Shorter communication

A randomized pilot study of motivation enhancement therapy to increase utilization of cognitive–behavioral therapy for social anxiety

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ABSTRACT

Despite the efficacy of cognitive–behavioral therapy (CBT), most socially anxious individuals do not seek treatment or seek treatment only after many years of suffering. This study evaluated the efficacy of a three-session motivation enhancement therapy (MET) designed to increase CBT utilization among socially anxious individuals. Twenty-seven non-treatment-seeking socially anxious individuals (92.6% met current DSM-IV criteria for social anxiety disorder) were randomly assigned to either MET for CBT ($n = 12$) or a control condition ($n = 15$). The primary outcome was attendance at first CBT appointment. Secondary outcomes included openness to therapist contact and willingness to schedule a CBT appointment. After the intervention, seven of the 12 (58.3%) participants in the MET condition attended a CBT appointment compared to two of 15 (13.3%) control participants. Eight of 11 (72.7%) participants in the MET condition indicated they would like a CBT therapist to contact them compared to four of 12 (33.3%) controls. Further, willingness to schedule a CBT appointment increased at a significantly greater rate in the MET condition. Results suggest MET for CBT may be a time-efficient means to increase CBT utilization among socially anxious individuals.

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Introduction

There are currently several efficacious treatment options for individuals with social anxiety disorder (SAD) and cognitive–behavioral therapy (CBT) appears to be the treatment of choice (see Rodebaugh, Holaway, & Heimberg, 2004). Despite the efficacy of CBT for SAD, the majority of socially anxious individuals do not receive treatment (Grant et al., 2005). Treatment underutilization is a cause for concern because social anxiety is one of the most prevalent psychiatric disorders (Kessler et al., 2005), associated with significant impairment across several domains of functioning (Grant et al., 2005). Thus, failure to seek treatment for social anxiety could result in significant personal and public health costs.

Little empirical work has focused on increasing CBT utilization. Engaging socially anxious patients in CBT is an inherently difficult process given that exposure to social situations and working with a therapist that may "scrutinize" behavior are necessary for treatment (Heimberg & Becker, 2002). Non-treatment seekers with social anxiety may be ambivalent about seeking CBT if their social anxiety causes them impairment yet they are worried others may

negatively judge them for seeking treatment. Thus, non-treatment seekers may be more likely to seek CBT if they are able to resolve this ambivalence. Motivational interviewing (MI) is a client-centered, directive style for enhancing intrinsic motivation to change by exploring and resolving ambivalence regarding change (Miller & Rollnick, 2002). Motivation enhancement therapy (MET), a brief treatment originally developed for alcohol use disorders (AUD) (Miller, Zweben, DiClemente, & Rychtarik, 1992), combines feedback regarding the patient's alcohol use with MI to explore and resolve ambivalence regarding change. Traditional MET could be modified to combine feedback about social anxiety with MI to explore and resolve ambivalence about seeking CBT for social anxiety. Although we know of no studies testing the utility of such an intervention, treatments that incorporate MI have been used successfully with patients with SAD (Buckner, Ledley, Heimberg, & Schmidt, 2008; Westra, 2004; Westra & Dozois, 2006) and to increase the use of exposure–response prevention among patients with OCD (Maltby & Tolin, 2005).

The present study is a pilot study testing the utility of an "MET for CBT" protocol designed to increase CBT utilization for socially anxious non-treatment seekers by combining feedback about social anxiety with MI. Consistent with the need to increase young people's utilization of psychiatric services (see Rickwood, Deane, Wilson, & Ciarrochi, 2005), the sample was comprised of university students who were randomly assigned to MET for CBT or a control

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condition. The primary outcome variable was attendance at first CBT appointment. In line with prior work (Maltby & Tolin, 2005), it was hypothesized that, relative to controls, participants in the MET for CBT condition would be more likely to attend CBT after completing the intervention. Secondary outcomes included openness to therapist contact and willingness to schedule a CBT appointment. Secondary analyses were also conducted to test the hypothesis that MET for CBT would increase motivation to change social anxiety-related behaviors.

Method

Participants

Of the 2886 students that completed the *Social Interaction Anxiety Scale* (Mattick & Clarke, 1998) during a mass screening conducted from September 2006 to July 2007, 508 scored at or above the clinical cut-off (Heimberg, Mueller, Holt, Hope, & Liebowitz, 1992) and were invited via email to participate in an "Interview Study of Anxiety". Participants were informed that the goal of the study was to learn more about anxiety. This cover story was used to mask that the actual intention of the study was to test the utility of MET to increase CBT utilization.

The study took place at the university's outpatient psychology clinic. Of the 75 students who signed up to participate, 12 cancelled or did not show for their baseline assessment, four were training cases for study therapists, and 59 completed the baseline assessment. Of those 59, 27 met inclusion criteria. Reasons for exclusion included: social anxiety no longer elevated ($n = 14$), social anxiety not primary ($n = 15$), receiving therapy ($n = 1$), prior CBT experience ($n = 1$), treatment-seeking ($n = 1$), and time constraints ($n = 1$).[1]

The following primary diagnoses were assigned: generalized SAD ($n = 22$), circumscribed SAD ($n = 3$), and no diagnosis ($n = 2$). Participants with no SAD diagnosis demonstrated clinically relevant social anxiety (total scores of 38 and 64) on the Liebowitz Social Anxiety Scale (Liebowitz, 1987) and reported that their social anxiety caused at least some distress and/or impairment. Concerning comorbidity, 40.7% received at least one comorbid Axis I diagnosis: specific phobia ($n = 4$), AUD ($n = 3$), generalized anxiety disorder ($n = 3$), dysthymia ($n = 1$), OCD ($n = 1$), and illicit substance use disorder ($n = 1$).[1] See Table 1 for demographic information.

Procedures

Flow of participants through the study is diagrammed in Fig. 1. Participants were randomly assigned to one of two conditions: MET for CBT ($n = 12$) or the control condition ($n = 15$). Randomization occurred prior to Appointment 1 using a computer-generated random numbers table. During Appointment 1, all participants met individually with a trained graduate student therapist, provided written informed consent, and completed the baseline assessment. However, participants were not informed that study therapists were therapists, but rather were under the impression they were simply study experimenters.

After the baseline assessment, all eligible participants (regardless of study condition) received the same psychoeducation regarding social anxiety and CBT. Specifically, participants were informed:

"Based on your responses to the interview and the questionnaires, it appears as though you have clinically meaningful social

anxiety. The good news is that there is effective treatment for social anxiety. Cognitive behavioral therapy, or CBT, is an effective treatment for social anxiety. In CBT, we view emotions (such as social anxiety) to be related to cognitions (or thoughts) and behaviors".

Then all participants were shown a diagram illustrating the interactional relations between thoughts, feelings, and behaviors. They were told:

"As you can see in this diagram, our thoughts can affect our emotions just as our emotions can affect our thoughts. Similarly our thoughts can affect our behaviors and vice-versa. Our behaviors can also affect our emotions and our emotions can affect our behaviors. CBT challenges those thoughts and behaviors that contribute to the social anxiety. At the end of this study, we will give all participants information on how to get CBT for social anxiety."

Following psychoeducation, participants in the MET condition underwent their first MET session and participants in the control condition scheduled their next two appointments. Therefore, Appointment 1 lasted approximately 1/2 hour longer for the MET condition than the control condition. All participants attended two more appointments such that Appointment 2 occurred approximately two days after Appointment 1 and Appointment 3 occurred approximately four days after Appointment 1 (see Fig. 1). All participants completed self-report measures at the end of each appointment (described below). In the MET condition, Appointments 2 and 3 each lasted approximately 1 h 45 min. These appointments consisted of MET for CBT (described below). In the control condition, Appointments 2 and 3 each lasted approximately 15–30 min, during which they completed the same self-assessments as the MET condition. During these appointments, controls met only briefly with study personnel to obtain self-report assessments. Thus, the MET condition received 3.5 h of additional therapist contact time and this time was focused on MET for CBT.
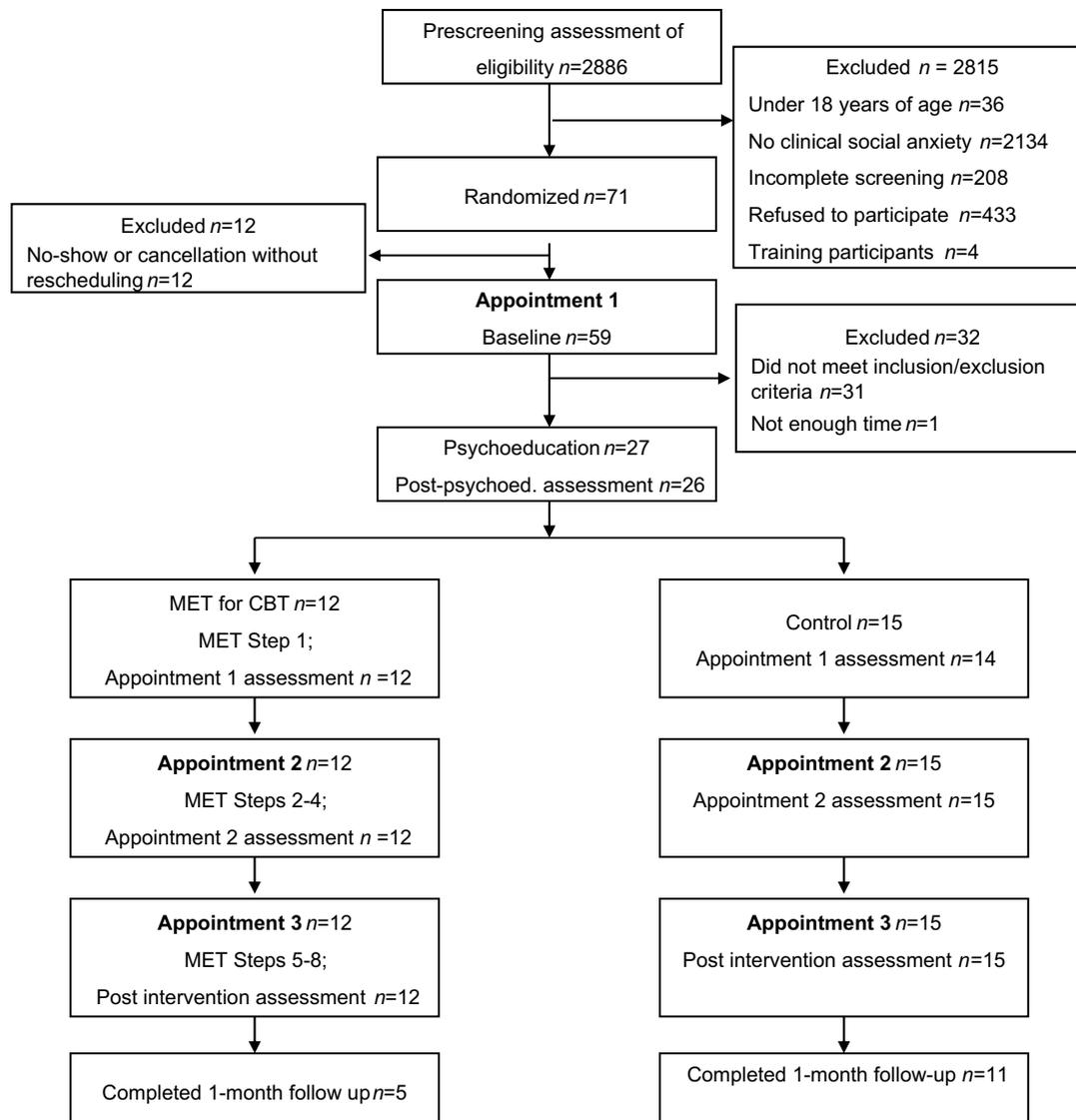
All participants completed self-report assessments at baseline, after receiving psychoeducation, and at the end of Appointments 1–3. To minimize the impact of social desirability on responses to self-report assessments, these assessments were completed in

Table 1
Demographic characteristics of randomized sample for total sample and by treatment condition.

Dependent Variable	Total ($N = 27$)	Control ($n = 15$)	MET for CBT ($n = 12$)	χ^2	F	p
Categorical Variables %						
Women	63.0	66.7	58.3	.20		.66
Race/ethnicity						
African American	7.4	6.7	8.3	.03		.87
Asian American	7.4	6.7	8.3	.03		.87
Caucasian	70.4	80.0	58.3	1.50		.22
Hispanic/Latino	14.8	6.7	25.0	1.78		.18
Employed	19.2	35.7	.0	5.31		.02
Unmarried	100.0	100.0	100.0	–		–
GPA > 3.0	61.5	60.0	63.6	.04		.85
Anxiety treatmenxt history	3.7	6.7	0.0	.83		.36
Continuous Variables *M* (*SD*)						
Age	18.8 (.8)	18.7 (.7)	18.9 (.9)		.40	.53
Family income[a]	83,541.67 (59,953.59)	83,230.77 (69,993.04)	83,909.09 (48,868.10)		.00	.98
Years of college	1.2 (.5)	1.2 (.4)	1.3 (.6)		.12	.73

Note. MET = motivation enhancement therapy, CBT = cognitive–behavioral therapy.
[a] To promote data analyses, responses given as ranges were recorded to the mean (e.g., $30,000–40,000 was recoded as $35,000).

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[1] *n*'s > than total because some participants endorsed more than one.

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┌─────────────────────────────┐
│   Prescreening assessment of │
│     eligibility n=2886       │
└─────────────────────────────┘
              │
              │        ┌──────────────────────────────────────┐
              ├───────▶│ Excluded  n = 2815                    │
              │        │ Under 18 years of age n=36            │
              │        │ No clinical social anxiety n=2134     │
              ▼        │ Incomplete screening n=208            │
┌─────────────────────┐│ Refused to participate  n=433        │
│   Randomized n=71   ││ Training participants  n=4           │
└─────────────────────┘└──────────────────────────────────────┘
              │
┌──────────────────────────┐
│ Excluded n=12            │     │
│ No-show or cancellation  │◀────┤
│ without rescheduling n=12│     │
└──────────────────────────┘     ▼
              ┌───────────────────────────┐
              │      Appointment 1        │
              │      Baseline n=59        │
              └───────────────────────────┘
              │         │     ┌──────────────────────────────────┐
              │         ├────▶│ Excluded n=32                    │
              │         │     │ Did not meet inclusion/exclusion │
              ▼         │     │ criteria n=31                    │
                        │     │ Not enough time n=1              │
              ┌───────────────────────────┐└──────────────────────────────────┘
              │   Psychoeducation n=27    │
              │ Post-psychoed. assessment │
              │          n=26             │
              └───────────────────────────┘
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(flowchart continues)

MET for CBT n=12 — MET Step 1; Appointment 1 assessment n =12

Appointment 2 n=12 — MET Steps 2-4; Appointment 2 assessment n =12

Appointment 3 n=12 — MET Steps 5-8; Post intervention assessment n=12

Completed 1-month follow up n=5

Control n=15 — Appointment 1 assessment n=14

Appointment 2 n=15 — Appointment 2 assessment n=15

Appointment 3 n=15 — Post intervention assessment n=15

Completed 1-month follow-up n=11

Note. Each MET step lasted approximately 30 minutes. Baseline interview lasted approximately two hours. Every other assessment lasted 15-30 minutes. Total time MET condition was approximately 6.5 hours; total time for control was approximately 3 hours.

Fig. 1. Appointment flowchart by study condition.

solitude and placed in a sealed envelope that was given to the clinic receptionist so that project therapists would not see participants' responses. Upon completion of Appointment 3, all participants were referred to the university's outpatient anxiety clinic. All participants were offered CBT at a discounted rate of $10/session for the first 10 sessions. Participants received research credit for participation.

Follow-up

All 27 participants were emailed one month after completion of Appointment 3 and invited to complete an on-line survey using surveymokey.com. Participants were asked if they had sought treatment for their social anxiety (yes or no). If yes, they were asked to chose all applicable responses from a list (CBT, self-help, medication, talk therapy, other). Participants were compensated $20 for completing the follow-up assessment.

Interventions

MET for CBT[2]

This intervention was adapted from Miller's MET for alcohol treatment protocol (Miller et al., 1992), combining feedback regarding the participant's social anxiety (i.e., comparison of participant's social anxiety to clinical and non-clinical norms) with MI (Miller & Rollnick, 2002). In addition to the use of a traditional MI style (e.g., rolling with resistance, reflections), specific MET techniques (described below) were manualized to ensure all MET participants received comparable doses of techniques thought to be relevant to the concerns of socially anxious individuals (see Olfson et al., 2000). MET was conducted over 3.5 h administered over three sessions given evidence that 2–4 sessions of MI can effect behavioral

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[2] Treatment manual available by email from jbuckner@lsu.edu.

change among patients with anxiety (Buckner et al., 2008; Maltby & Tolin, 2005; Westra & Dozois, 2006; Westra & Phoenix, 2003).

During Appointment 1, therapists provided assessment feedback by discussing the participant's social anxiety as it related to clinical and non-clinical norms. Appointment 2 consisted of: (1) exploring importance and confidence to seek CBT for social anxiety; (2) describing a typical day and social anxiety's impact on that day; and (3) discussing pros and cons of seeking CBT. These techniques were chosen to encourage participants to consider barriers to treatment reported by those with social anxiety (Olfson et al., 2000).

Appointment 3 included: (1) outlining short- and long-term goals and social anxiety's effect on these goals; (2) discussing discrepancies between ideal and actual selves; and (3) describing what their lives might look like in 20 years with and without CBT. These techniques encouraged participants to consider whether CBT could improve their quality of life, addressing concerns regarding whether CBT would help them (a barrier for SAD treatment as per Olfson et al., 2000). Finally, participants developed a change plan including planned behavioral changes (e.g., seek CBT), steps necessary to make that change (e.g., call to schedule appointment), and problem-solving potential roadblocks to making those changes (e.g., how to pay for treatment).

Control

In the control condition, participants completed the same assessment schedule as the MET condition (see Fig. 1). Thus, the control group did not control for the 3.5 h the MET condition spent with a project therapist. Rather, the control group was designed to control for a wide range of other relevant variables including: (1) receipt of MET; (2) receipt of social anxiety psychoeducation; (3) receipt of CBT psychoeducation; (4) receipt of low-cost CBT referrals; (5) repeated exposure to a psychological clinic; and (6) repeated assessment of: (a) motivation to change social anxiety-related behaviors and (b) willingness to seek CBT.

Therapists

Three doctoral students in clinical psychology delivered the MET for CBT. Ongoing supervision consisted of weekly reviews of session videotapes and case discussion. Training consisted of 6 h of didactic instruction and shadowing the principal investigator (J.D.B.) during two MET for CBT cases. Training cases were seen until therapists were proficient in study protocol as assessed by the study adherence measure (described below).

Assessment of intervention integrity

MET sessions were videotaped for supervision and assessment of fidelity to the treatment manual. Fidelity was evaluated in several ways. First, each tape was reviewed in supervision to ensure that (1) each MET technique was used and (2) techniques were delivered in order. All therapists complied with this aspect. Second, to assess MI adherence, a random selection of 25% of session videotapes was rated by independent evaluators who were trained in this use of the Motivational Interviewing Treatment Integrity code, Version 2.0 (Moyers, Martin, Manuel, & Miller, 2003), which has demonstrated good reliability and validity when used with graduate student and undergraduate raters (Moyers, Martin, Manuel, Hendrickson, & Miller, 2005; Pierson et al., 2007). Mean global ratings for each therapist ranged from 6.11 to 7.00 ($M = 6.45$, $SD = .72$), above the 6 recommended for competency in MI (Moyers et al., 2003).[3]

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[3] Detailed information regarding rater training and inter-rater agreement are available from the first author.

Clinical interviews

At baseline, a clinical interview was conducted to assess psychiatric symptoms. Social anxiety was assessed with the Liebowitz Social Anxiety Scale (Liebowitz, 1987) and diagnostic status was determined using the *Anxiety Disorders Interview Schedule-IV-L* (ADIS-IV) (DiNardo, Brown, & Barlow, 1994). In the case of comorbidity, primary diagnoses were determined by ascertaining the most disabling and/or distressing disorder. Interviews were reviewed during weekly meetings with a licensed clinical psychologist (N.B.S.). Diagnostic reliability was established for primary diagnoses by comparing the original diagnosis with blind ratings from another therapist for 20% of study participants selected at random (percent agreement was 83%).

Self-report assessments

Openness to therapist contact
At the end of Appointment 3, participants were asked whether they would like a therapist from the university's anxiety clinic to contact them to schedule an appointment for CBT for SAD (yes, no). This question was added after the study began; thus this question was asked of 11 MET participants and 12 control participants.

Willingness
Willingness to schedule a CBT appointment was assessed using one item that asked, "How willing are you to schedule an appointment for CBT for social anxiety?" from 0 to 10 with 0 = not at all willing to schedule CBT appointment and 10 = definitely willing to schedule CBT appointment.

Motivation
Motivation to change social anxiety was assessed using the University of Rhode Island Change Assessment (URICA) (McConnaughy, Prochaska, & Velicer, 1983). A Readiness for Change Index (RCI) was calculated in which mean Precontemplation scores were subtracted from the sum of the means of the other three subscales (see Vogel, Hansen, Stiles, & Gotestam, 2006). Motivation was also assessed using the Importance/Confidence Form (ICF) created for this study and adapted from Miller and Rollnick's (2002) importance/confidence rulers. The first item asked "On a scale of 0–10, rate how important it is for you to change your social anxiety-related behaviors" in which 0 = not at all important and 10 = most important. The second item asked "On a scale of 0–10, rate how confident you are that you can change your social anxiety-related behaviors" in which 0 = not at all confident and 10 = most confident. Increases in Importance and Confidence corresponded with behavioral changes in a patient with SAD (Buckner et al., 2008).

Results

Sample characteristics

All participants attended all sessions. However, due to experimenter error, one control participant did not receive the post-psychoeducation assessment battery and another did not receive the Appointment 1 battery. Baseline demographic characteristics were analyzed using analysis of variance (ANOVA) models for continuous variables and χ^2 tests for nominal/categorical variables (Table 1). The only significant difference between the study conditions was that there were more employed participants in the control condition than the MET condition (given their student

status, few were employed). ANCOVAs therefore included employment status as a covariate.[4]

Attrition

Of the 27 subjects, 16 completed the one-month follow-up assessment. An additional three MET participants sought treatment at our outpatient clinic allowing for documentation of their CBT attendance. Thus, we obtained information on attendance of first CBT appointment for 19 participants. There was a trend for participants in the control condition (73.3%) to be more likely to complete the follow-up compared to those in the MET condition (41.7%), $\chi^2(1, 27) = 2.77$, $p = .09$.

Relations between condition and CBT attendance

Seven of the 12 (58.3%) MET participants attended a CBT appointment compared to two of the 15 (13.3%) control participants. Among the 19 participants for whom CBT attendance data were available, the MET condition was associated with significantly greater likelihood of CBT attendance compared to controls, $\chi^2(1, 19) = 3.91$, $p = .048$. However, assuming that participants who did not complete the follow-up also did not seek treatment (i.e., CBT attendance coded 0 for follow-up refusers), this difference was reduced to a trend, $\chi^2(1, 27) = 2.88$, $p = .095$.

Relations between condition and secondary outcomes

Regarding openness to therapist contact, the difference between conditions approached significance, $\chi^2(1, 23) = 3.57$, $p = .059$. Eight of 11 (72.7%) participants in the MET condition indicated they would like a CBT therapist to contact them compared to four of 12 (33.3%) controls. To examine changes in willingness to schedule a CBT appointment over time, a 2 (condition) × 5 (time: baseline, post-psychoeducation, Appointment 1, Appointment 2, Appointment 3) repeated ANCOVA[5] was performed to examine both between and within subject effects. Employment status was a covariate.[4] Means and standard errors for each time point are presented in Table 2. There was not a significant main effect of Time, $F(1.88, 39.45) = 2.38$, $p = .11$, or Condition $F(1, 21) = 1.17$, $p = .29$. There was a significant Time × Condition interaction, $F(1.88, 39.45) = 4.75$, $p = .02$. However, the size of this effect was small ($\omega^2 = .02$) (Olejnik & Algina, 2000). The baseline to Appointment 3 interaction contrast was examined to determine whether Willingness increased at a greater rate in the MET condition compared to the control condition. This interaction contrast was significant, $F(1, 21) = 5.27$, $p = .03$, such that Willingness in the MET condition increased at a larger rate than it did among controls. Importantly, in the intent to treat analyses, Willingness at Appointment 3 was positively, significantly related to attending the first CBT appointment among all participants, $F(1, 26) = 7.71$, $p = .01$, and agreeing to have therapist contact to schedule an appointment, $\chi^2(1, 23) = 7.44$, $p = .006$.

To examine whether MET for CBT was associated with increases in motivation, additional 2 (condition) × 5 (time) ANCOVAs were performed. Separate models were conducted for each dependent variable (Importance, Confidence, RCI). See Table 2 for means and standard errors at each time point for each condition.

[4] Data analyses were conducted with and without employment status as a covariate with a similar pattern of findings.

[5] For all repeated measures ANCOVA analyses, Greenhouse–Geisser corrections (with adjusted degrees of freedom) were applied when necessary (Mauchley's Sphericity Test < .05).

Table 2
Motivation to change social anxiety at each assessment point.

Dependent Variable	Control (n = 15)		MET (n = 12)		df	F	p
	M	SE	M	SE			
Willingness to schedule a CBT appointment							
Baseline	6.69	.68	6.06	.93	1, 21	.39	.54
Feedback	6.19	.70	7.40	.96	1, 21	1.36	.26
Appointment 1	6.06	.81	7.77	1.12	1, 21	1.99	.17
Appointment 2	6.50	.86	8.58	1.19	1, 21	2.62	.12
Appointment 3	6.56	.91	8.35	1.25	1, 21	1.74	.20
Readiness for Change Index (RCI)							
Baseline	7.40	.83	7.92	1.02	1, 18	.28	.60
Feedback	7.74	.91	8.59	1.12	1, 18	.62	.44
Appointment 1	7.75	.94	9.07	1.16	1, 18	1.38	.25
Appointment 2	8.52	.98	9.84	1.21	1, 18	1.28	.27
Appointment 3	7.83	1.02	8.85	1.25	1, 18	.71	.41
Importance to change social anxiety-related behaviors							
Baseline	7.19	.52	7.90	.72	1, 21	.83	.37
Feedback	7.44	.56	8.73	.77	1, 21	2.42	.13
Appointment 1	7.56	.61	8.69	.84	1, 21	1.53	.23
Appointment 2	7.50	.66	8.00	.90	1, 21	.26	.62
Appointment 3	7.38	.86	8.21	1.18	1, 21	.42	.52
Confidence to change social anxiety-related behaviors							
Baseline	5.63	.65	5.46	.90	1, 21	.03	.87
Feedback	6.06	.60	6.60	.82	1, 21	.37	.55
Appointment 1	6.13	.67	6.71	.92	1, 21	.34	.57
Appointment 2	5.94	.66	7.31	.91	1, 21	1.93	.18
Appointment 3	5.81	.72	7.52	.99	1, 21	2.52	.13

Note. MET = motivation enhancement therapy; CBT = cognitive–behavioral therapy. RCI assessed using the *University of Rhode Island Change Assessment* (McConnaughy et al., 1983). Means reported are estimated marginal means adjusted to account for covariate (employment status).

Only the Time × Condition interaction for Confidence approached significance, $F(4, 84) = 2.32$, $p = .06$, $\omega^2 = .02$. The main effect of Time also approached significance, $F(4, 84) = 2.18$, $p = .08$, but the main effect of Condition was non-significant, $F(1, 21) = .83$, $p = .37$. The baseline to Appointment 3 interaction contrast was significant, $F(1, 21) = 5.57$, $p = .03$, suggesting that Confidence increased at a greater rate in the MET condition relative to the control condition.

Concerning Importance to change social anxiety-related behaviors, there was no significant main effect of Time, $F(2.56, 53.81) = .63$, $p = .57$, or Condition, $F(1, 21) = 1.05$, $p = .32$. The Time × Condition interaction was also non-significant, $F(2.56, 53.81) = .43$, $p = .70$, $\omega^2 = .00$. Further the baseline to Appointment 3 interaction contrast was non-significant, $F(1, 21) = .02$, $p = .90$. Regarding RCI, there was a significant main effect of Time, $F(1.62, 29.24) = 3.59$, $p = .049$. However, the main effect of Condition was not significant, $F(1, 18) = 89$, $p = .36$, nor was the Time × Condition interaction, $F(1.64, 29.24) = .87$, $p = .41$, $\omega^2 = .00$. The baseline to Appointment 3 interaction contrast was also non-significant, $F(1, 21) = .02$, $p = .90$.

Discussion

The results of this pilot study provide preliminary support for the utility of MET for CBT to increase CBT utilization among socially anxious non-treatment seekers. Specifically, data suggest individuals who received MET may be more likely to attend a CBT appointment. Data also suggest a trend such that participants in the MET for CBT condition reported greater interest in having a therapist contact them to schedule a CBT appointment. Willingness to schedule a CBT appointment increased at a greater rate in the MET condition compared to controls. This finding is noteworthy given willingness was significantly related to attendance at first CBT appointment and interest in therapist contact. With regard to motivation, confidence to change social

anxiety-related behaviors increased at a greater rate in the MET for CBT condition compared to controls.

The finding that MET could have a positive influence on CBT utilization among non-treatment seekers has several noteworthy implications. First, because SAD is among the most prevalent psychiatric disorders (Kessler et al., 2005), an intervention that results in greater CBT utilization could result in the amelioration of the substantial personal and societal impairment. Second, given the brief course of MET for CBT, this intervention represents a time-efficient method to encourage CBT utilization.

Interestingly, MET for CBT was not associated with increases in some measures of motivation (e.g., RCI, Importance to change). This finding seems contrary to findings that motivation is related to treatment behaviors among patients in anxiety treatment (e.g., Dozois, Westra, Collins, Fung, & Garry, 2004). It may be that our assessments did not accurately assess motivation. The RCI measures motivation to change social anxiety, yet the focus of MET for CBT was to increase motivation to seek CBT (not to change social anxiety-related behaviors). Given observed differences in actual treatment-seeking behavior, future work is necessary to identify mechanisms underlying these differences.

Findings from the present study suggest several additional avenues for future work. For instance, the present study used a highly structured form of MET to facilitate therapist training and ease of replication. However, MET and MI are traditionally unstructured (Miller & Rollnick, 2002; Miller et al., 1992) and future research is necessary to determine if an unstructured form of MET for CBT results in even greater CBT utilization. Similarly, MET for CBT was used with undergraduates and future work is necessary to test the transportability of this intervention to other settings (e.g., high schools) in which non-treatment seekers can be identified and encouraged to participate in this intervention.

The present study should be considered in light of limitations. First, the control condition did not control for the additional 3.5 h MET participants spent with therapists. This decision was guided by the fact that equal time spent with study personnel discussing neutral topics would most likely consist of MI techniques (e.g., empathy, reflective listening). We attempted to minimize the possibility that speaking to study therapists may have served as a type of exposure to therapists by not informing participants that study therapists were therapists. However, given speaking to an empathetic stranger about anxiety may have served as a type of exposure to the therapeutic process, future work is necessary to determine whether MET techniques specifically drove observed effects. Second, three measures of motivation in the current study were single-item assessments. Although this is consistent with the practice of using single-item measures to assess motivation (e.g., Huppert, Barlow, Gorman, Shear, & Woods, 2006), future work using more psychometrically sound measures of motivation is warranted. Third, given the present study's small sample size, replication with larger samples is necessary. Fourth, participants were recruited to participate in an "Interview Study of Anxiety". Although this approach masked the goal of the current study, this procedure may have resulted in a sampling bias. In fact, only 12% of eligible students participated in this study. It may be that this recruitment strategy attracted only those students who were already somewhat motivated to discuss and change their social anxiety. Alternate recruitment strategies should be considered in future work. Fifth, attrition at follow-up may have affected study findings and additional work is necessary to identify ways to increase retention to track long-term outcomes.

Acknowledgements

References

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