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ORIGINAL ARTICLE

How Do I Say This? An Experimental Comparison of the Effects of Partner Feedback Styles on Reassurance Seeking Behaviour

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Abstract

Interventions for reassurance seeking (RS) in obsessive–compulsive disorder typically include reducing accommodation by asking partners to not provide reassurance, which may decrease RS but increase distress and be perceived as unhelpful. Alternatively, having partners provide support to encourage coping may be effective and associated with greater perceived helpfulness and lower negative affect. This experiment tested hypotheses that compared with no reassurance, supportive feedback would be associated with higher ratings of intervention helpfulness, fewer requests for reassurance, and lower ratings of RS urges and negative affect. Participants completed a threat-inducing kitchen task while observed by a partner, and afterwards sought reassurance to make a decision about safety. Partners' feedback was manipulated such that half ($n = 51$) provided typical accommodation reduction-focused feedback and half ($n = 51$) provided support-focused feedback. Results suggest that individuals who received support-focused feedback versus accommodation reduction-focused feedback rated their partner's feedback as significantly more helpful ($d = 1.22$). There was also a small-to-moderate effect size and trend suggesting that support was associated with less RS ($d = 0.33$). Overall, support provision may be associated with less RS behaviour and greater perceived helpfulness, and holds promise as an alternative intervention technique to strict accommodation reduction for problematic RS.

Keywords Reassurance seeking · Obsessive–compulsive disorder (OCD) · Cognitive-behaviour therapy (CBT) · Accommodation · Feedback · Support

Excessive reassurance seeking (RS) is a common, problematic behaviour in various mental disorders including generalized anxiety disorder (American Psychiatric Association [APA], 2013; Beesdo-Baum et al. 2012), social anxiety disorder (Heerey and Kring 2007), illness anxiety disorder (e.g., Salkovskis and Warwick 1986), and obsessive–compulsive disorder (OCD; e.g., Kobori and Salkovskis 2013; Parrish and Radomsky 2010; Radomsky et al. 2018; Rector et al. 2011; Starcevic et al. 2012). While there is no universally-adopted definition of problematic RS, Parrish and Radomsky (2010) describe it as repeatedly seeking safety-related information from another person, despite having received the information previously.

In OCD, RS has been proposed to function like compulsive checking: individuals seek reassurance to reduce anxiety/distress, perceptions of responsibility, and/or perceptions of threat, but the temporary relief leads to long-term reliance on RS (e.g., Parrish and Radomsky 2006, 2010; Rachman 1997, 1998, 2002; Salkovskis 1985, 1999). Reassurance seeking can contribute to relationship difficulties as significant/familiar others are sensitive to RS and want to help, but may be unsure what to do (Halldorsson et al. 2016; Kobori et al. 2017; Neal and Radomsky 2015). Accordingly, there is broad consensus that RS should be targeted during therapy to prevent it functioning as a maintaining factor, and to foster long-term positive outcomes (e.g., Abramowitz 2009; Clark 2004; Francis 1988; Gillihan et al. 2012; Hallam 1974; Halldorsson and Salkovskis 2017a, b; Marinchak 2013; Salkovskis and Kobori 2015). However, there are significant gaps in the literature regarding interventions for problematic RS.

Of psychological interventions for OCD, cognitive behavioural therapy (CBT) demonstrates the greatest efficacy in reducing symptoms (e.g., Eddy et al. 2004; Olatunji et al. 2013). Cognitive-behavioural interventions commonly

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involve partners when they are accommodating compulsions, such as by providing reassurance (e.g., Abramowitz et al. 2013; Belus et al. 2014; Renshaw et al. 2005; Thompson-Hollands et al. 2015). Indeed, the significant literature on the negative effects of partner accommodation underscores the importance of addressing accommodation for positive treatment outcomes (see Lebowitz et al. 2012). For instance, a recent randomized trial examined whether adding a brief family intervention to typical exposure and response prevention (ERP), which is a type of CBT, would improve outcomes for individuals with OCD (Thompson-Hollands et al. 2015). The brief family intervention utilized by Thompson-Hollands et al. (2015) aimed to reduce accommodation of compulsions via two hour-long sessions involving psychoeducation about OCD and ERP (including normalizing information about the instinct to accommodate significant others' compulsions), and role-playing exercises of how to communicate the change in accommodation behaviour to the patient. The results showed that ERP plus a brief family intervention led to better long-term symptom reduction than ERP alone, highlighting the need to address maladaptive interpersonal patterns during therapy (Thompson-Hollands et al. 2015). However, the study by Thompson-Hollands et al. (2015) was not principally aimed to target RS, and thus, best practices for specifically reducing accommodation of RS are less clear.

Overall, there is little empirically-derived information available on how to best foster reassurance reduction/removal. How should the partner react when asked to provide reassurance? What should they say?

Currently, clinicians typically emphasize a form of ERP for RS called *reducing accommodation* (e.g., Abramowitz 2009; Gillihan et al. 2012; Thompson-Hollands et al. 2015). The aim of reducing accommodation is to extinguish RS behaviour by removing the reinforcement provided by the partner's reassurance (Abramowitz 2009; Gillihan et al. 2012; Thompson-Hollands et al. 2015). Exposure and response prevention can lead to significant symptom reduction for some individuals with OCD (e.g., Foa et al. 2005; Simpson et al. 2006). Specifically, changing behaviour with ERP may promote new learning that inhibits previous associations between distress/uncertainty and the response to seek reassurance (e.g., Abramowitz 2009; Craske et al. 2008). Despite lack of consistency as to whether reducing accommodation involves entirely ignoring requests for reassurance or refusing to answer the questions, clinicians using this approach typically ask significant others to deny RS requests (e.g., "I cannot answer that"; Abramowitz 2009; Baucom et al. 2012; Gillihan et al. 2012).

Despite some benefits, meta-analyses have suggested that ERP does not lead to positive outcomes for all individuals with OCD and can be associated with significant drop-out/refusal (e.g., Olatunji et al. 2013, Öst et al. 2015). Moreover, there has been little study of how removing accommodation of requests for reassurance affects RS behaviour. To date, only case studies have provided clinical outcomes related to extinction-based interventions for RS in OCD, primarily with children/youth (Francis 1988; Hallam 1974; Marinchak 2013; Tolin 2001). Each suggest that reducing accommodation using extinction was successful in decreasing RS frequency, but also noted family- and/or clinician-reported increases in distress, interpersonal strain, and adherence difficulties (Francis 1988; Hallam 1974; Marinchak 2013). Thus, it may be that reducing accommodation of RS is perceived as unhelpful, though there is little information to assess this. This has pertinent implications for treatment acceptability, as lack of acceptability is associated with lower perceived adherability and poorer outcomes (e.g., Caporino and Karver 2012; Milosevic et al. 2015).

While not presently clear, clues from the depression literature suggest that the focus of reducing accommodation on the partner denying reassurance may potentially increase feelings of guilt and anxiety in individuals who seek reassurance, both of which are closely connected to OCD (e.g., Nutt and Malizia 2006; Shafran et al. 1996; Shapiro and Stewart 2011). Coyne's (1976) interactional theory of depression suggests that excessive RS leads to rejection from others, and implies an association between being denied reassurance and negative affect. Given the potential mixed effects of reducing accommodation for RS, one may question whether there is an alternative.

At present, the literature has limited information about the exact intentions underlying RS in OCD, though there are numerous potential conceptualizations including transferring responsibility or reducing uncertainty (e.g., Salkovskis 1985, 1999). Anecdotally, most clients who engage in excessive RS report that they often can predict what others will say in response to their requests for reassurance. This is intriguing, and suggests that these individuals already have the information they seem to be asking for, likely because they have sought similar reassurance previously (see also Rachman 2012). If so, this indicates that individuals may not truly intend to get information when they seek reassurance. Rather, by seeking reassurance, individuals may be trying to elicit *support* from the interaction partner to help with managing their distress in the moment (see also Halldorsson and Salkovskis 2017a).

In this context, support provision is defined as encouraging the individual to tolerate distress in the moment without providing a direct answer to the RS question/statement, whereas providing reassurance may be understood as the partner helping to reduce the person's distress by providing an answer that relates to the request for reassurance (see also Halldorsson and Salkovskis 2017a). If a person's true intention when they seek reassurance is to gain *support* rather than to gain information, then altering

the partner's response to encourage tolerating distress may be a helpful and adaptive response (e.g., "You've handled uncertainty before, and I know you can do it again"). This form of support provision may have less potential for negative interpersonal consequences than reducing accommodation, based on Coyne's (1976) model. Hence, in comparison to strict accommodation reduction, it may be that receiving support helps individuals feel less negative affect, guilt, and/or anxiety after a threat-inducing situation, though this requires further empirical backing.

One case study to date has described an intervention based on a similar conceptualization of RS. This case study suggests that an intervention involving withholding reassurance but providing support to encourage coping with/tolerating distress was associated with reduced RS, anxiety, and urges to seek reassurance over time (Halldorsson and Salkovskis 2017a). However, the effects of a support-focused intervention on other negative affect dimensions such as guilt would benefit from further study. Intriguingly, within the brief family accommodation reduction intervention by Thompson-Hollands et al. (2015) there was also mention that partners were provided alternative responses to reassurance, which bear resemblance to the conception of support presented here and by Halldorsson and Salkovskis (2017a) such as, "I can see this is really hard for you" or "I just want to support all of your hard work in treatment" (p. 221–222). Thompson-Hollands et al. (2015) also report that partners found the intervention to be highly useful, though it was unclear which aspects of the intervention they found most helpful between the accommodation reduction discussion, or discussion of more adaptive alternatives to providing reassurance. Together, the existing literature hints that a support-provision intervention for RS may be an effective alternative to traditional accommodation reduction. Nevertheless, further information about the effects of each intervention is needed for CBT practices to be well-informed and maximally beneficial.

The present research was undertaken based on the identified need for evidence to inform interventions for RS. This study aimed to clarify how response styles within CBT-based accommodation reduction and support-provision interventions each effected RS behaviour and associated affect/perceptions by experimentally manipulating feedback provided by partners in response to RS. It was hypothesized that participants whose partners provided support to encourage coping with distress would perceive their partner's response as significantly more helpful than would those who received no reassurance via a traditional reducing accommodation response style. It was also hypothesized that relative to those who received a strict accommodation reduction-focused response, participants who received a support-focused response would seek reassurance fewer times overall, and would report lower negative affect, urges to seek reassurance, anxiety, and feelings of guilt.

Method

This study was reviewed by and received ethical clearance from the University Human Research Ethics Committee (certificate #30006114). All participants were treated in accordance with standards of ethical conduct for research involving human participants.

Participants

An initial sample of $N = 143$ undergraduate participants were recruited via a participant pool, classroom announcements, and posters. Eligibility requirements included being able to bring a familiar partner to the study (e.g., romantic partner, friend; see also Neal and Radomsky 2015), as well as the ability to read, write, and communicate fluently in English. The sample was unselected, such that participants were not required to meet criteria for any mental disorder to be able to participate, nor were participants screened out if they had a current diagnosis or were receiving treatment. Exclusion criteria for this study included lack of English proficiency, inability to bring a partner to the study, and not following task protocol (see also Procedure below). Thirteen participants' data were excluded due to lack of English fluency ($n = 4$), protocol deviations (e.g., not leaving the kitchen after the stove task, participant/partner not following instructions for the RS task; $n = 7$), or self-discontinuing the study (i.e., due to not wanting to complete stove task; $n = 2$), which resulted in a sample size of 130 participants ($M_{age} = 22.27$ ($SD = 4.43$), 86.90% female; 62.10% Caucasian; 57.60% English primary language). Partners had a mean age of 22.32 ($SD = 4.71$) years and 67.00% were female. To allow examination of the effects of feedback type on RS behaviour and affect, only participants who sought feedback from their partner were included in the analyses, resulting in a final sample size of 102 participants ($n = 51$ per condition; $M_{age} = 22.09$ ($SD = 4.19$) years, 88.20% female; 60.80% Caucasian; 57.80% English primary language).

Measures

Demographics

Participants and partners were asked to provide information including age, sex, primary language, and ethnicity.

Rating of Supportiveness

This single-item question was completed as a manipulation check, and asked participants to rate from 0 (indicating "Not at all") to 100 (indicating "Completely") how supportive they found their partner's feedback.

Rating of Helpfulness

This single-item question asked participants to rate from 0 ("Not at all") to 100 ("Completely") how helpful they found the partner's feedback.

Total RS Behavior

The overall number of times participants sought reassurance from their partner was used as a behavioural outcome (see "Procedures" section below).

Positive and Negative Affect Schedule (PANAS): Moment Version (Watson et al. 1988)

The PANAS is a 20-item measure assessing present moment positive affect and negative affect, with subscales for each consisting of 10 items each that are rated on a five point, Likert-type scale, and with total scores on each subscale ranging from 10 to 50. The PANAS previously demonstrated good internal consistency (α's = 0.85–0.89) and retest reliability (r's = 0.79–0.81; Watson et al. 1988). In the present study, only the Negative Affect subscale was employed, and had good internal consistency ($\alpha = 0.85$).

Visual analogue Scale (VAS) Ratings

A series of single-item measures was designed for this study to assess participants' in vivo feelings about aspects of the task. Participants were asked to respond by moving an electronic slider along a continuum from 0 ("Not at all") to 100 ("Completely") to items assessing urges to seek reassurance, feelings of anxiety, and guilt.

Credibility Check

A three-part rating was constructed for the purposes of this study to assess participants' perceptions of the credibility/believability of the extent to which harm could occur if stove task instructions were not followed correctly; the extent to which they felt doubt, uncertainty, or anxiety after the stove task; and the extend to which participants felt that completing the stove task accurately was critical/important (see "Procedure" section below). Each item was rated from 0 ("Not at all") to 100 ("Completely").

Procedure

Participants and partners were (falsely) instructed that the study's purpose was to examine how anxiety affects decision-making about kitchen tasks. They were informed that they would be completing a task with a working stove while being observed by their partner through a one-way mirror, and would be asked to answer questionnaires. Following the provision of consent, participants were taken to a separate room from their partner to begin.

The stove task in this study was adapted with permission from Bucarelli and Purdon (2016). The experimenter provided participants with verbal and written instructions, which specified that participants should turn on a specific stove burner, place a pre-filled kettle on the burner, and wait for the water to boil; after the kettle whistled to indicate boiling, participants were to remove the kettle, turn off the burner, place a pot with dry rice on the same burner that they had just turned off, and then leave the kitchen to find the experimenter, closing the kitchen door behind them. The experimenter emphasized that the rice *should not burn* if the participants followed the instructions correctly, that it was the participant's responsibility to ensure that the kitchen was safe, and that they should be careful. Participants were then taken into the laboratory kitchen and completed the stove task while their partner observed.

While participants were completing the stove task, the experimenter randomly assigned the participant to one of two experimental conditions for an upcoming RS task: support-focused feedback (SF) or accommodation reduction-focused feedback (ARF)—see below.

Once participants left the kitchen, the experimenter escorted them and their partners to a different building to remove any possibility that the participants could covertly check/gain knowledge of the stove/kitchen's safety. Upon arrival at the second location, the experimenter reinforced the importance of the participant being sure that the kitchen was safe, and then separated the participant and partner into different rooms.

Unbeknownst to participants, the experimenter informed the partner of the true study purpose to examine how feedback styles influence RS behaviour and related affect. The partner was told that the participant would be asked to complete a computer-guided task to decide whether the kitchen was safe, and would be able to ask for reassurance to make that decision. The experimenter described the condition to which the participant had been assigned, and provided the partner with verbal and written instructions for their responses.

Partners in the ARF condition were instructed that if the participant asked for feedback, the partners' job would be not to provide it, and instead, to say the phrase, "I've been instructed not to answer that question". These partners were instructed to not say anything other than this phrase, to keep a neutral facial expression, and to not change their body language in response to requests for feedback. Partners who were assigned to the SF condition were instructed to respond to requests by giving *support* to encourage coping/tolerance of distress rather than *information* about the task. Support condition partners were provided with several examples that they could choose from or modify such that the statement would be perceived as genuine ("I can tell you're feeling anxious but you can still do this"; "You have the skills to figure this out"; "You've handled uncertain situations in the past so you can do it again"; "I know you can manage this situation").

Following the condition-specific instructions, the partner was brought to the participant and seated beside them. Participants were instructed that their task was to decide whether the kitchen was safe and that they could seek feedback from their partner to make the decision; if so, the partner would provide one piece of information, and that if they sought feedback again, they may or may not receive a different piece of information. Participants were encouraged to seek as much feedback as would be helpful to them to make the decision. The experimenter remained seated in the corner to ensure that only on-task conversation occurred.

Participants guided themselves through the computer task at their own pace. A prompt appeared on the computer asking participants to think back to the stove task that they had just completed, and to consider if they had completed everything safely. They were shown an instruction that they must decide whether or not the stove was safe. They were shown an instruction that if they wished, they may be able to receive feedback from their partner to help with their decision. They were asked to indicate whether or not they would like to seek feedback from their partner by selecting either 'yes' or 'no'. If participants selected 'yes', they then turned to their partners to ask one question, and were provided with one (condition-appropriate) response; they were then presented with another opportunity to seek feedback from their partner, to which they could decide yes or no, and so forth until the participant indicated that they would not like feedback. After a response of 'no' to the prompt of whether they would like feedback, participants were presented with the VAS ratings and ratings of supportiveness and helpfulness to complete.

Once the task was finished, participants and partners individually completed the PANAS and credibility ratings. Finally, participants and partners were debriefed, and were asked to complete a second (debriefing) consent form.

Results

Data Screening

Data were screened for missing and impossible values; five participants had missing data for the credibility checks as they were approved for addition to the protocol by the ethical review board just following the commencement of the study. The variables of interest were assessed for normality by inspecting the data for skewness values surpassing ± 3 and kurtosis values surpassing ± 10 (Kline 2009). There were no skewness or kurtosis values that exceeded the guidelines for any of the outcome variables of interest; inspection of P–P plots also suggested that the data were approximately normally distributed. Levene's test was used to assess homogeneity of variance.

Demographics

To assess whether randomization resulted in similar distributions of participants, the conditions were compared on demographic variables. There were no significant differences between conditions with respect to age (χ^2 (11) = 8.745, $p = .645$), sex (χ^2 (1) = 0.102, $p = .750$), language (χ^2 (11) = 8.154, $p = .699$), or ethnicity (χ^2 (9) = 11.057, $p = .272$).

Manipulation Check

As a manipulation check of how the partners' feedback was perceived, an independent samples t test was conducted with condition as the between-participants variable and with the rating of supportiveness as the outcome variable. Results showed a significant difference between conditions (t (93.283) = 5.684, $p < .001$, $d = 1.13$), with participants in the SF condition giving higher ratings of supportiveness for the partner's feedback than did those in the ARF condition (please refer to Fig. 1). Thus, the manipulation was considered successful.

Credibility Check

Overall, participants felt that harm was moderately likely if the stove task instructions were not followed properly ($M = 56.00$, $SD = 30.30$); experienced some feelings of doubt, uncertainty, or anxiety after the stove task ($M = 42.45$, $SD = 31.45$), and indicated that completing the stove task accurately was important/critical ($M = 75.70$, $SD = 27.00$). No participants provided ratings of 0 to all three credibility checks. There were no significant

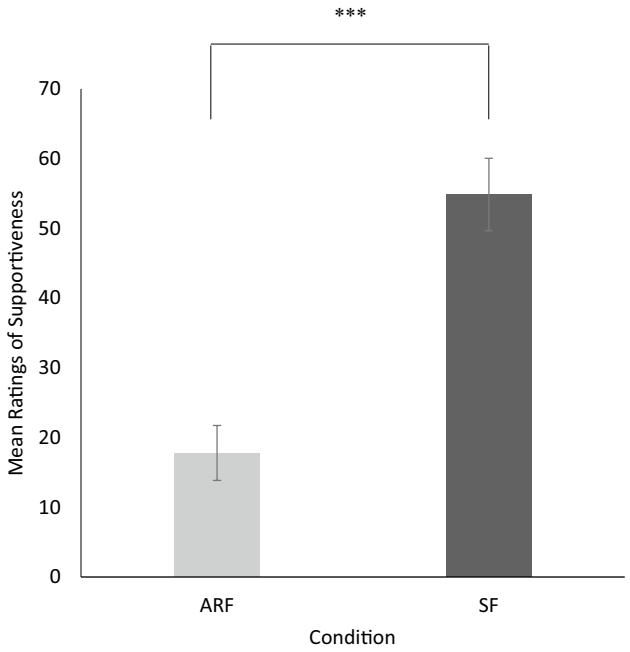

Fig. 1 Mean ratings of the perceived supportiveness of the partner's feedback, by condition. ARF = accommodation reduction-focused feedback, SF = support-focused feedback. Data are shown with standard error bars. ***$p < .001$

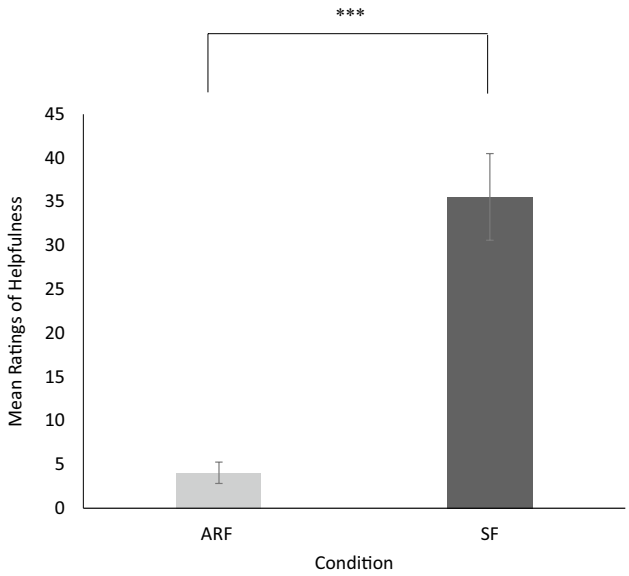

Fig. 2 Ratings of the perceived helpfulness of the partner's feedback. ARF = accommodation reduction-focused feedback, SF = support-focused feedback. Data are shown with standard error bars. ***$p < .001$

differences between conditions for any of the three items (t's (95) = 0.442–1.246, p's = .216–.660, d's = 0.09–0.25).

Ratings of Feedback Helpfulness

It was hypothesized that following the final request for reassurance, participants in the SF condition would rate their partner's feedback as significantly more helpful than participants in the ARF condition. Levene's test was significant (F (1, 100) = 146.89, $p < .001$). Results suggested a significant difference between conditions with a large effect size, such that participants in the support condition rated the partner's feedback as significantly more helpful than did those in the no reassurance condition, t (56.143) = 6.143, $p < .001$, $d = 1.22$. Please see Fig. 2 for means.

Total Requests for Reassurance

It was expected that participants who received SF would seek reassurance fewer times overall than those who received ARF. Levene's test was not significant (F (1, 100) = 2.016, $p = .159$). Results showed a trend towards a statistical difference with small-to-moderate effect size, such that those who received SF asked for reassurance somewhat less than those who received ARF (t (100) = − 1.667, $p = .099$, $d = 0.33$; please see Fig. 3). Examination of the frequencies of RS in each condition showed that in the SF condition, 62.7% of participants sought reassurance once, 27.5% of participants sought reassurance twice, 7.8% of participants sought reassurance three times, and 2.0% of participants sought reassurance four times, with no participants seeking reassurance more than four times. In the ARF condition, 49.0% of participants sought reassurance once, 35.3% of participants sought reassurance twice, 7.8% of participants sought

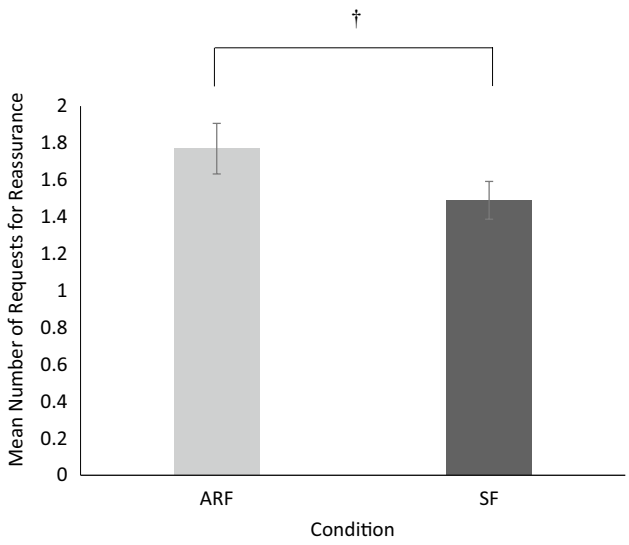

Fig. 3 Total requests for reassurance, by condition. ARF = accommodation reduction-focused feedback, SF = support-focused feedback. Data are shown with standard error bars. †$p < .10$

reassurance three times, 3.9% of participants sought reassurance four times, and 3.9% of participants sought reassurance five times.

PANAS Negative Affect

It was hypothesized that receiving SF versus ARF would be associated with lower ratings of negative affect as rated on the PANAS (Watson et al. 1988). Levene's test was not significant (F (1, 97) = 0.333, p = .565). The results showed no significant difference between conditions on ratings of negative affect (t (97) = 0.897, p = .372, d = 0.180). Please see Table 1 for means. Similarly, the results showed no significant difference between conditions for partners' ratings of negative affect (t (93) = − 0.312, p = .756, d = − 0.065; $M_{\text{SRF Partners}}$ = 24.57 (SD = 7.62), $M_{\text{ARF Partners}}$ = 25.13 (SD = 9.48)).

VAS Ratings

In comparison with participants in the ARF condition, it was expected that participants receiving SF would report significantly lower urges to seek further reassurance, anxiety, and guilt. Levene's test was not significant (F's (1, 100) = 0.004–2.149, p's = .146–.947). Results showed that there were no significant differences for each of the three comparisons (t's (100) = 0.284–1.068, p's = .288–.777, d's = 0.056–0.211). Please see Table 1 for means.

Discussion

Reassurance seeking is a problematic behaviour that is increasingly recognized as a maintaining factor in mental disorders including OCD (e.g., Starcevic et al. 2012). However, there has been a lack of clarity regarding how to operationalize interventions to remove accommodation of RS in OCD. Cognitive-behavioural interventions focused on support provision and reducing accommodation have been suggested to be effective (e.g., Abramowitz 2009; Gillihan et al. 2012; Halldorsson and Salkovskis 2017a, b; Thompson-Hollands et al. 2015), yet there has been insufficient research examining the effects of each. The aim of the current study was therefore to provide a first step towards understanding how guiding partners to respond to RS with SF versus ARF affected ratings of helpfulness of the partner's feedback, total requests for reassurance, urges to seek reassurance, anxiety, guilt, and negative affect.

Table 1 Mean affect-related ratings by condition

Measure	ARF	SF
PANAS negative affect	20.02 (6.54)	21.24 (6.99)
Urges to seek reassurance	27.39 (29.46)	33.98 (32.77)
Anxiety	34.75 (27.96)	37.31 (31.60)
Guilt	9.93 (16.18)	11.19 (15.31)

Data are presented with standard deviations in parentheses. There were no statistically significant differences between conditions on any of the four affect-related ratings (p's = .288–.777)

Note: ARF = accommodation reduction-focused feedback, SF = support-focused feedback, PANAS = Positive and Negative Affect Schedule

An important preliminary step in this study was to establish that partners' responses to RS could be manipulated within an experimental setting after only a brief training period. Results of the manipulation check showed a significant difference between conditions, indicating that those in the SF condition rated their partner's feedback as more supportive than did those who received ARF. As the first experimental manipulation of in-vivo partner feedback to RS (to the best of our knowledge) and one of only several experimental studies to evoke behavioural RS (see Leonhart and Radomsky 2017; Neal and Radomsky 2015), this is a valuable advancement in studying broader aspects of interpersonal RS that are relevant to intervention decisions.

A key intention of this study was to examine whether providing SF versus ARF would be associated with higher ratings of the *helpfulness* of the partner's feedback. Examples of questions posed to partners in this study included, "Did you see me turn if off?" and "Do you think it's safe?". As described above and in Fig. 2, the results from this study strongly supported this hypothesis by showing that SF was associated with significantly higher ratings of helpfulness than was ARF. The fundamental difference in feedback styles between the SF and ARF conditions related to the explicit verbalization of support from the partner, which suggests that refusing reassurance in a way that better maintains the affiliation between the reassurance seeker and provider may be viewed as a more acceptable intervention. To that point, a recent vignette study examining perceptions of acceptability and endorsement similarly found that participants and partners rated a support-focused intervention for problematic RS as significantly more acceptable/endorsable than standard accommodation reduction, and were more likely to select it as the intervention they would prefer to receive (Neal and Radomsky 2018). Additionally, the findings from the current study showing that SF is perceived as more helpful than ARF provide a valuable complement the case study report by Halldorsson and Salkovskis (2017a) showing that adaptive support was an effective intervention technique to reduce problematic RS in an individual with OCD. Moreover, the difference in perceived helpfulness between SF and ARF suggests that Coyne's (1976) theory of how problematic RS can cause/exacerbate interpersonal difficulties warrants consideration when constructing interventions for RS across

disorders, to make interventions more tolerable to those who would benefit from them.

A second primary intention of this study was to determine whether providing SF or ARF leads to different effects on RS behaviour. Results were partially in line with the hypothesis as the condition difference showed a trend with small-to-moderate effect size toward those in the SF showing fewer requests for reassurance than those in the ARF. This is a substantive finding when considering that neither feedback style provided reassurance to the participant by answering the specific questions they posed, and that both were therefore in line with the CBT principle that removing accommodation is imperative to reduce the likelihood that RS will maintain a disorder over time. Accordingly, these findings suggest that guiding partners to provide support may confer some unique potential to lead to fewer instances of RS behaviour than does a traditional reducing accommodation response. At minimum, these results could alternatively be interpreted as suggesting that SF is associated with equivalent, or no *worse* outcomes regarding requests for reassurance than is providing ARF. Considering the small-to-moderate effect sizes yet lack of statistical significance, the effects on RS behaviour warrant further examination in independent samples to better understand the implications of each style of intervention.

On the other hand, the findings did not uphold the initial hypotheses that in comparison with ARF, SF would be associated with significantly lower urges to seek reassurance, negative affect, anxiety, and guilt. In fact, after further considering theories of cognitive and behavioural change (e.g., Abramowitz 2009; Craske et al. 2008; Freeston et al. 2001; Rachman 1997, 1998, 2002; Rachman et al. 2008; Salkovskis 1985, 1999; van Oppen and Arntz 1994), it may be *beneficial* that there were no significant differences between conditions on these variables, in that they represent important core intervention targets during CBT. Given that reducing negative affect (at least temporarily) is a maintaining factor in problematic RS (e.g., Kobori and Salkovskis 2013; Parrish and Radomsky 2010), the finding here that support provision did not reduce urges to seek reassurance or ratings of negative affect actually reinforces the notion that it functions differently than merely providing reassurance, more so than had the original hypothesis been upheld (see also Halldorsson and Salkovskis 2017a, b). Importantly however, the current sample was non-clinical and non-treatment seeking. While studies with nonclinical populations make significant contributions to the understanding of phenomenology in OCD (e.g., Abramowitz et al. 2014; Clark and Rhyno 2005; Gibbs 1996), it would be important to extend the current findings in a clinical sample to further understand whether RS-related perceptions and affect show the same pattern for clients/patients who engage in problematic RS. For instance, it would be important to employ clinical samples to answer questions concerning whether support provision functions equivalently as an adaptive response for all form of compulsions, or whether certain forms of RS (e.g., related to one's character or morality) are associated with different reactions to support provision. Furthermore, longitudinal studies with clinical samples of individuals who engage in problematic RS would provide pertinent information about how support provision functions over time to extend the current cross-sectional design, and would further complement the existing case study data from Halldorsson and Salkovskis (2017a).

While the present study was primarily focused on the participants' behaviour and perceptions, subjective feedback from partners following the RS task implied that partners in both conditions experienced some discomfort with responding in a circumscribed way. However, partners in the ARF condition seemed more likely to report that they found their role difficult or awkward. These anecdotal reports must be interpreted with due caution, but are in line with research into effects for caregivers of withholding reassurance (Halldorsson et al. 2016; Kobori et al. 2017) and suggest that support provision may be more acceptable to partners than traditional accommodation reduction. Nevertheless, the acceptability of both feedback styles would benefit from further research.

In assessing the results of the current study, it is noteworthy that the participants were not natural excessive reassurance seekers, and were accompanied by familiar partners who could not be identified as common sources of reassurance ahead of the study. Favourably, partners were trained carefully and there was a significant difference in perceived supportiveness. Nevertheless, the degree to which responses were perceived as genuinely supportive may have been negatively impacted versus if the participant were able to bring someone from whom they regularly seek reassurance; this has potential to have dampened effects particularly in the SF condition. Additionally, the questions posed by participants to partners during the RS task were not coded by blind raters for the presence of RS versus other verbalizations, including support seeking. While the experimenters were trained to note any issues that could have led to data being excluded (e.g., not following task instructions), this is a limitation of the present study that could be useful to address with future research to add confidence that the protocol elicited true RS behaviour. It may also be that the experiences of threat related to the stove task were perceived as qualitatively different from personally-relevant situations for participants, despite being designed to represent an ecologically-valid situation and having been used previously by Bucarelli and Purdon (2016). While some loss of ecological validity is unavoidable with laboratory experiments, all participants' whose data were retained after initial screening provided ratings indicating that they experienced the protocol as credible to some degree. Still, a useful next step would be to examine

a similar manipulation of feedback styles using a daily diary method with participants who engage in problematic RS. Doing so would further establish that support provision is associated with at least equivalent effects on reduced RS than is standard accommodation reduction.

The current findings have implications for theories of why individuals may seek reassurance excessively that have been put forth by Parrish and Radomsky (2010), Halldorsson and Salkovskis (2017a, b), and Rachman (2012). Specifically, the present results suggest that the style/content of feedback provided by the partner may influence subsequent perceptions of the interaction as well as RS behaviour. The significant effect for perceptions of helpfulness and trend towards reduced RS behaviour following SF together suggest that support provision may be a viable alternative to traditional accommodation reduction, within an overall framework of using CBT to reduce problematic RS. The notion of altering the partner's response to be perceived as less harsh also shares similarities with the judicious use of approach-facilitating physical or mental aids in ERP that has been suggested for other forms of compulsive behaviour (e.g., Levy and Radomsky 2014; Levy et al. 2014; Rachman et al. 2008; Senn and Radomsky 2015). Indeed, the focus on finding the optimal means to reduce/remove reassurance bears resemblance to recent examinations of how best to fade physical safety behaviour/aids during exposure, which has been a source of controversy within the literature (Levy and Radomsky 2016). Further, the SF (versus ARF) response style appears to coincide with recommendations previously put forth by Parrish et al. (2008) that strategies aimed to lessen distress during exposures may not be counter-productive if they boost self-efficacy, foster approach behaviour to encourage disconfirmatory learning, and do not encourage misattributions of safety. Of course, this assertion would require further study. It would be particularly intriguing for future studies to examine whether support provision functions as theorized to help individuals address a key cognitive bias, namely perceptions concerning their ability to cope with the distress or anxiety that they are experiencing as intolerable, by encouraging them to shift their attention towards coping resources that they possess. Further, based on the previously-noted anecdotal reports from partners that they were more comfortable with the SF than the ARF, it would be beneficial for future studies to examine whether a support provision intervention is associated with fewer negative interpersonal consequences than may be traditionally associated with reducing accommodation (Coyne 1976; Francis 1988; Hallam 1974; Marinchak 2013).

Together, the present experimental findings inform clinical practice and further research into RS behaviour by suggesting that clinicians have options beyond using conventional accommodation reduction. By designing an intervention focused on shifting towards adaptive support seeking and provision from a trusted other (see also Halldorsson and Salkovskis 2017a), clinicians may be able to ameliorate maladaptive appraisals of threat and coping. Ultimately, by better understanding problematic RS and how support provision functions to address interpersonal processes that can otherwise maintain the problem, clinicians open another means to intervene against RS that may be effective, acceptable, perceived as helpful, and does not interfere with the type of disconfirmatory learning that facilitates long-term recovery.

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Data Availability The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Compliance with Ethical Standards

Conflict of interest Rachael L. Neal and Adam S. Radomsky declare that they have no conflict of interest.

Ethical Approval The present study was in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in this study.

Research Involving Animal Rights This article does not contain any studies with animals performed by any of the authors.

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