pre-occupation (Osborne & Williams, 2013). For example, with each instance of checking the memory of previous checks is tarnished (Radomsky et al., 2006). As such, the level of certainty of safety tends to decrease, and checking is perpetuated (Rachman, 2002; Tolin et al., 2002). Recent work thus suggests that excessive reassurance-seeking (ERS) is a special type of checking. Defined as the “verbal and/or non-verbal interaction with someone who you perceive has access to potentially threat relieving information, with the intention of increasing your perceived sense of certainty from harm” (Halldorsson & Salkovskis, 2023), in practice, this often looks like requests or comments (verbal or non-verbal) that search for certainty that their feared outcome is untrue (e.g., “did I do that properly?“, “am I a bad person?“ etc.) with responses provided that attempt to provide this certainty (e.g., “Yes you did“, “No you aren’t a bad person“). Unlike most other forms of checking, this interaction has the additional function of transferring responsibility onto others (Rachman, 2002; Salkovskis, 1999).

Unsurprisingly, the most common response to ERS is the provision of reassurance, with loved ones reporting they often do not know what else to do (Halldorsson et al., 2016; Lebowitz et al., 2016). Research indicates that *outside* the context of cognitive-behavioural therapy (CBT),

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providing reassurance is in fact an effective way of helping the sufferer, in the sense that in the short-term this helps all concerned to manage daily life and reduces the levels of distress for those involved (Kobori & Salkovskis, 2013). For example, one questionnaire study by Kobori et al. (2015) found that when provided with reassurance, patients with OCD showed significant reductions in short-term anxiety with a large effect size. This finding has also been replicated in the general population using vignette studies with imagined reassurance provision, which resulted in imagined reductions of anxiety in the short term with large effect sizes (Champion & Grisham, 2022). However, as with other types of compulsions, once reassurance is sought and provided for a subjectively crucial negative outcome, this can lead to increasing levels of distress, which in turn may lead to increasing levels of reassurance-seeking (Kobori et al., 2015). As a result, reassurance unintentionally perpetuates the person's OCD symptoms (Albert et al., 2017; Halldorsson & Salkovskis, 2017b). Furthermore, ERS comes with a high social cost, with the repetitive seeking of reassurance ultimately leading to strained relationships with others (Boeding et al., 2013), and increased levels of distress in family members (Albert et al., 2017).

Given the similarities between ERS and checking compulsions, the principal strategy proposed for treating ERS is exposure response prevention (ERP) (Gillihan et al., 2012; Neal & Radomsky, 2020; Rachman, 2002). Here, the goal is to prevent patients from ERS and loved ones from providing this reassurance (Halldorsson & Salkovskis, 2023). As with all ERP, inhibitory learning (whereby learning new non-threatening associations impedes an individual's ability to retrieve prior fear-associated responses) (Craske et al., 2014) or habituation (Foa & Kozak, 1986) is considered to be the mechanism of change. Whilst it may be clinically effective in some instances, this method has been shown to further strain relationships rather than improve them (Halldorsson et al., 2016), and the withholding of reassurance has been shown to result in negative outcomes such as heightened levels of anger and discomfort, and increased distress for those with OCD (Marinchak, 2013; Salkovskis & Kobori, 2015). Kobori and Salkovskis (2013) found that asking loved ones to simply discontinue giving reassurance would be both counterproductive and difficult or even impossible to sustain. However, if reassurance is indeed a key maintaining factor in OCD, what is needed, is an alternative to the seeking and offering of reassurance which does not have the negative impacts inherent to ERS and allows the person to discontinue seeking reassurance.

Halldorsson and Salkovskis (2023) propose that the development, adoption, and provision of emotional support for the person's efforts to confront their OCD would serve as an effective alternative to ERS. At the same time, it is possible that this may maintain or even enhance the interpersonal relationship, which has often been damaged by extensive and frustrating rounds of ERS. Emotional support has been defined as involving "interpersonal behaviour, verbal or non-verbal, that is intended to get (or give someone) encouragement, confidence or assistance to cope with feelings of distress" (Halldorsson & Salkovskis, 2023). In practice this often looks like a person sharing their feelings in some way (e.g., "can I have a hug?" "I'm really struggling with OCD today") and being provided with comfort or companionship which allows them to tolerate their feelings (e.g., "of course, come here", "I'm sorry it's so hard, you can get through this, I'm right here with you"). This can be framed in a "Theory A/Theory B" format, whereby "Theory A" focuses on the threat belief and associated actions (e.g., I am a bad person so I reassurance seek to check I'm not being one"), and "Theory B" focuses on the OCD being the problem and actions that help the person tolerate their distress and confront their OCD. Emotional support has therefore been proposed as the "Theory B" action to the "Theory A" action providing reassurance, with support-seeking understood theoretically as the opposite to an SSB with its intention of helping the person confront, and ultimately resolve their fears and urges to seek reassurance (Halldorsson & Salkovskis, 2023). Emotional support, therefore, represents a shift from a primary threat-focus of seeking to prevent the occurrence and responsibility of harm, to a more emotional-focus (Halldorsson et al.,

2016). This alternative focus is distinctly on the recognition of the person's OCD, in terms of a shared understanding of how the person's obsessions cause both distress and safety-seeking responses, which can be overcome and extinguished.

At present, there is some evidence to suggest that when embedded in focussed CBT, the adoption of a support focus is a viable alternative to ERS and the provision of reassurance. For example, in a single case experimental study, Halldorsson and Salkovskis (2017a) showed that replacing reassurance with the provision of emotional support led to a clinically significant reduction in both ERS and OCD symptoms. More recently, Neal and Radomsky (2020) added to these findings using an undergraduate sample, showing that when presented with vignettes in which imagined anxiety was elicited, imaginal support was perceived to be more acceptable than the imagined removal of reassurance, however it remains unclear how this acceptability compares to that of reassurance itself. Although there is some empirical grounding, the literature remains sparse, with studies contrasting both the effectiveness and acceptability of support-seeking and the provision of support in comparison to ERS and reassurance provision in clinical OCD populations needed. These will allow for preliminary understanding of whether emotional support may be a beneficial treatment for ERS in OCD.

In the present study, we aim to investigate whether the imagined seeking and provision of emotional support as opposed to the imagined seeking and provision of reassurance, in response to imagined situations that would normally evoke ERS, would produce better outcomes in terms of anticipated effectiveness and perceived acceptability. The primary hypothesis was that the imagined seeking and receiving of emotional support would result in an overall reduction in the anticipated urge to seek further reassurance, relative to the imagined seeking and receiving reassurance. The secondary hypotheses were that the imagined seeking and receiving of emotional support would result in a greater overall decrease in both anticipated anxiety and belief in intrusions, relative to the imagined seeking and receiving of reassurance. Finally, we hypothesised that imagined emotional support would be perceived to be at least as acceptable as imagined reassurance.

2. Methods

2.1. Design

A crossover design was used, whereby each participant, following completion of symptom measures and an overall baseline, undertook both imagined reassurance and support conditions in randomly counterbalanced order. This meant that the core design was a mixed model factorial design (within and between subject factors; that is, 2 (experimental condition: imagined reassurance vs imagined support) x 2 (vignette order: imagined reassurance first or imagined support first) x 3 (time point: rating of reassurance provoking situation (T1), rating immediately after reassurance or support is received (T2), rating 20 min later (T3)). The primary dependent variable was anticipated urge to seek reassurance, and secondary variables were anticipated anxiety/discomfort and belief in intrusion. Tertiary variables were measures of acceptability of imagined support/reassurance (perceived helpfulness in emotion management, calmness, closeness, fighting OCD together).

An *a priori* power analysis was conducted using G*Power version 3.2 (Faul et al., 2007). Results indicated the required sample size to detect a small to medium effect ($F = .2$) (urge to seek reassurance as the primary outcome variable) at 80% power and a significance of $\alpha = .05$ was 34 participants.

2.2. Participants

Participants for the study were recruited via Twitter, OCD charities (OCD-UK, OCD Action, Orchard OCD), LinkedIn, Instagram, course recruitment databases, and word of mouth. For each participant

recruited into the study, a payment of £2 was paid to OCD- UK for their support with recruitment.

Participants were asked to complete a screening form on Qualtrics and were invited to participate if they met the study criteria. This included being aged 18 or over, scoring 40 or above on the Obsessive-Compulsive Inventory, having sought support from others for OCD previously, and meeting cut-off scores on the Reassurance Seeking Questionnaire. Participants were excluded if they had diagnoses of a personality disorder, severe autism, or neurological conditions that may impair functioning.

Based on the screening criteria, 52 participants were invited to take part. Of these, 13 declined, leaving 39 people to complete the study. Prior to analysis, a further 3 people were excluded for not clearly meeting the criteria of having previously sought support. Of the 36 participants included in the analysis, 32 (88.9%) were female and 4 (11.1%) were male. Participant ages ranged from 20 to 56 years ($M = 33.8$, $SD = 9.87$) and they were predominantly of white ethnic backgrounds (91.7%). Seventeen participants (47.2%) were presented with the emotional support vignette first, and nineteen participants (52.8%) were presented with the reassurance vignette first.

2.3. Measures

2.3.1. Obsessive Compulsive Inventory (OCI): distress subscale

The OCI distress subscale (Foa et al., 1998) is a 42-item self-report instrument that measures the distress caused by obsessive thoughts and behaviours in both clinical and non-clinical populations. It includes 7 subscales: washing, checking, doubting, ordering, obsessing, hoarding and mental neutralising. Items are scored on a 5-point Likert scale, with a score of 40 indicating clinically significant levels of obsessions and compulsions. The scale has been shown to have high internal consistency in previous studies ($\alpha = .86$ to $.95$) and the current study ($\alpha = .92$), good criterion validity with a specificity and sensitivity of 80%, and low convergent validity with correlation coefficients to other OCD measures ranging from $.23$ to $.68$, and to non OCD measures from $.31$ to $.68$ (Foa et al., 1998).

2.4. Reassurance Seeking Questionnaire (ReSQ) intensity

The ReSQ Intensity (Kobori & Salkovskis, 2013) is a 21-item self-report instrument that measures the frequency in which people seek the same reassurance from the same aforementioned sources until they stop. Items are scored on a 5-point Likert scale. The cut-off criteria for excessive reassurance seeking was based on a score of 2+ on 3 or more items of the intensity scale (excluding questions 11 and 12 which focused on 'self-reassurance'). The scale has been shown to have good internal consistency both in previous studies ($\alpha = .82$) and the current sample ($\alpha = .814$). Previous studies have also shown good test-retest reliability ($r = .700$ to $.926$) (Kobori & Salkovskis, 2013).

2.5. Patient health Questionnaire-8 (PHQ-8)

The PHQ-8 (Kroenke & Spitzer, 2002) is an 8-item self-report instrument that measures symptoms of depression over the last 2 weeks, with the exclusion of a question about suicidal or self-injurious thoughts. Items are scored on a 4-point scale. Respondents are asked to rate based on the last 2 weeks. Research has shown scores from the PHQ-8 to be highly correlated to the PHQ-9 (Corson et al., 2004) which has been shown to have high levels of internal consistency ($\alpha = .86$ -.89), inter-rater reliability (.84) (Kroenke & Spitzer, 2002). The PHQ-8 has previously been found to have high criterion validity with sensitivity at 99% and specificity at 92% (Kroenke & Spitzer, 2002). In this study, the PHQ-8 was found to have good internal consistency ($\alpha = .817$).

2.6. Generalised anxiety disorder Questionnaire-7 (GAD-7)

The GAD-7 (Spitzer et al., 2006) is a 7-item self-report instrument that measures symptoms of general anxiety over the last 2 weeks. Items are scored on a 4-point scale, with a total cut-off score of 8 and above suggesting significant general anxiety symptoms. This scale has been shown to have high inter-rater reliability ($\kappa = .83$), good convergent and divergent validity, and high criterion validity with a specificity of 82% and sensitivity of 89% (Spitzer et al., 2006). The scale has also been shown to have high internal consistency in previous research ($\alpha = .92$), and in the current sample ($\alpha = .841$).

2.7. Visual analogue scales

For the purposes of this study, 11 visual analogue scales were created to provide outcomes specific to the hypotheses. All scales were rated on a scale of 0–100 and measured effectiveness (participants' urge to seek reassurance, anxiety/discomfort, how sure they were in their obsession) and acceptability (how helpful reassurance/support was in its ability to manage emotion, how calming reassurance/support was, how much closer they felt to their loved one after reassurance/support, and how much they felt they were fighting OCD together with their loved one when receiving reassurance/support). When combined, the four VAS's used to assess acceptability were found to have good internal consistency in both the reassurance ($\alpha = .84$) and support ($\alpha = .79$) conditions.

2.8. Demographics

A demographics questionnaire was administered to participants to gather information on their age, gender, ethnicity, education levels, marital status, and living situation.

2.9. Materials

Two vignettes were created for the purposes of this study and were adapted for each participant. Both vignettes described a situation where the person was involved in an activity, most typically watching TV, when suddenly an intrusive thought popped into their mind (e.g., "I will impulsively harm someone"). The participant was required to imagine that they were in that scenario for 10 min. In the support vignette, after a further imagined 5 min, the participant imagined requesting support (e.g., "my OCD is making me feel really anxious today, could I have a cuddle?") and was being provided with this (e.g., "I'm sorry you're feeling so anxious, of course come here, I'm right here"), and that this continued for 20 min. In the reassurance vignette, after a further imagined 5 min, the participant imagined requesting reassurance (e.g., "I keep having thoughts about hurting others, do you think I would do it?") and being provided with this (e.g., "No, of course not"), before not receiving any more reassurance for 20 min. Both vignettes were adapted to contain a real intrusive thought the participant experienced, as well as real ways they sought and received reassurance and support. All scenarios and lengths of times were imagined, with participants not actively requesting or receiving any support or reassurance, and the total time spent imagining each vignette lasting around 5 min.

A choice of two guided grounding exercises were offered to participants after the presentation of each vignette. One of these was a beach visualisation exercise, and the other a five-senses grounding exercise.

2.10. Piloting

Prior to the main study, the study was piloted with three people with lived experience of OCD. Two of these pilots did not include the acceptability questions, but these were developed in collaboration with the final pilot prior to piloting. Feedback was received from each of the pilots and based on this, changes were made including the addition of a screening question screening for previous support seeking and

rewording of the certainty scale.

2.11. Procedure

This study received full ethical approval (R79097/RE001). Participants were emailed a further information sheet which included examples of what reassurance seeking (e.g., “Are you sure I didn’t touch that?”) and receiving (e.g., “Yes I’m sure you didn’t touch it”), and emotional support seeking (e.g., I can’t stop worrying about things that might be contaminated and it’s making me anxious, can you help take my mind off the worry?”) and receiving might be (e.g., That sounds really difficult, let’s try and take your mind off the worry for a bit”). They were invited to a Microsoft Teams call with the lead researcher which lasted for 60–80 min. Each participant was randomised into receiving either emotional support or reassurance first prior to the call using an online block randomisation tool (Sealed Envelope, 2022).

At the start of the Teams call, participants were given a brief description of the study and given the opportunity to ask questions, before providing informed consent. Rating scales were then practiced with participants. Participants were asked for their understanding of the difference between reassurance and emotional support before being given a standard description of emotional support and reassurance and the opportunity to ask questions. Here, reassurance seeking was described as ‘where you might ask someone a question in an attempt to reduce your anxiety and check that everything was okay’, whereas reassurance seeking was described as ‘very different, and where you might share how you feel with another personal to help you deal with your difficult feelings’. Examples were given for each to help illustrate the points and understanding was checked. Following this, participants were asked about their obsessions, and a specific obsession was chosen, along with phrases of what they said when they sought reassurance and emotional support, and what others said back to them. This information was then inserted into the two standard vignettes. Examples of intrusions reported were varied, but included checking intrusions, contamination intrusions, harm-related intrusions and intrusions related to romantic relationships.

The first vignette was then read out to participants in 4 parts (before the thought popped into their mind (T0), after imagining the thought had been in their mind for 10 min (T1), after they had imagined asking for and receiving reassurance/support (T2), and 20 min later (T3)), asking participants to rate their anticipated urge to seek reassurance, level of anxiety/discomfort, and their belief in their intrusion after each part. Due to the imagined nature of the vignettes, the time between all time points was imagined, with around 2 min elapsing between each time point. The vignette and ratings were followed by one of the two grounding exercises. The second vignette was then presented which followed the same procedure and ended with one of the two grounding exercises. Participants were then asked to answer the acceptability questions, before being presented with a written debrief form, which included routine signposting to support services, and having a verbal debrief with the researcher.

2.12. Analysis

Analyses were conducted using IBM SPSS Statistics 29, with alpha set at .05. Preliminary analyses were conducted to remove missing values from the dataset, test normality, and test homogeneity of variance. Normality tests on the key dependent variables were found to be satisfactory. Levene’s tests indicated appropriate homogeneity of variance.” t-tests and chi-squared tests were conducted amongst the demographic variables and questionnaire scores, between two groups based on order of vignette presentation. To test hypotheses 1 and 2, mixed model ANOVAs were used.

3. Results

3.1. Sample characteristics

3.1.1. Demographics

A significant difference was found in education levels between the groups ($t_{(34)} = 2.05, p = .048$. No other significant differences in demographics were found between the groups (Table 1.).

3.1.2. Descriptive psychopathology

No significant differences in descriptive psychopathology were found based on order of presentation (Table 2.).

Table 1
Demographic variables compared between the groups based on order of presentation.

	Reassurance-first, n (%) (N = 19)	Support first, n (%) (N = 17)	χ^2	t	df	p
Gender			.892	.929	34	.359
Male	3 (15.8%)	1 (5.9%)				
Female	16 (84.2%)	16 (94.1%)				
Highest level of education			7.609	2.047	34	.048
High/Secondary School or equivalent	2 (10.5%)	1 (5.9%)				
Sixth form/college or equivalent	4 (21.1%)	0				
Higher education diploma	1 (5.3%)	0				
Undergraduate degree	6 (31.6%)	5 (29.4%)				
Postgraduate degree	3 (15.8%)	8 (47.1%)				
Doctorate degree	3 (15.8%)	3 (17.7%)				
Ethnicity			2.928	.291	34	.627
White (any background)	17 (89.5%)	16 (94.1%)				
Mixed or multiple ethnic groups	0	1 (5.9%)				
Asian (any background)	2 (10.5%)	0				
Marital status			2.368	.325	34	.747
Single (never married)	10 (52.6%)	8 (47.1%)				
Married or in a domestic partnership	7 (36.8%)	9 (52.9%)				
Divorced	1 (5.3%)	0				
Separated	1 (5.3%)	0				
Living Situation			1.536	.291	34	.773
Living alone	5 (26.3%)	3 (17.7%)				
Living in a house share	2 (10.5%)	2 (11.8%)				
Living with a partner	8 (42.1%)	8 (47.1%)				
Living with parents	4 (21.1%)	3 (17.7%)				
Other	0	1 (5.9%)				
Employment			2.396	.230	5	.820
Full-time employed	13 (68.4%)	11 (64.7%)				
Part-time employed	1 (5.3%)	2 (11.8%)				
Self-employed	1 (5.3%)	1 (5.9%)				
Unemployed	1 (5.3%)	1 (5.9%)				
Student	3 (15.8%)	1 (5.9%)				
Unable to work	0	1 (5.9%)				

Table 2
Descriptive psychopathology variables between groups based on order of presentation.

Variable	Reassurance-first (N = 19) M (SD)	Support first (N = 17) M (SD)	t	df	p
Age	32.58 (9.67)	35.18 (10.19)	.784	34	.438
OCI total	88.00 (22.94)	82.65 (28.04)	.630	34	.533
OCI obsessions	20.84 (5.75)	18.29 (5.76)	1.326	34	.194
OCI washing	14.79 (9.25)	15.35 (10.57)	.171	34	.866
OCI checking	21.00 (8.01)	16.35 (7.56)	1.784	34	.083
OCI neutralising	8.84 (3.72)	11.53 (6.79)	1.449	24.174	.160
OCI hoarding	3.74 (2.83)	3.82 (3.38)	.084	34	.934
OCI ordering	10.16 (4.99)	9.65 (5.11)	.303	34	.763
OCI doubting	8.63 (2.17)	7.65 (3.16)	1.100	34	.279
ReSQ Source	49.21 (14.79)	50.12 (13.22)	.193	34	.848
ReSQ Intensity	28.67 (1.16)	34.80 (7.60)	1.346	6	.227
PHQ-8	10.74 (4.89)	9.24 (4.16)	.987	34	.331
GAD-7	13.00 (4.61)	10.76 (4.51)	1.468	34	.151
Urge VAS baseline	38.95 (29.33)	38.82 (28.48)	.013	34	.990
Anxiety VAS baseline	29.21 (26.05)	42.06 (28.49)	1.419	34	.165

3.2. Primary outcome variable: urges to seek reassurance

A 2 (order; order of vignette presentation) x 2 (condition; reassurance or support vignette) x 3 (time point) factorial ANOVA was conducted with urges to seek reassurance as a dependent variable. There was a main effect of time point, $F_{(1.83, 62.2)} = 61.40, \eta_p^2 = .644, p < .001$ and of condition $F_{(1, 34)} = 7.741, \eta_p^2 = .185, p = .009$. There was no main effect of order, $F_{(1, 34)} = .383, \eta_p^2 = .011, p = .540$. The main effects were modified by a significant order x time point interaction, $F_{(1.83, 62.2)} = 9.643, \eta_p^2 = .221, p < .001$, and a significant time point x condition interaction, $F_{(2, 68)} = 11.446, \eta_p^2 = .252, p < .001$. There was no order x condition interaction, $F_{(1, 34)} = .564, \eta_p^2 = .016, p = .458$, nor was there a significant third order interaction (order x condition x time point), $F_{(1.96, 66.7)} = 2.407, \eta_p^2 = .066, p = .099$. The crucial condition x time point interaction is shown in Fig. 1.

Multiple comparisons were used to decompose the significant interaction of condition x time point by carrying out paired t-tests between experimental conditions separately for each time point. There were no significant differences between conditions for T1 ($t_{(35)} = 1.87, p = .069$) or T2 ($t_{(35)} = .57, p = .572$). However, T3 showed a significant difference in urges to seek reassurance between the reassurance and support condition ($t_{(35)} = 4.58, p < .001$). This difference is displayed in Table 3.

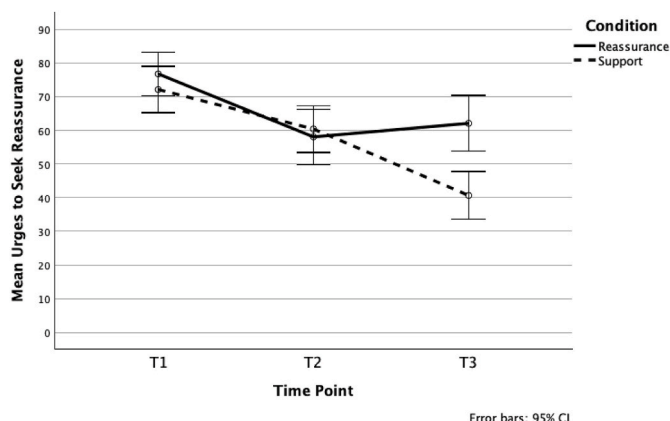


Fig. 1. Change in urge to seek reassurance by experimental condition.

Table 3
Primary and secondary outcomes for each condition, stratified by order of presentation.

			Urge to seek reassurance, M (SD)	Anxiety, M (SD)	Belief in intrusion, M (SD)
Reassurance	T1	Reassurance first	82.37 (16.19)	75.53 (13.73)	68.68 (22.96)
		Support first	71.18 (21.76)	74.12 (18.14)	66.56 (20.23)
		Overall	77.08 (19.58)	74.86 (15.74)	67.71 (21.47)
	T2	Reassurance first	49.37 (27.92)	51.84 (27.90)	54.21 (25.02)
		Support first	66.76 (19.44)	65.06 (16.60)	59.06 (21.47)
		Overall	57.58 (25.52)	58.08 (23.90)	56.43 (23.25)
T3	Reassurance first	56.95 (28.66)	60.79 (27.85)	59.47 (26.45)	
	Support first	67.24 (18.62)	68.53 (17.21)	62.06 (20.37)	
	Overall	61.81 (24.66)	64.44 (23.45)	60.66 (23.56)	
Support	T1	Reassurance first	73.68 (20.40)	68.16 (20.76)	67.89 (22.63)
		Support first	70.59 (20.15)	75.00 (15.51)	65.00 (17.89)
		Overall	72.22 (20.05)	71.39 (18.54)	66.57 (20.36)
	T2	Reassurance first	58.58 (24.59)	57.89 (22.19)	60.00 (26.67)
		Support first	62.24 (14.51)	62.94 (12.76)	58.44 (19.56)
		Overall	60.31 (20.26)	60.28 (18.28)	59.29 (23.36)
	T3	Reassurance first	39.11 (22.22)	36.42 (20.35)	45.79 (28.69)
		Support first	42.24 (19.17)	45.29 (16.72)	41.56 (20.06)
		Overall	40.58 (20.60)	40.61 (19.00)	43.86 (24.86)

3.3. Secondary outcome variables

3.3.1. Anxiety/discomfort

A further 2 x 2 x 3 ANOVA using the same independent variables was conducted with anxiety/discomfort as a dependent variable. There was a main effect of time point, $F_{(1.6, 55.1)} = 45.850, \eta_p^2 = .574, p < .001$, and of condition, $F_{(1, 34)} = 11.157, \eta_p^2 = .247, p = .002$. There was no main effect of order, $F_{(1, 34)} = 1.848, \eta_p^2 = .052, p = .183$. The main effects were modified by a significant time point x condition interaction, $F_{(2, 68)} = 17.361, \eta_p^2 = .338, p < .001$. There was no significant order x time point interaction, $F_{(1.6, 55.1)} = 1.285, \eta_p^2 = .036, p = .280$, order x condition interaction $F_{(1, 34)} = .007, \eta_p^2 = .000, p = .936$, nor significant third order interaction (order x condition x time point), $F_{(1.9, 64.8)} = 1.585, \eta_p^2 = .045, p = .214$. The crucial condition x time interaction is shown in Fig. 2.

Multiple comparisons were used to decompose the significant interaction by carrying out paired t-tests between experimental conditions separately for each time point. There were no significant differences between conditions for T1 ($t_{(35)} = 1.28, p = .208$) or T2 ($t_{(35)} = .52, p = .607$). However, T3 showed a significant difference in mean levels of anxiety between the reassurance and support condition ($t_{(35)} = 6.23, p < .001$). This difference is displayed in Table 3.

3.3.2. Belief in intrusion

A further 2 x 2 x 3 ANOVA using the same independent variables was conducted with belief in intrusion as a dependent variable. There was a main effect of time point, $F_{(1.22, 40.1)} = 20.80, \eta_p^2 = .387, p < .001$, and of condition, $F_{(1, 33)} = 5.31, \eta_p^2 = .139, p = .028$. There was no main effect

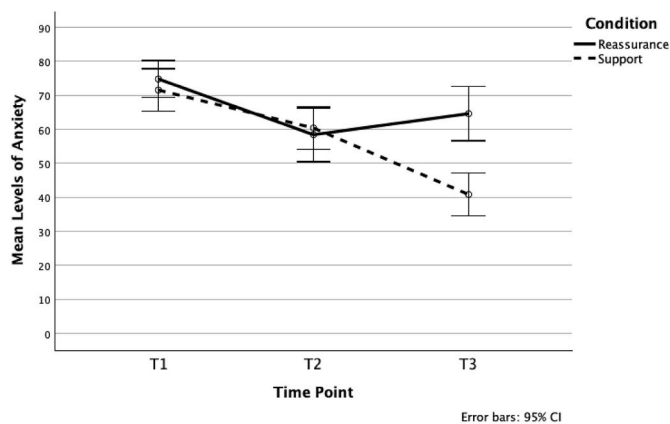


Fig. 2. Change in anxiety/discomfort by experimental condition.

of order, $F(1, 33) = .007, \eta_p^2 = .000, p < .933$. These main effects were modified by a significant condition x time point interaction, $F(2, 66) = 12.59, \eta_p^2 = .276, p < .001$. There was no significant order x time point interaction, $F(1.22, 40.1) = .41, \eta_p^2 = .012, p = .567$, order x condition interaction $F(1, 33) = 1.06, \eta_p^2 = .031, p = .311$, or third order interaction (order x condition x time point), $F(1.93, 63.7) = .329, \eta_p^2 = .010, p = .713$. The crucial condition x time point interaction is shown in Fig. 3.

Multiple comparisons were used to decompose the significant interaction by carrying out paired *t*-tests between experimental conditions separately for each time point. There were no significant differences between conditions for T1 ($t_{(35)} = .43, p = .668$) or T2 ($t_{(35)} = .84, p = .406$). However, T3 showed a significant difference in belief in intrusion between the reassurance and support condition ($t_{(35)} = 4.53, p < .001$). This difference is displayed in Table 3.

3.4. Exploratory analyses: acceptability

3.4.1. Perceived helpfulness in emotion management

There was a statistically significant difference in helpfulness ratings, such that support was found to be significantly more helpful in managing emotions ($M = 65.83, SD = 15.19$) than reassurance ($M = 42.44, SD = 26.22$), $t_{(35)} = 4.274, d = .712, p < .001$.

3.4.2. Calmness

There was a statistically significant difference in calmness ratings, such that support was found to be significantly more calming ($M = 66.03, SD = 17.21$) than reassurance ($M = 43.33, SD = 25.16$), $t_{(35)} = 4.720, d = .787, p < .001$.

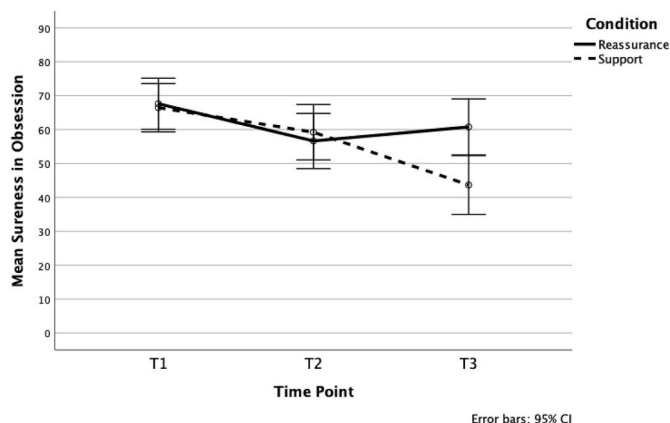


Fig. 3. Change in belief in intrusion by experimental condition.

3.4.3. Closeness

There was a statistically significant difference in closeness ratings, such that support was found to significantly increase feelings of closeness ($M = 65.22, SD = 25.12$) compared to reassurance ($M = 38.47, SD = 29.52$), $t_{(35)} = 5.296, d = .883, p < .001$.

3.4.4. Fighting together

There was a statistically significant difference in togetherness ratings, such that support was found to significantly increase feelings of fighting OCD together ($M = 69.86, SD = 22.63$) compared to reassurance ($M = 27.03, SD = 29.20$), $t_{(35)} = 6.906, d = 1.151, p < .001$.

4. Discussion

The study described here was designed to evaluate the way in which people with OCD react to imagining a situation where the need for reassurance is triggered, followed by imagining seeking and receiving either reassurance or emotional support. As predicted, the imagined emotional support scenario was associated with a greater reduction in anticipated longer-term urge to seek reassurance relative to the imagined reassurance scenario. Similar results were obtained for anticipated anxiety and belief in intrusion. Imagined emotional support was also perceived to be significantly more acceptable than imagined reassurance, in relation to feeling closer to their loved one, calmer, better able to manage emotions, and feeling as though they were fighting OCD with someone.

The results of this study are consistent with previous research that has shown emotional support to be perceived both as more effective (Halldórsson & Salkovskis, 2017a) and more acceptable than reassurance, both for people with OCD (Halldórsson & Salkovskis, 2017b), and those from non-clinical populations (Neal & Radomsky, 2019, 2020). Qualitative research has indicated that people with OCD recognise the seeking of reassurance to be compulsive, to come with a need for certainty that is not achieved, and to produce interpersonal strain, whereas they recognise that support is instead non-compulsive, makes them feel better with lasting effect, and strengthens their relationships (Halldórsson & Salkovskis, 2017b). Until now, however, these findings had not been demonstrated in an experimental study in people with OCD, with previous research relying on these qualitative accounts, single case studies, or non-clinical populations. The results of the current study provide novel experimental evidence for the narratives described, with this study being the first of its kind to compare the effectiveness and acceptability between both emotional support and reassurance using experimental paradigms in a population with OCD.

5. Limitations

The current study used semi-idiographic vignettes in which participants were asked by the researcher to imagine the urge to seek reassurance followed by the seeking and receiving of support and reassurance. Whilst all vignettes were adapted to be idiosyncratic to the person's intrusions and communication styles, as the scenarios were imagined it remains unclear whether the vignettes realistically simulated the conditions of emotional support and reassurance, and whether possible experimenter demand characteristics may have been at play. Whilst efforts were taken to minimise demand characteristics, such as the use of a script, and monitoring tone and expression, it is possible that these may have still been present. Further, due to the imagined nature of the time points, and lack of inclusion of T0 (vignette baseline) in the analysis, it is also unclear whether the outcomes accurately reflected how the participants may feel in real time, and whether 20 min of emotional support was enough to reduce anxiety, urges to seek reassurance and belief in intrusions back to baseline levels. Due to the nature of crossover designs, there was also a risk of aliasing in this study. As no significant third-order interactions were detected these risks appear minimal. Finally, there were some limitations with the population

sampled in this study, due to its low proportion of males, and significant difference in education levels between the two order sequence groups (although the absence of detectable order effects helps). The sample was also not recruited from a clinical setting and diagnostic interviewing to confirm a diagnosis of OCD was not used, with the OCI instead used as an indicator of OCD, a measure which has previously been reported to have sub-optimal discriminant validity (Foa et al., 2002). Despite this, the majority of those participating came through OCD charities and most had been seen by clinical services. Future research may wish to recruit a larger population to avoid the need for a crossover design and use stratified random sampling to ensure a more representative sample. Sampling from clinical settings would also be desirable.

6. Implications

The findings from this study support the long-standing proposition that reassurance can improve subjective outcomes in the short-term, but worsen them in the long-term (Salkovskis & Kobori, 2015; Salkovskis & Warwick, 1985). In contrast, emotional support was shown to improve outcomes slightly in the short-term, with even larger improvements in the long-term. Whilst little is known of the exact mechanisms of emotional support, this finding supports current theories which propose that support acts in a contrasting way to reassurance, being an approach supporting behaviour, as opposed to an SSB (Halldorsson & Salkovskis, 2023). These findings also provide some preliminary evidence that some of the mechanisms underlying the benefits of support may be the strengthening of interpersonal connection, and through this an increased ability to tolerate distress, which is in line with previous qualitative evidence (Halldorsson & Salkovskis, 2017b). Further research may wish to understand the mechanisms underlying support in more detail, to better understand the core therapeutic mechanism such that therapy can be most effective. In particular, this research did not focus on the aspect of transfer of responsibility, a key theory of why people reassurance seek (Rachman, 2002). Future research may wish to understand whether responsibility is perceived to be transferred through the seeking and provision of emotional support.

The results of the current study suggest that the provision of support may provide a more acceptable alternative to the refusal of reassurance with nothing in its place. In current psychological treatments, this may be introduced via the “Theory A/Theory B” model (Salkovskis, 1999), whereby people with OCD and their loved ones are encouraged to shift from seeking and providing reassurance to seeking and providing emotional support. This differs from current clinical wisdom based on learning theories which would suggest that reassurance should not be provided by others due to its role as a safety behaviour that prevents full exposure to the feared stimulus (Craske et al., 2014; Foa & McLean, 2016). Withholding reassurance alone, however, has been found to be immensely upsetting, causing interpersonal conflict and further suffering for all concerned. It also proves difficult for caregivers, who see their response as a method of communicating care and concern (Halldorsson et al., 2016). This novel use of emotional support as an alternative is likely to lead to better engagement with therapy, as people are supported to tolerate their distress within the context of a re-appraisal of how their OCD works (“Theory B”) and strengthen the interpersonal connection which is so important to their wellbeing. It is also consistent with hypothesised mechanisms of change in CBT recently set out in detail by Salkovskis et al. (2023).

The present findings have several implications for further research. Whilst this study focused solely on people with OCD, the interpersonal nature of ERS means it will be important to understand whether a replication of this study in caregivers would provide similar results in terms of effectiveness and acceptability. Further, as the results of the current study are limited using vignettes, it is recommended that future research uses *in-vivo* experiments, where the seeking and provision of reassurance and support is experimentally induced in live scenarios between people with OCD and their loved ones. In the longer term, it is

suggested that research should aim to conduct single-case experimental designs, to investigate whether support remains effective and acceptable in clinical practice when compared to currently endorsed treatments. The findings here related to OCD, but there is considerable evidence for the importance of reassurance across diagnoses, particularly anxiety disorders (Kobori & Salkovskis, 2013; Rector et al., 2019). Whilst it is recognised that the topography and motivations for reassurance-seeking may differ between populations with OCD and other anxiety disorders (Haciomeroglu & Inozu, 2019; Halldorsson & Salkovskis, 2023), future research may wish to investigate the effectiveness of support in populations with these other diagnoses.

7. Conclusion

The present study highlights the anticipated advantages of seeking and receiving emotional support as opposed to reassurance. People with OCD imagined support as not only more effective in the long-term, but also as more acceptable when compared to reassurance. Future research may benefit from assessing these outcomes in caregivers of those with OCD also, in addition to *in-vivo* experiments that can investigate the effectiveness and acceptability of reassurance in practice.

CRedit authorship contribution statement

Chiara Causier: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Conceptualization. **Paul Salkovskis:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

Paul Salkovskis has authored several books on OCD and related matters, and from time to time provides training in this area for which he is paid.

Chiara Causier has no CoI to declare.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jbtep.2024.101987>.

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