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Partner symptom accommodation in generalized anxiety disorder: a preliminary examination of correlates with symptoms and cognitive behavioural therapy outcome

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Abstract

Background: Symptom accommodation is suggested to maintain anxiety pathology and interfere with treatment effectiveness for anxiety and related disorders. However, little is known about symptom accommodation in generalized anxiety disorder (GAD).
Aim: This study investigated the associations between romantic partner symptom accommodation, GAD symptoms, intolerance of uncertainty (IU), relationship satisfaction, and cognitive behavioural therapy (CBT) outcomes from the perspective of the person with GAD.
Method: One hundred and twelve people with GAD participated in group CBT and completed measures at pre- and post-treatment.
Results: All participants endorsed that their partner engaged in symptom accommodation to some extent, and the most commonly endorsed type was providing reassurance. Greater self-reported partner symptom accommodation was associated with greater GAD symptoms, chronic worry severity, IU, and relationship satisfaction at baseline. Partner symptom accommodation was found to significantly decrease over treatment; however, less improvement in symptom accommodation from pre- to post-treatment was associated with worse treatment outcomes.
Discussion: This study is the first to show that partner symptom accommodation is prevalent in adults with GAD and to elucidate the presentation and frequency of behaviours. The findings provide preliminary evidence that targeting partner symptom accommodation in treatment may improve CBT outcomes.

Keywords: Chronic worry; Cognitive behavioural therapy; Generalized anxiety disorder; Symptom accommodation

Introduction

Generalized anxiety disorder (GAD) is an unremitting condition characterized by chronic and uncontrollable worry (American Psychiatric Association, 2013). Cognitive behavioural therapy (CBT) is currently the first line psychotherapy for GAD (National Institute for Health and Clinical Excellence, 2011) and has been found to lead to large improvements in worry relative to a waitlist or non-specific treatment control group (effect size as indexed by Cohen's $d = -1.15$; Covin *et al.*, 2008). However, around half of individuals with GAD do not achieve remission (Springer *et al.*, 2018) or show reliable improvements in symptoms following CBT (Hanrahan *et al.*, 2013; Hunot

et al., 2007). Understanding factors that interfere with symptom improvement in CBT for GAD is necessary to refine treatment. Theories and treatment for GAD largely emphasize targeting maintaining processes within the individual (e.g. Dugas *et al*., 1998; Mennin *et al*., 2002; Robichaud *et al*., 2019; Wells, 1999). However, it has been hypothesized that there is a bi-directional relationship between intra-individual processes and interpersonal problems in GAD (e.g. Borkovec *et al*., 2004). Consistently, GAD symptoms are associated with maladaptive interpersonal functioning (e.g. being unassertive, intrusive; Przeworski *et al*., 2011; Salzer *et al*., 2011) and relationship problems (Henning *et al*., 2007; Whisman *et al*., 2000), which are associated with worse treatment outcomes (Malivoire *et al*., 2020). Thus, investigating relationships between interpersonal processes and GAD symptoms and treatment is crucial for understanding the maintenance of GAD pathology and informing effective therapeutic approaches. One interpersonal process that has yet to be empirically investigated in adults with GAD is symptom accommodation (SA).

SA refers to the tendency for family members or close others to engage in patients' symptom-driven behaviours (e.g. avoidance, modifying routines, providing reassurance) to alleviate distress associated with a disorder (Lebowitz *et al*., 2016). The Family Accommodation Scale (FAS; Calvocoressi *et al*., 1995) was the first measure developed to systematically assess SA in obsessive-compulsive disorder (OCD). The FAS is now a widely used measure that has undergone adaptations for other disorders, including anxiety disorders (Lebowitz *et al*., 2013; Lebowitz *et al*., 2015; Lou *et al*., 2020). SA maintains anxiety pathology through avoidance and reinforcement of maladaptive behaviours that, in turn, preclude exposure to anxiety-provoking situations and prevent adaptive coping (Kagan *et al*., 2017). Furthermore, SA behaviours become negatively reinforced through providing relief, and people can become angry or distressed when their anxiety symptoms are not accommodated (Calvocoressi *et al*., 1999; Kagan *et al*., 2017). SA is associated with worse treatment outcomes for disorders including adult and paediatric OCD (Amir *et al*., 2000; Boeding *et al*., 2013; Storch *et al*., 2007), and post-traumatic stress disorder (PTSD) (Fredman *et al*., 2016). Little is known about SA in adults with GAD, however; people with GAD adopt unhelpful coping behaviours that are likely accommodated.

Evidence of partner SA in GAD and its impact on CBT outcome

Cognitive behavioural theories of chronic worry and GAD encompass both covert and overt avoidance behaviours, traditionally emphasizing covert cognitive strategies (e.g. suppression of internal experiences) but increasingly recognizing the significance of overt behaviours in maintaining chronic worry (e.g. Beesdo-Baum *et al*., 2012; Borkovec *et al*., 2004; Clark and Beck, 2010; Gústavsson *et al*., 2021; Mahoney *et al*., 2016). Examples of overt behaviours associated with chronic worry include avoiding worrisome situations, checking to make sure loved ones are OK, delegating decisions to others, overplanning, and repeatedly checking (Gústavsson *et al*., 2021; Mahoney *et al*., 2016). In particular, people with GAD seek high levels of reassurance from significant others (Woody and Rachman, 1994) and at higher rates relative to those with other anxiety disorders and OCD (Rector *et al*., 2019). Some of these overt behaviours directly involve others (e.g. seeking reassurance), whereas others have the potential to include others (e.g. asking loved ones for help with checking behaviours), and consequently these behaviours are likely being accommodated by others. This is problematic given the role these overt behaviours likely play in the maintenance of chronic worry (Dugas *et al*., 1998; Mahoney *et al*., 2018).

One way in which overt behaviours maintain chronic worry is by enhancing perceived safety and increasing perceived control over the likelihood of bad outcomes (Clark and Beck, 2010; Salkovskis, 1991). If the perceived threat is avoided, this is attributed to the safety-seeking behaviour and consequently the original fear is unchallenged (Gústavsson *et al*., 2021; Halldorsson and Salkovskis, 2017; Salkovskis, 1991). For example, evading a negative outcome during a trip

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could be attributed to excessive planning and preparatory behaviours. This attribution perpetuates the belief the unfavourable outcomes are likely while travelling.

Another function of safety-seeking behaviours is to reduce uncertainty (Gústavsson *et al.*, 2021; Halldorsson and Salkovskis, 2017). According to one cognitive behavioural model of GAD, intolerance of uncertainty (IU) is a primary process that maintains GAD symptoms and refers to the dispositional characteristic to hold negative beliefs about uncertainty and the ability to cope with uncertainty (Dugas *et al.*, 1998; Koerner and Dugas, 2006). Furthermore, people with GAD have low confidence in their ability to problem solve (Robichaud and Dugas, 2005). Given that people with GAD over-estimate the likelihood of a negative outcome when faced with uncertainty and under-estimate their ability to cope, this may prompt efforts from close others aimed to enhance their sense of certainty and decrease distress. For instance, a loved one may provide reassurance that they have arrived at their destination safely to ease the worried individual's concerns that something bad has happened. Although the reassurance decreases uncertainty in the short-term, it precludes tolerating uncertainty and habituation of distress and does not allow the perceived likelihood of the feared outcome to be challenged. Consequently, the accommodator's behaviour inadvertently maintains IU, worry, and reassurance seeking in the long term.

Thus, in GAD, overt behaviours can serve multiple functions. They can function as safety-seeking behaviours that enhance feelings of safety and certainty or enable avoidance of the stressor altogether (Mahoney *et al.*, 2018). It is highly probable that individuals close to those with GAD inadvertently encourage these behaviours in order to alleviate distress. Consequently, SA could undermine treatment interventions, including cognitive interventions targeting safety-related beliefs and beliefs that uncertainty is dangerous and one cannot cope (Robichaud *et al.*, 2019) and unhelpful behaviours (e.g. avoidance; delayed decision making; over-planning) that reinforce worry and IU (Hazlett-Stevens, 2008; Robichaud *et al.*, 2019).

Given that CBT for GAD leads to improvements in GAD symptoms and IU (Covin *et al.*, 2008; Laposa *et al.*, 2022), it would be expected that symptom reduction would abate the need for partner SA to some extent. Consistently, research in samples of anxious youth has found that family SA improves following CBT without targeting SA (Kagan *et al.*, 2016; Wahlund *et al.*, 2020). Furthermore, we would expect that CBT for GAD could change the function of overt behaviours. For instance, instead of engaging in frequent check-ins due to an inability to tolerate the potential for negative outcomes, an individual might shift to checking on a loved one when there is a genuine reason to suspect something is amiss. However, there are other factors driving SA that are unlikely to shift solely through change in the person with GAD's anxiety. For instance, partners accommodate their loved ones to show affection and to prevent relationship conflict (Boeding *et al.*, 2013). Some SA behaviours may also have become habitual over time. For instance, a partner may have become accustomed to attending social events with their partner with GAD or modifying their routine to prevent an escalation in anxiety. Thus, without explicit interventions targeting SA, it is expected that change would be modest and less improvement in SA would be associated with worse treatment outcomes.

Partner SA and relationship satisfaction

Of particular interest in the present paper is *partner* SA in GAD because romantic partners tend to be the primary source of emotional and instrumental support (Boeding *et al.*, 2013), and support from a romantic partner has a greater impact on well-being relative to support from family and friends (Walenand Lachman, 2000). Furthermore, GAD has been found to be more strongly associated with marital dissatisfaction compared with relationship dissatisfaction with friends and family (Whisman *et al.*, 2000), suggesting that difficulties in romantic relationships may be especially relevant to understanding GAD pathology. In addition, people with GAD are more likely to be divorced or separated (Hunt *et al.*, 2002; Wittchen *et al.*, 1994), and wives with

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GAD reported their marriages to be of lower quality compared with wives who do not have GAD (McLeod, 1994). One factor that may be associated with the degree of relationship dissatisfaction is SA.

Based on partner- or family-report, there is evidence that engaging in accommodation behaviours is time-consuming and frustrating for the partner or family. For instance, greater partner SA is associated with lower partner-reported relationship satisfaction in PTSD (Fredman *et al.*, 2014) and OCD (Boeding *et al.*, 2013). Therefore, it is possible that SA may be associated with more relationship problems and lower relationship satisfaction for both partners. Notably, there is evidence from one study in a sample of mixed anxiety disorders that SA may actually be associated with increased relationship satisfaction for the individual with anxiety (Zaider *et al.*, 2010). Zaider *et al.* (2010) speculate that increased support from the partner when anxious and time spent together could make the person with anxiety feel cared for and lead to greater relationship satisfaction. Given the evidence of heightened marital problems and dissatisfaction in GAD (Hunt *et al.*, 2002; Wittchen *et al.*, 1994; Whisman *et al.*, 2000), this study sought to clarify whether greater partner SA is associated with lower relationship satisfaction in GAD.

Study objectives

The present study was a preliminary investigation of partner SA from the perspective of adults with GAD, and its relationship with GAD-related processes, relationship satisfaction, and CBT outcome. The first objective of the study was to assess the frequency of SA as assessed by the Family Accommodation Scale Anxiety – Adult Report (FASA-AR; Lebowitz *et al.*, 2013; Lebowitz *et al.*, 2015). The FASA-AR is a measure of SA for anxiety disorders that was adapted from the child report version (Lebowitz *et al.*, 2013) and validated in an adult sample with social anxiety disorder (Lou *et al.*, 2020).

The second objective of the study was to investigate associations between partner SA, GAD symptoms, IU, and relationship satisfaction. Greater GAD symptom severity, chronic worry severity, and IU were predicted to be associated with greater self-reported partner SA at pre-treatment. Furthermore, greater GAD symptom severity, chronic worry, and partner SA were predicted to be associated with lower relationship satisfaction.

The third objective of this study was to elucidate the relationship between partner SA and standard CBT for GAD wherein SA is not explicitly targeted. Change in partner SA following 12 sessions of group CBT for GAD was examined, and it was predicted that there would be a significant small to moderate decrease in partner SA pre- to post-treatment. We also examined change in partner SA as a predictor of chronic worry severity and IU at post-treatment accounting for pre-treatment worry severity and IU, respectively. It was predicted that less change in SA from pre- to post-treatment would be associated with higher chronic worry severity and IU at post-treatment controlling for pre-treatment scores. Lastly, given that partner SA was not explicitly targeted in treatment, it was predicted that greater self-reported partner SA at post-treatment would remain positively associated with GAD symptom severity, chronic worry severity, and IU at post-treatment.

Method

Participants

The sample consisted of 112 adults with a primary (79.5%) or secondary (20.5%) diagnosis of GAD[1] who were seeking treatment at a public hospital out-patient speciality clinic serving patients

[1]Independent *t*-tests were conducted to assess group differences between participants with a primary versus secondary GAD diagnosis on study variables at pre-treatment, including GAD-7, PSWQ-T, IUS-12, FASA-AR and CSI-32. Groups did not significantly differ on the PSWQ-T, IUS-12, FASA-AR and CSI-32 ($p > .05$). However, those with a secondary GAD

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with anxiety and related disorders in a metropolitan city in Canada and met study inclusion criteria. The participants provided consent for the inclusion of their demographic and clinical information in a research database. Inclusion criteria for the present study included a GAD diagnosis based on the fourth or fifth edition of the *Diagnostic Statistical Manual of Mental Disorders* (*DSM-IV-TR*; *DSM-5*; American Psychiatric Association, 2000; American Psychiatric Association, 2013) and assessed using either the Diagnostic Assessment and Research Tool (DART; McCabe *et al.*, 2017), the Mini-International Neuropsychiatric Interview (MINI; Sheehan *et al.*, 1998), or the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First *et al.*, 1996). In addition, participants included in the study analysis had to have completed the 12-week CBT group for GAD at the clinic and have indicated that they were in a committed relationship (e.g. dating relationship, common law, married) for at least 3 months at pre- and post-treatment treatment. Participant characteristics are provided in Table 1.

Measures

Family Accommodation Scale Anxiety – Adult Report (FASA-AR; Lebowitz et al., 2015; Lou et al., 2020)

The FASA-AR is a 16-item self-report measure of the extent to which people change their behaviours and routines to decrease disorder-related symptoms in the past month for adults with anxiety. The FASA-AR was adapted based on the Family Accommodation Scale Anxiety – Child Report (FASA-CR), which is a measure of SA reported by the child with an anxiety disorder as opposed to the parent (Lebowitz *et al.*, 2015). The first nine items of the FASA-AR are rated on a 5-point Likert scale ranging from 0 (very rarely) to 4 (very often) and are summed to calculate total SA. The FASA-AR has two subscales including participation in symptom-driven behaviours and modification of routines and schedules. Items 10–16 are supplemental questions related to the negative short-term consequences of not accommodating, beliefs of the reporter about accommodation, and beliefs about the accommodator's distress and are rated on a 5-point Likert scale ranging from 0 (strongly disagree) to 4 (strongly agree). In the original FASA-AR, the instructions and items pertained to a relative. In alignment with the present study objectives and consistent with past research (e.g. Lou *et al.*, 2020), the FASA-AR was modified such that references to 'relative' were substituted with 'partner' in the instructions and items.

The FASA-AR has received preliminary validation in an undergraduate sample with elevated social anxiety disorder symptoms from a university in China (Lou *et al.*, 2020). Strong support was found for the two-factor structure of the FASA-AR and the subscales were found to have good internal consistency (Cronbach's $\alpha = .78–.86$). Furthermore, the FASA-AR demonstrated convergent validity with measures of general anxiety symptoms and divergent validity with depressive symptoms (Lou *et al.*, 2020). In the present study, the FASA-AR total score was found to have good internal consistency ($\alpha = .80$) and the participate ($\alpha = .73$) and modify ($\alpha = .77$) subscales had acceptable internal consistency.

Generalized Anxiety Disorder Scale (GAD-7; Spitzer et al., 2006)

The GAD-7 is a 7-item self-report measure of the frequency of GAD symptoms experienced over the past 2 weeks (i.e. GAD symptom severity). The items are rated on a 4-point Likert scale ranging from 0 (not at all) to 3 (nearly every day). A score $\geq$10 is suggested to meet threshold for a diagnosis of GAD (Spitzer *et al.*, 2006). The GAD-7 has been found to have good test–retest reliability and construct validity. Specificity and sensitivity to detect GAD are greater than 0.80

diagnosis scored significantly higher on the GAD-7 ($M = 16.04$, $SD = 3.39$) compared with those with a primary GAD diagnosis ($M = 13.93$, $SD = 4.86$). This may reflect greater severity due to co-morbidity or greater endorsement due to symptom overlap between GAD and the primary disorders. The most common primary diagnoses for participants with a secondary GAD diagnosis include social anxiety ($n = 5$; 21.7%), major depressive disorder ($n = 4$; 17.4%), PTSD ($n = 4$; 17.4%), and OCD ($n = 2$; 8.7%).

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Table 1. Sample demographic characteristics

Characteristic	*M* (*SD*) or *n* (%)	Range
Sex[a]	87 (77.0%) female	—
Age[a]	38.2 (12.0)	17–65
Mean additional diagnoses[a]	1.34 (1.18)	0–5
Education[a]		
Some high school	3 (2.7%)	—
Completed high school	11 (9.8%)	
Some college or university	19 (17.0%)	
Completed college or university	62 (55.4%)	
Some graduate school	2 (1.8%)	
Completed graduate school	9 (8.0%)	
Did not disclose	6 (5.4%)	
Ethnicity[a]		
White/European	96 (85.7%)	—
Black/Afro-Caribbean/African	1 (0.9%)	
Hispanic/Latin American	1 (0.9%)	
Bi-racial/multi-racial	1 (0.9%)	
Indigenous	1 (0.9%)	
Indigenous and White/European	1 (0.9%)	
Did not disclose	11 (9.8%)	
Marital status		
Married	67 (59.8%)	—
Common law	17 (15.2%)	
Long-term dating	26 (23.2%)	
Short-term dating	2 (1.8%)	
Relationship duration (years)	13.7 (11.37)	.25–46
Years married	16.0 (11.14)	.08–43.3
Number of couples not living together	24 (21.4%)	
Years living together	14.3 (11.0)	.17–43.3
Same-sex couples	3 (2.7%)	

[a]Data collected at time of assessment.

using the cut-off of 10 (Spitzer *et al.*, 2006). In the present study, the GAD-7 had good internal consistency ($\alpha = .83$).

Penn State Worry Questionnaire – Trait (PSWQ-T; Meyer et al., 1990)

The PSWQ-T is a 16-item self-report measure of the intensity and frequency of trait worry (i.e. chronic worry severity). The items are rated on a 5-point Likert scale ranging from 1 (not at all typical of me) to 5 (very typical of me). The PSWQ-T has demonstrated good reliability and validity for both clinical and nonclinical populations (Molina and Borkovec, 1994). In the present study, the PSWQ-T had good internal consistency ($\alpha = .81$).

Intolerance of Uncertainty Scale - short form (IUS-12; Carleton et al., 2007a)

The IUS-12 is a short form of the 27-item self-report Intolerance of Uncertainty Scale (IUS; Freeston *et al.*, 1994) that assesses reactions to uncertainty. Items are rated on a 5-point Likert scale ranging from 0 (not at all characteristic of me) to 5 (entirely characteristic of me). The IUS-12 is highly correlated with the original 27-item IUS ($r = .94$ to .96; Carleton *et al.*, 2007a; Khawaja and Yu, 2010) and has excellent internal consistency and convergent validity with the 27-item IUS (Carleton *et al.*, 2007a; Carleton *et al.*, 2007b). In the present study, the IUS-12 had excellent internal consistency ($\alpha = .90$).

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Couples Satisfaction Index (CSI-32; Funk and Rogge, 2007)

The CSI-32 is a 32-item self-report measure of relationship satisfaction. Items are rated on a 5- or 6-point Likert scale. The CSI-32 was found to have excellent construct validity and convergent validity with other measures of relationship satisfaction (Funk and Rogge, 2007). Total scores below 104.5 are suggestive of being in the distressed range (Funk and Rogge, 2007). In the present study, the CSI-32 had excellent internal consistency ($\alpha = .90$).

Procedure

Data were collected as part of ongoing data collection at the out-patient anxiety disorders clinic and the procedures and measures were approved by the local institutional review board (reference no. 07-2955). As part of the out-patient anxiety disorders clinic procedure, participants were assessed by a psychologist, psychiatrist, or trained clinician working under their supervision. Individuals with a GAD diagnosis[2] were offered to enrol in a 12-week CBT group for GAD. The treatment was based on the work of Waters and Craske (2005), Dugas and colleagues (2004), Heimberg and colleagues (2004), Gyoerkoe and Wiegartz (2006) and Borkovec and Costello (1993). It consisted of psychoeducation on the model of GAD, challenging positive beliefs about worry, challenging worry thoughts using cognitive restructuring, problem solving, exposures to uncertainty, relaxation strategies (e.g. progressive muscle relaxation), and worry management strategies (e.g. scheduled worry time). The treatment did not include content related to SA. Group treatment was provided to approximately 8–10 people at a time, and groups were facilitated by a minimum of two therapists, including at least one experienced clinician (e.g. psychologist, social worker, psychotherapist) and one or two additional clinicians or clinical learners. Treatment consisted of 12 consecutive weekly 120-minute sessions. Participants completed a battery of measures at pre- and post-treatment. A subset of these measures was also administered weekly. Participants who indicated being in a committed relationship for at least 3 months were asked to complete additional relationship measures at pre- and post-treatment.

Results

FASA-AR descriptive statistics

Frequency of endorsement for each FASA-AR item is reported in Table 2. All participants (100%) reported that their partners engaged in SA on some level. Participants endorsed "often" or "very often" to a greater extent for participation behaviours (e.g., providing reassurance, helping avoid anxiety triggers) as opposed to modification behaviours (e.g., altering routines or plans). Based on item endorsement of 2 ("sometimes") or higher on the Likert scale, many participants reported their accommodator provides reassurance (90.2%), gives them things to feel less anxious (59.8%), participates in anxious behaviours (69.6%), and assists in avoidance (58.9%) at least some of the time. The most frequently endorsed type of modification behaviour was the tendency for the accommodator to do things for the anxious person to alleviate their anxiety (48.2% endorsed at least sometimes). Nearly 75% of participants endorsed that accommodation behaviours reduced their anxiety. Around half of participants endorsed increased distress (49.1%) or anxiety (50.0%) when they are not accommodated. Fewer participants (26.8%) reported feeling angry when they are not accommodated. Only 19.7% of participants agreed that their partner feels distressed when

[2]The primary reason participants with a secondary GAD diagnosis completed the GAD group is because they completed a group treatment for their primary diagnosis after which it was determined by the group clinicians that the patient would still benefit from a GAD-specific group. GAD may have become the primary diagnosis; however, a second assessment was not completed. Another possibility is that GAD treatment could be delivered in a more timely manner and/or within our clinic, whereas the primary diagnosis may have warranted an external referral or a lengthy wait for treatment.

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Table 2. Frequency of individual items endorsed on the Family Accommodation Scale Anxiety – Adult Report

	Frequency of endorsement					
FASA-AR item[a]	0	1	2	3	4	Percentage of 2 or above
How often did your partner ... because of your anxiety/to decrease your anxiety:						
1. Provide reassurance	2 (1.8%)	9 (8.0%)	12 (10.7%)	32 (28.6%)	57 (50.9%)	90.2%
2. Give you things to feel better	25 (22.3%)	19 (17.0%)	22 (19.6%)	25 (22.3%)	20 (17.9%)	59.8%
3. Participate in the things you do	12 (10.7%)	22 (19.6%)	36 (32.1%)	24 (21.4%)	18 (16.1%)	69.6%
4. Help you avoid anxiety triggers	26 (23.2%)	20 (17.9%)	36 (32.1%)	20 (17.9%)	10 (8.9%)	58.9%
5. Avoid doing things, going places, or being with other people	32 (28.6%)	30 (26.8%)	28 (25.0%)	13 (11.6%)	9 (8.0%)	44.6%
6. Change the usual family routine	37 (33.0%)	29 (25.9%)	30 (26.8%)	9 (8.0%)	7 (6.3%)	41.1%
7. Do things for you that you were supposed to do yourself	27 (24.1%)	30 (26.8%)	33 (29.5%)	12 (10.7%)	9 (8.0%)	48.2%
8. Change his/her work schedule	63 (56.3%)	29 (25.9%)	14 (12.5%)	4 (3.6%)	2 (1.8%)	17.9%
9. Change his/her leisure plans	47 (42.0%)	26 (23.2%)	23 (20.5%)	9 (8.0%)	7 (6.3%)	34.8%
10. Partner distress due to accommodation	22 (19.6%)	39 (34.8%)	29 (25.9%)	21 (18.8%)	1 (0.9%)	
11. Patient distress when not accommodated	14 (12.5%)	16 (14.3%)	27 (24.1%)	40 (35.7%)	15 (13.4%)	
12. Patient anger when not accommodated	27 (24.1%)	27 (24.1%)	28 (25.0%)	17 (15.2%)	13 (11.6%)	
13. Patient anxiety worsens when not accommodated	15 (13.4%)	18 (16.1%)	23 (20.5%)	40 (35.7%)	16 (14.3%)	
14. When accommodated, anxiety decreases	0 (0%)	5 (4.5%)	24 (21.4%)	56 (50.0%)	26 (23.2%)	
15. Accommodation reduces future anxiety	3 (2.7%)	11 (9.8%)	42 (37.5%)	42 (37.5%)	14 (12.5%)	
16. Partner should decrease accommodation	17 (15.2%)	36 (32.1%)	44 (39.3%)	11 (9.8%)	4 (3.6%)	

[a]FASA-AR item content has been condensed for table purposes. Frequency of endorsement interpretation for items 1–9: 0 = very rarely; 1 = rarely; 2 = sometimes; 3 = often; 4 = very often; frequency of endorsement interpretation for items 10–16: 0 = strongly disagree; 1 = disagree; 2 = neither agree nor disagree; 3 = agree; 4 = strongly agree.

engaging in accommodation behaviours, and few (13.4%) participants endorsed the belief that their partner should engage in less accommodation.

Correlations between partner SA, GAD symptoms and processes, and relationship satisfaction at pre-treatment

Means and standard deviations for all study variables at pre-treatment are presented in Table 3. Bi-variate correlations were conducted to assess the relationships between partner SA, GAD symptom severity, chronic worry severity, IU, and relationship satisfaction at pre-treatment. Consistent with the hypotheses, greater self-reported partner SA was significantly associated with greater GAD symptom severity, chronic worry severity, and IU at pre-treatment (see Table 3). Contrary to predictions, greater self-reported partner SA was significantly associated with greater relationship satisfaction. Furthermore, relationship satisfaction was unrelated to GAD symptom severity or chronic worry severity (see Table 3).

Change in partner SA following CBT

Paired sample *t*-tests were conducted to examine the hypothesis that there would be significant reductions in partner SA from pre-treatment to post-treatment. Consistent with the predictions, partner SA was found to significantly decrease from pre-treatment ($M = 15.13$, $SD = 6.74$) to

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Table 3. Correlations between study variables at pre-treatment

	M (*SD*)	1	2	3	4	5
1. FASA-AR	15.13 (6.73)	—	.20*	.23*	.40**	.22*
2. GAD-7	14.37 (4.66)		—	.63**	.59**	–.16
3. PSWQ-T	70.18 (6.87)			—	.61**	.14
4. IUS-12	44.98 (9.08)				—	.02
5. CSI-32	102.56 (20.35)					—

FASA-AR, Family Accommodation Scale Anxiety – Adult Report; GAD-7, Generalized Anxiety Disorder Scale; PSWQ-T, Penn State Worry Questionnaire – Trait; IUS-12, Intolerance of Uncertainty Scale short form; CSI-32, Couples Satisfaction Index 32-item. *$p<.05$; **$p<.001$.

post-treatment ($M = 13.52$, $SD = 7.34$, $t_{109} = 3.01$, $p = .003$) and the effect size was small to moderate ($d = .29$).

Partner SA as a predictor of post-treatment worry severity and IU

Two hierarchical linear regressions were conducted to test the hypotheses that less change in partner SA from pre- to post-treatment would be associated with higher chronic worry severity and IU at post-treatment controlling for pre-treatment scores. In the first regression model, pre-treatment PSWQ-T was entered on step 1 and change in partner SA from pre- to post-treatment was entered on step 2 with post-treatment PSWQ-T as the outcome variable. Change in partner SA from pre- to post-treatment accounted for additional variance in post-treatment PSWQ-T over and above pre-treatment PSWQ-T ($\Delta R^2 = .067$, $p = .003$). The final model was significant, and both greater pre-treatment PSWQ-T ($\beta = .45$, $p<.001$) and lower change in partner SA ($\beta = -.26$, $p = .003$) were unique correlates of greater post-treatment PSWQ-T, $F_{2,107} = 17.32$, $p<.001$).

In the second regression model, pre-treatment IU was entered on step 1 and change in partner SA from pre- to post-treatment was entered on step 2 with post-treatment IU as the outcome variable. Change in partner SA from pre- to post-treatment accounted for additional variance in post-treatment IU over and above pre-treatment IU ($\Delta R^2 = .038$, $p = .004$). The final model was significant, and both greater pre-treatment IU ($\beta = .71$, $p<.001$) and lower change in partner SA ($\beta = -.20$, $p = .004$) were unique correlates of greater post-treatment IU, $F_{2,107} = 59.29$, $p<.001$).

Correlations between partner SA and GAD symptoms and processes at post-treatment

Bi-variate correlations were conducted to assess the relationships between partner SA and GAD symptoms and processes at post-treatment. Greater self-reported partner SA was significantly associated with greater GAD symptom severity, chronic worry severity, and IU at post-treatment (see Table 4). Means and standard deviations for all study variables at post-treatment are presented in Table 4.

Discussion

This study was the first empirical investigation of SA assessed using the FASA in an adult sample with GAD. The findings revealed that all participants with GAD reported their partners accommodated their anxiety symptoms to some extent. Participation in anxiety behaviours (e.g. providing reassurance, helping avoid anxiety triggers) was more prominent than modification of routines and plans. However, it is possible that individuals with GAD may not be aware of the extent to which their partner modifies their routines, work schedule, or leisure plans to accommodate their anxiety. Most participants endorsed that partner SA reduces their anxiety and half of the participants endorsed feeling distressed or anxious when they are not accommodated.

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Table 4. Correlations between study variables at post-treatment

	M (*SD*)	1	2	3	4	5
1. FASA-AR	13.52 (7.34)	—	.36**	.35**	.46**	.08
2. GAD-7	9.75 (5.58)		—	.82**	.65**	−.24*
3. PSWQ-T	59.00 (11.74)			—	.71**	−.17
4. IUS-12	39.30 (10.09)				—	−.04
5. CSI-32	102.54 (19.29)					—

FASA-AR, Family Accommodation Scale Anxiety – Adult Report; GAD-7, Generalized Anxiety Disorder Scale; PSWQ-T, Penn State Worry Questionnaire – Trait; IUS-12, Intolerance of Uncertainty Scale short form; CSI-32, Couples Satisfaction Index 32-item. *$p<.05$; **$p<.001$.

Providing reassurance was the most highly endorsed accommodation behaviour, which is consistent with research showing it is highly sought by people with GAD (Rector *et al.*, 2019; Woody and Rachman, 1994). It is likely that individuals with GAD seek reassurance from their partners with the aim of bolstering their feelings of safety and certainty regarding a particular outcome (Gústavsson *et al.*, 2021; Halldorsson and Salkovskis, 2017; Neal and Radomsky, 2020). When reassurance is received, it temporarily alleviates distress by diminishing the perceived threat. Nevertheless, reassurance typically does not alter the individual's tendency to over-estimate the likelihood of negative outcomes or tolerate the uncertainty, and as a result, their worrying persists. Furthermore, the anxious person is more likely to continue seeking reassurance to experience relief.

Consistent with the hypotheses, greater endorsement of partner SA was associated with higher GAD symptom severity, chronic worry severity, and IU. These findings are consistent with past research showing that greater SA is associated with worse symptom severity in adults, including for OCD, PTSD, and SAD (e.g. Boeding *et al.*, 2013; Fredman *et al.*, 2014; Lou *et al.*, 2020). The growing evidence that SA is relevant across psychological disorders suggests that it may be a transdiagnostic process. Due to the nature of correlations, we cannot draw conclusions about the directionality between SA and GAD symptoms and processes. However, it is likely that a bi-directional relationship exists.[3] Specifically, partner SA likely maintains chronic worry and IU by precluding the opportunity to tolerate distress associated with uncertainty and learn how to cope in the face of uncertainty. As a result, when faced with an uncertain and worrisome situation in the future, the individual with GAD is more likely to depend on SA to attenuate their distress. However, further research using a longitudinal design is required to shed light on the temporal relationship between partner SA, GAD symptoms, and IU.

As predicted, partner SA was found to significantly decrease from pre- to post-treatment, which we propose is likely due to an improvement in GAD symptoms and IU and consequently less need for SA. That is, if the anxious person is experiencing less distress, their partner may be less inclined to 'rescue' them out of anxiety-provoking situations. Alternatively, the partner's

[3]As a preliminary exploration of bi-directional relationships between partner SA, IU, and worry, two *post-hoc* regression analyses were performed to examine whether changes in worry and IU from pre- to post-treatment are associated with post-treatment partner SA, controlling for baseline levels of partner SA.

In the first model, change in worry predicted additional variance in post-treatment partner SA, over and above pre-treatment partner SA ($\Delta R^2 = .058$, $p<.001$). The final model revealed that higher pre-treatment partner SA ($\beta = .67$, $p<.001$) and less improvement in worry from pre- to post-treatment ($\beta = .24$, $p<.001$) uniquely correlated with greater post-treatment partner SA, $F_{2,106} = 59.69$, $p<.001$.

In the second model, change in IU also predicted additional variance in post-treatment partner SA, over and above pre-treatment partner SA ($\Delta R^2 = .047$, $p = .002$). The final model showed that higher pre-treatment partner SA ($\beta = .68$, $p<.001$) and increases in IU from pre- to post-treatment ($\beta = .22$, $p = .002$) were unique correlates of greater post-treatment partner SA, $F_{2,107} = 60.00$, $p<.001$.

In summary, the results suggest that less improvement in worry and IU during treatment is associated with greater partner SA at post-treatment, offering tentative support for bi-directional relationships. However, caution is warranted in interpreting these findings due to the inherent limitations of inferring directionality from a pre–post study design.

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actions may persist, but the function of the behaviours may no longer be to alleviate their partner's anxiety. However, the change in partner SA was small to moderate suggesting there is room for improvement. Furthermore, the findings also support that less improvement in SA may attenuate treatment gains. It is possible that people with GAD may not be aware that their partner's behaviours are maintaining their anxiety. This may be especially the case for behaviours that have become routine over time (e.g. the partner does most of the driving due to their loved one's anxiety about being responsible for a car accident).

In addition, it is likely that other factors maintain partner SA that are not addressed in CBT for GAD, such as relational dynamics between the couple. For instance, partners provide SA to maintain stability in the relationship (e.g. avoid conflict) and to show affection (Boeding *et al.*, 2013; Fredman *et al.*, 2014). Consistently, greater partner SA was associated with greater relationship satisfaction for people with GAD in the present study. One factor that could help explain this relationship is that accommodation behaviours increase the amount of time the couple spends together (due to reliance on the partner for support, for instance, at social events or completing instrumental daily tasks), and shared leisure time and joint activities are associated with greater relationship satisfaction in non-clinical samples (e.g. Holman and Epperson, 1984; Orthner, 1975). Furthermore, the partner's willingness to accommodate the person with GAD anxiety may communicate messages of love and care (e.g. my partner cares for me because they do not want me to feel distressed). A *post-hoc* analysis of the relationship between relationship satisfaction and partner distress due to SA (as reported by the person with GAD) revealed that the more the individual with GAD perceives their partner is distressed by accommodating their anxiety, the less satisfied they are in their relationship ($r = -.33$. $p < .001$). This is likely because the person with GAD does not feel cared for if their partner is engaging in SA begrudgingly and this could increase interpersonal conflict. Importantly, these relationship dynamics are unlikely to change through targeting anxiety symptoms in treatment as usual for GAD.

These findings are interesting in light of theory suggesting that, due to negative early life experiences, people with GAD attempt to elicit caring behaviours from others by showing care through worrying and overly nurturant behaviours (Borkovec *et al.*, 2004). Consistently, people with GAD self-report unhealthy affiliative behaviours, such as being excessively considerate and concerned by others' problems as well as intrusive efforts to provide support (Przeworski *et al.*, 2011; Salzer *et al.*, 2011). It is possible that the need to be cared for by others may heighten the desire to be accommodated, and engaging in affiliative behaviours could be in an effort to prompt accommodation in return. Thus, it is likely that partner symptom accommodation is reinforced by fulfilling a need for their nurturing behaviours to be reciprocated in addition to decreasing symptom-related distress. Notably, only 13.4% of participants thought their partner should accommodate them less, which could be due to a heightened desire to receive nurturing behaviours. Another reason people with GAD may not believe their partner should engage in less accommodation is if they perceive that SA behaviours are necessary to avoid threat. As a result, people with GAD may not be motivated to decrease partner SA, which is another reason why explicitly targeting SA and the associated relational dynamics may be important to improve treatment outcomes. Understanding both the individual with GAD and their partner's motivations underlying SA would help streamline interventions to effectively target these behaviours.

Interestingly, self-reported relationship satisfaction was unrelated to GAD symptom severity or chronic worry severity at baseline. This is inconsistent with research showing that GAD is associated with relationship problems (e.g. Henning *et al.*, 2007; Hunt *et al.*, 2002; McLeod, 1994). It is possible that higher rates of divorce and separation and lower marriage quality for people with GAD compared with those without (Hunt *et al.*, 2002; Wittchen *et al.*, 1994) may be more attributable to the partner's relationship dissatisfaction. In addition, past research has often used a single question or an item from a questionnaire of general dysfunction to investigate relationship success in GAD (e.g. Hunt *et al.*, 2002; Wittchen *et al.*, 1994). It is possible that using the CSI-32

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provided a more sensitive and valid measure of relationship satisfaction. However, the relationship between GAD symptom severity and relationship satisfaction at baseline approached significance ($r = -.16$, $p = .090$) and consequently the study could be under-powered to detect this effect.

Pending replication and extension, these findings may have important treatment implications. It may be helpful for clinicians to explicitly discuss the impact of SA on the maintenance of GAD symptoms. It may also be important to assess the individual's motivation to reduce SA and address ambivalence. It has been suggested that treatment for GAD could be augmented by incorporating a significant other into treatment (Malivoire *et al.*, 2020) and this may be particularly useful to reduce SA. For example, the therapist could have a joint session with the individual with GAD and their accommodator to provide psychoeducation on the impact of SA on anxiety in the long-term. Furthermore, the couple could discuss how the partner can support the individual with GAD with their exposures in ways that do not undermine the goal of the exposures (e.g. when the individual with GAD seeks reassurance, the partner could validate the difficulty of the exposure and encourage them to use their therapy skills to cope).

In addition, given the preliminary evidence that partner SA is associated with greater relationship satisfaction, a potential barrier to decreasing SA during treatment is increased relationship distress. As an alternative to eliminating SA behaviours, treatment could focus on changing the function of these behaviours from safety-seeking to supportive (Neal and Radomsky, 2019; Neal and Radomsky, 2020). In other words, instead of providing reassurance that a bad outcome will not transpire, the partner could provide encouragement to sit with the discomfort and engage in skills use (Neal and Radomsky, 2020). There is evidence in a non-clinical sample that providing adaptive support is an effective treatment intervention that is associated with a reduction in reassurance-seeking behaviours (Neal and Radomsky, 2019). Importantly, this approach could also minimize the likelihood of exacerbating interpersonal problems that unfold when reassurance and other safety-seeking behaviours are withheld (Neal and Radomsky, 2019). In addition, it may be useful to consider other ways the partner can show care for their loved one instead of engaging in SA (e.g. through joint activities; Abramowitz *et al.*, 2013). These alternative approaches to refusing accommodation are likely to be better received by people with GAD given their heightened desire for care and support and sensitivity to rejection (Borkovec *et al.*, 2004).

Limitations and future directions

The study findings should be interpreted in the context of several limitations. Firstly, given that this study is the first to empirically investigate SA in GAD, no measure of SA has been validated for GAD. As a first step to gain insight into partner SA in GAD, the FASA-AR was selected to measure partner SA because it was developed to assess SA across anxiety disorders, and it was preliminarily validated in adults with SAD. Although the FASA-AR has not been validated in a GAD sample, the FASA-AR was found to have acceptable to good internal consistency, and was positively correlated with chronic worry and GAD symptoms as would be expected. Future research could conduct a factor analysis on the FASA-AR for GAD to elucidate its underlying factor structure and to assess whether the findings align with prior research on adults with SAD. Given evidence that SA may be a transdiagnostic construct, future research should explore whether there are significant differences in SA across various disorders, justifying the need for disorder-specific SA measures, or if adopting a transdiagnostic measure like the FASA-AR would be more appropriate.

In addition, this study relied on self-report measures of GAD processes and relationship variables. There is evidence of discrepancies in self and partner report on interpersonal factors in GAD, which suggests people with GAD may lack insight into interpersonal processes (e.g. Erickson *et al.*, 2016; Shin and Newman, 2019). Although it is important to understand relational factors from the individual with GAD's perspective, future research should include

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measures of partner-reported relationship satisfaction and SA to assess level of convergence. For instance, it is pertinent to investigate whether there are also discrepancies between self- and partner-reported SA in GAD. In addition, there could be a different pattern of relationships between SA and relationship satisfaction for partners of people with GAD. In studies of partner SA in adult OCD and PTSD greater partner-reported SA was associated with lower partner-rated relationship satisfaction (Boeding *et al.*, 2013; Fredman *et al.*, 2014). As a result, it may be possible that although the person with GAD feels more satisfied in their relationship when their symptoms are accommodated, this may not extend to their partner.

Furthermore, the present study was unable to assess temporal relationships between SA and worry. Although greater SA may attenuate change in worry, it is also important to consider the possibility that less symptom improvement is contributing to greater partner SA. Future research should assess these variables at multiple time points to elucidate the temporal relationships between SA and GAD symptoms. In addition, this study focused on SA in romantic relationships given evidence that dysfunction in romantic relationships may be especially relevant to understanding GAD pathology (e.g. Whisman *et al.*, 2000). Future research may wish to investigate whether these findings extend to other relationships (e.g. friendships, family). Furthermore, the sample consisted of largely people who self-identified as White and female, which may limit the generalizability of the findings, and thus replicating this research with more diverse samples is warranted. Aligning with the study objectives, only participants in a romantic relationship for at least 3 months were included in the sample, which could also limit generalizability of the findings. While baseline differences were mostly non-significant between primary and secondary GAD diagnoses, except for more severe GAD symptoms in the latter, the inclusion of both diagnoses may limit generalizability to primary GAD cases. However, this approach also enhances external validity by representing the typical clinical co-morbidity seen in out-patient treatment settings. Lastly, different semi-structured diagnostic assessment tools were used to assess for GAD, which could affect the diagnostic reliability of the sample.

Consistent with the study goals, the effects of treatment as usual on SA were investigated. Pending replication and extension, testing interventions that directly target SA and/or the benefit of incorporating a significant other into treatment for GAD may be warranted.

Conclusion

This study was the first to investigate partner SA in adults with GAD using the FASA-AR. Partner SA was found to be prevalent in GAD and the majority of individuals with GAD self-reported a reduction in their anxiety when accommodated. In particular, the findings suggest providing reassurance is the most common type of partner SA for GAD. Although partner SA is often well-intentioned to reduce the individual with GAD's distress, the findings support that partner SA is associated with greater symptom severity and worse treatment outcomes. Importantly, the findings provide preliminary evidence that partner SA is associated with greater relationship satisfaction for the person with GAD, which may contribute to the maintenance of partner SA. An important future direction will be to further elucidate the individual with GAD and their partner's motivations for SA in order for these behaviours to be most effectively targeted in treatment.

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(lead), Supervision (lead), Writing – original draft (supporting), Writing – review & editing (equal); **Irena Milosevic:** Writing – review & editing (equal); **Randi McCabe:** Investigation (lead), Writing – review & editing (equal).

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Ethical standards. The authors assert that all procedures contributing to this work comply with the ethical standards of and are approved by the local Institutional Review Board and with the Helsinki Declaration of 1975, and its most recent revision. The procedures and measures used in this study were approved by the local institutional review board (reference no. 07-2955) and incorporated standard practices in the clinic. As part of the consent procedure, participants were informed that their data may be used for presentations, reports, or articles but that their identifying information would never be included.

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