



Published in final edited form as:

*Psychol Men Masc.* 2014 January ; 15(1): 90–94. doi:10.1037/a0030950.

## A Pilot Trial of Gender-Based Motivational Interviewing for Help-Seeking and Internalizing Symptoms in Men

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### Abstract

There has been limited research on interventions addressing the psychosocial barriers to men's underutilization of formal and informal help. To address this gap in the literature, we report on the development of Gender-Based Motivational Interviewing (GBMI) for men with internalizing symptoms and present the findings of a pilot trial. GBMI is a single session of assessment and feedback that integrates gender-based and motivational interviewing principles. Community-dwelling men ( $N = 23$ ) with elevated internalizing symptoms and no recent history of formal help-seeking were randomized to either GBMI or control conditions and were followed for three months. The effect of GBMI on internalizing and externalizing symptoms ranged from small to large across follow-ups. GBMI had a small to moderate effect on stigma. There was no effect on help-seeking attitudes or intentions. GBMI increased use of informal help seeking (e.g. parents and partners) and had no effect on formal help seeking. None of these findings were statistically significant. Study weaknesses included baseline differences in help-seeking variables between conditions. This initial evaluation suggested that GBMI shows promise for improving mental health functioning while further research is need to determine its effect on help-seeking.

### Keywords

motivational interviewing; help-seeking; depression; anxiety; internalizing symptoms; gender; stigma

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Only 15–27% of men with a mental health disorder seek formal help such as psychotherapy or psychotropic medication (Oliver, Pearson, Coe, & Gunnell, 2005). Men are also less likely to seek informal help (e.g. family and friends; Forchuk et al., 2009). Theorists posit that conformity to traditional masculine norms (e.g. emotional control and self-reliance) militate against help-seeking (Addis & Mahalik, 2003). Empirical evidence indicates that

men who conform to traditional masculine norms report more negative attitudes towards help-seeking, more stigma, less intention to seek help, and lower rates of formal and informal help-seeking (Good, Dell, & Mintz, 1989; Good & Wood, 1995; Lane & Addis, 2005; Pederson & Vogel, 2007; Smith, Tran, & Thompson, 2008).

One approach to addressing men's low rates of service utilization is developing interventions that increase use of existing mental health services. Another approach is developing alternative interventions for improving mental health functioning that are less stigmatized and more palatable to "traditional" men (i.e. Men that adhere to traditional masculine norms). For example, McKelley and Rochlen (2010) found that alternative interventions such as executive coaching are less stigmatizing than psychotherapy for men. Currently, there are no empirically supported interventions using either approach to influence men's help-seeking. This article describes the development and initial evaluation of a gender-sensitive motivational intervention for men with internalizing symptoms (i.e. depression and anxiety disorders) that incorporates both approaches. We called this intervention gender-based motivational interviewing (GBMI).

GBMI integrates principles of motivational interviewing with gender-based principles derived from social scientific research on the psychology of men and related models of men's help-seeking (Addis & Mahalik, 2003). We drew on motivational interviewing as it is an effective non-confrontational approach to enhancing motivation and reducing resistance (Miller & Rollnick, 2002). Motivational interviewing frequently includes brief assessment and personalized feedback on a targeted health behavior (Hettema, Steele, & Miller, 2005). Empirical support for motivational interviewing has expanded to include numerous health behaviors (Hettema, Steele, & Miller, 2005).

The goal of gender-based strategies is to mitigate gendered barriers that interfere with ambivalence and contemplation so that motivational strategies can be more effective at bringing about behavior change. We organized gender-based strategies into three domains according to the type of gendered barrier: interpersonal, cognitive, and linguistic.

In order to reduce interpersonal barriers, GBMI incorporates an interpersonal style that is designed to rapidly develop an alliance with potentially reactant men. This interpersonal style is characterized by transparency, curiosity, and respect in order to lessen masculine posturing and competition in the room. GBMI works on cognitive barriers by presenting information about the prevalence of mental health disorders and treatment seeking in men. GBMI introduces alternative conceptions of mental disorders using a cognitive-behavioral model, which has been shown to be less stigmatizing than the medical model (Deacon & Lickel, 2009). Both interpersonal and cognitive barriers are addressed while taking into account potential linguistic barriers. Colloquial language is used when describing the interview (e.g. "Personalized feedback" as opposed to psychotherapy) and when labeling a man's distress (e.g. stress as opposed to anxiety) in order to be less stigmatizing. Internalizing disorders and help-seeking are framed using language that is consistent with masculine norms (e.g. Help-seeking can be framed as "regaining control over one's problems.")

The stage model of behavioral therapies recommends a pilot trial in order to demonstrate clinically-meaningful outcomes in at least one domain and to estimate the likely effect size of the treatment (Onken, Blaine, & Battjes, 1997; Rounsaville, Carroll, & Onken, 2001). In the present study, we conducted a pilot randomized-controlled trial of GBMI in order to evaluate its efficacy for improving men's help-seeking behaviors and mental health functioning.

Our primary research questions were as follows:

1. What is the effect of GBMI on mental health functioning?
2. What is the effect of GBMI on stigma about internalizing disorders?
3. What is the effect of GBMI on help-seeking behaviors, attitudes, and intentions?

## Methods

### Participants

The sample consisted of 23 community-dwelling men between the ages of 19 and 57 ( $M = 37.65$ ). The majority of participants were white (20 White, 2 Hispanic, and 1 Black), heterosexual (22 Heterosexual and 1 Bisexual), and working class (4 earned income less than \$15,000, 13 \$15,000–\$50,000, 3 \$50,000–\$75,000, and 3 greater than \$75,000.) Half of the sample obtained a college degree ( $N = 12$ ). The sample had mild to moderate depressive symptoms (BDI-II:  $M = 17.83$ ) and anxiety symptoms (BAI-II:  $M = 9.78$ ).

### Procedures

Participants were recruited using online-classified advertisements seeking men who were “stressed, down, anxious, had trouble sleeping...” and preferred to “handle problems on their own.” Research assistants screened 61 males over the phone and 26 were eligible. Participants needed to score greater than 30 on the DUKE-21 Anxiety and Depression subscale (Parkerson, 2002). We specifically excluded men who had sought formal help in the last six months, so we could measure the effect of GBMI on formal help-seeking.

Those who were eligible for the study were randomly assigned to either a control ( $N = 11$ ) or GBMI ( $N = 12$ ). Participants in the control completed a web survey at time 1 (T1). Participants in the GBMI condition were interviewed at our research laboratory at T1. Both control and GBMI participants completed an identical follow-up web survey one month (T2) and three months (T3) after T1. Participants received \$50 compensation at each of the time points.

**Description of GBMI Protocol**—We developed the GBMI protocol with a goal of providing brief assessment and feedback in a single two-hour session. To do this, we developed an Adobe Flash-Based computer program that administered the assessment battery and then instantly generated a personalized feedback report. In sum, the protocol lasted about 2 hours and consisted of a 30-minute intake interview, a 30-minute computerized assessment, and a 60-minute feedback interview.

The intake interview primarily functioned as a means of establishing rapport and assessing problems. The interviewer assessed current psychosocial problems, perceptions of depression and anxiety, and attitudes towards seeking formal and informal help.

Following the intake interview, participants completed a computerized assessment battery with measures identical to the control condition. After completing the battery, the computer program printed a personalized feedback report that included the participant's scores on symptom measures and critical items.

The feedback interview immediately followed the computerized assessment. During this segment of the protocol, gender-based and motivational interviewing principles were incorporated into how we introduced, presented, and discussed the feedback. The majority of the interview was spent discussing current symptomatology and a participant's reasons to seek help. The end of the session focused on different types of actions (e.g formal help, informal help, coping skills) that could be taken to address their problems.

## Measures

***Alcohol Use Disorders Identification Test (AUDIT; Babor, de la Fuente, Saunders, & Grant, 1992)***—The AUDIT contains 10 items that assess problematic drinking behavior.

***Attitudes towards Seeking Professional Psychological Help Scale: Short Form (ATSPPHS; Fischer & Farina, 1995)***—The 10 item ATSPPHS assesses attitudes towards seeking professional psychological help. Higher scores indicate more positive attitudes towards help-seeking.

***Beck Anxiety Inventory (BAI; Beck & Steer, 1990)***—The BAI is 21-item self-report measure of anxiety.

***Beck Depression Inventory - II (BDI-II; Beck, Steer, & Brown, 1996)***—The BDI-II assesses depressive symptomatology using a 21 item self-report.

***DUKE Health Profile (Parkerson, 2002)***—The Anxiety and Depression subscale (DUKE-AD) of the DUKE Health Profile contains 7 items. This subscale was developed for rapid screening of depression and anxiety symptoms in primary care.

***Help-seeking Behavior Scale (HSBS)***—The HSBS is a 20-item self-report measure developed for this study. It assesses the frequencies of and intentions to seek formal (counselor, primary care doctor, or psychiatrist) and informal (friend, partner, parent) help in the last month. For frequency items, the Likert scales ranges from not at all (0) to weekly or more (3). For intention items, the Likert ranges from very unlikely (0) to very likely (3).

***Symptom Distress Checklist - Revised (SCL; Derogatis, 1994)***—The hostility subscale of the SCL was used to assess hostility, anger, and irritability.

***The Perceptions of Problems in Living Questionnaire (PPL; Magovcevic & Addis, 2005)***—The PPL is an 18-item measure of self-stigma about mental disorders. It contains two subscales: self-stigma (9 items) and normativeness (5 items).

## Results

### Overview of data analytic strategy

Based on the recommendations of Rounsaville, Carroll, and Onken (2001) for pilot trials, we estimated the size of the treatment effect and whether it was clinically meaningful. We applied Cohen's convention for classifying effect sizes as small ( $d = .2$ ), medium ( $d = .5$ ), and large ( $d > .8$ ; Cohen, 1988). Means and effect sizes for T1, T2, and T3 are reported in Table 1. When comparing the two conditions, we used difference scores, which were calculated from baseline by subtracting T1 from T2 (1-month follow-up) and T1 from T3 (3-month follow-up). Difference scores and associated effect sizes are reported in Table 2 and described below.

### What is the effect of GBMI on mental health functioning?

GBMI had a small effect on depressive symptoms at T2 ( $d = .43$ ,  $p = .35$ ) and a moderate effect at T3 ( $d = .50$ ,  $p = .27$ ). Similarly, GBMI had a small effect on anxiety symptoms at T2 ( $d = .37$ ,  $p = .42$ ) and a moderate effect at T3 ( $d = .59$ ,  $p = .19$ ). In more clinical terms, depressive and anxiety symptom decreased from mild to minimal (based on BDI-II and BAI cut-off scores) in the GBMI condition. There was no effect on hostility at T2 ( $d = -.07$ ,  $p = .86$ ) and small effect at T3 ( $d = .22$ ,  $p = .62$ ). GBMI had a large effect on problematic drinking at T2 ( $d = .81$ ,  $p = .11$ ) and a small effect at T3 ( $d = .45$ ,  $p = .32$ ). In clinical terms, problematic drinking decreased from moderate to low in the GBMI condition (based on AUDIT cut-off scores).

### What is the effect of GBMI on stigma about internalizing disorders?

At baseline, there was a moderate difference ( $d = .78$ ,  $p = .24$ ) in stigma with the control condition reporting higher levels. There was a moderate effect on stigma ( $d = -.64$ ,  $p = .16$ ) at T2 due to a greater increase in stigma in the control condition and a small effect at T3 ( $d = .39$ ,  $p = .36$ ).

### What is the effect of GBMI on help-seeking behaviors, attitudes, and intentions?

We assessed both attitudes and intentions to seek formal help (i.e. counselor, primary care doctor, or psychiatrist). At baseline, there was a small difference ( $d = .39$ ,  $p = .36$ ) in attitudes towards formal help-seeking with the GBMI condition reporting more positive attitudes. There was no effect on attitudes at T2 and at T3. Similarly, the GBMI and control conditions evidenced a small difference in intentions to seek formal help at baseline ( $d = .37$ ,  $p = .40$ ) with the GBMI condition reporting higher levels. GBMI had a small effect on intentions at T2 ( $d = .39$ ,  $p = .39$ ) and at T3 ( $d = .28$ ,  $p = .53$ ) with the latter due to a decrease in intentions in the control condition.

Intentions to seek informal help was an aggregate of friends, parents, relatives, and support groups. At baseline, there was a large difference ( $d = .78$ ,  $p = .08$ ) in informal help-seeking

intentions with the GBMI condition reporting greater intention. A comparison of difference scores revealed a large difference in intentions at T2 ( $d = -.85$ ,  $p = .07$ ) and moderate at T3 ( $d = -.51$ ,  $p = .26$ ). The GBMI condition evidenced a decrease in intention across follow-ups relative to baseline while intentions increased in the control.

If a participant had a positive difference score for informal help-seeking on the HSBS, they were coded as having increased their use of informal help. The GBMI and control conditions differed the most in their use of parents (25% in GBMI versus 0% in control) and significant others (27% in GBMI versus 0% in control) for help. If a participant sought help from a counselor, psychiatrist, or primary care doctor, they were coded as having sought formal help. There was no difference in formal help-seeking between conditions.

## Discussion

We evaluated whether GBMI could function both as an alternative intervention for improving mental health functioning and as a means for increasing men's use of formal and informal help. Overall, the findings for the pilot were mixed with results demonstrating greater effects on symptomatology than help-seeking. The following findings were discussed with the important caveat that none of the results were statistically significant as the sample size was small.

The small to large effects on internalizing and externalizing symptoms suggested that clinically-meaningful symptom reduction is possible after only a single session of GBMI. These findings were consistent with other brief motivational interventions (Hettinga, Steele, & Miller, 2005). It may be that improving men's recognition of emotional problems in a non-confrontational manner can motivate men to make positive changes in their lives.

The conflicting findings on help-seeking could be explained by distress and concrete barriers. GBMI did not improve help-seeking attitudes, intentions, or formal help-seeking but had a small effect on stigma and informal help. As distress is a primary motivator for treatment, it is reasonable to expect decreased intention to seek help when experiencing decreased symptomatology (Kessler, Brown, & Broman, 1981). There also were many anecdotal reports of concrete barriers to help-seeking (e.g. lack of insurance), which were not a primary target of GBMI.

In the simplest sense, these findings further demonstrated a common help-seeking paradox: getting traditional men to seek formal help is very difficult, yet men tend to benefit from help. Consequently, it may be more useful to address men's low rates of help-seeking by offering alternative interventions that improve mental health functioning. The field of clinical psychology is already witnessing growing interest and demand for executive coaching and life coaching (McKelley & Rochlen, 2007). GBMI, which is labeled as "Personalized feedback" to participants, may not carry the stigmatizing baggage and logistical trappings of traditional mental health care. Additional advantages of using GBMI as an alternative intervention include low delivery cost due to computerized assessment, prevention of more significant mental health disorders, and easier integration into less stigmatized setting (e.g. primary care and returning veteran screenings).

While the study design and protocol addressed the aims of an initial evaluation of GBMI, it came with costs to power and internal validity. The low power meant we were unable to detect statistical significance and could only estimate effect sizes. The internal validity was weakened by baseline differences between GBMI and the control that may have been systematic and due to the interview conducted prior to the computerized assessment.

There are several possible future directions of research. One possibility would be isolating the effect of GBMI on psychosocial barriers by sampling populations with fewer concrete barriers to care (e.g. college students). In future replications, true symptom baselines could be established prior to any clinical contact. After further treatment development, a larger scale randomized control trial could more precisely measure the effect of GBMI. As the need is so significant and the costs of untreated mental disorders is so great, the field should continue to develop and investigate less stigmatizing approaches for engaging men in their own mental health as well as for increasing motivation to seek help.

## References

- Addis ME, Mahalik JR. Men, masculinity, and the contexts of help seeking. *American Psychologist*. 2003; 58(1):5–14. [PubMed: 12674814]
- Babor, TF.; De La Fuente, JR.; Saunders, J.; Grant, M. AUDIT: The Alcohol Use Disorder Identification Test. Guidelines for use in primary health care. Geneva, Switzerland: World Health Organization; 1992.
- Beck, AT.; Steer, RA. Manual for the Beck Anxiety Inventory. San Antonio, TX: Psychological Corporation; 1990.
- Beck, AT.; Steer, RA.; Brown, GK. Manual for the Beck Depression Inventory. San Antonio, TX: Psychological Corporation; 1996.
- Cohen, J. *Statistical power analysis for the behavioral sciences*. 2. Hillsdale, NJ: Erlbaum; 1988.
- Deacon BJ, Lickel JJ. On the brain disease model of mental disorders. *the Behavior Therapist*. 2009; 32:113–118.
- Derogatis, LR. *Symptom Checklist-90-R: Administration, scoring, and procedures manual*. 3. Minneapolis, MN: National Computer Systems; 1994.
- Fischer E, Farina A. Attitudes toward seeking professional psychological help: A shortened form and considerations for research. *Journal of College Student Development*. 1995; 36(4):368–373.
- Forchuk C, Jensen E, Csiernik R, Ward-Griffin C, Ray S, Montgomery P, et al. Exploring differences between community-based women and men with a history of mental illness. *Issues in Mental Health Nursing*. 2009; 30(8):495–502. [PubMed: 19591023]
- Good GE, Dell DM, Mintz LB. Male role and gender role conflict: Relations to help seeking in men. *Journal of Counseling and Development*. 1989; 36(3):295–300.
- Good GE, Wood P. Male gender role conflict, depression, and help seeking: Do college men face double jeopardy? *Journal of Counseling and Development*. 1995; 74(1):70–75.
- Hettema J, Steele J, Miller WR. Motivational interviewing. *Annual Review of Clinical Psychology*. 2005; 1:91–111.
- Kessler RC, Brown RL, Broman CL. Sex differences in psychiatric help-seeking: Evidence from four large-scale surveys. *Journal of Health and Social Behavior*. 1981; 22(1):49–64. [PubMed: 7240706]
- Lane J, Addis M. Male gender role conflict and patterns of help seeking in Costa Rica and the United States. *Psychology of Men and Masculinity*. 2005; 6(3):155–168.
- Magovcevic M, Addis ME. Linking gender-role conflict to nonnormative and self-stigmatizing perceptions of alcohol abuse and depression. *Psychology of Men & Masculinity*. 2005; 6:127–136.
- McKelley R, Rochlen A. The practice of coaching: Exploring alternatives to therapy for counseling-resistant men. *Psychology of Men & Masculinity*. 2007; 8(1):53–65.



- McKelley RA, Rochlen AB. Conformity to masculine role norms and preferences for therapy or executive coaching. *Psychology of Men and Masculinity*. 2010; 11(1):1–14.
- Miller, WR.; Rollnick, S. *Motivational interviewing: Preparing people for change*. 2. New York, NY US: Guilford Press; 2002.
- Oliver MI, Pearson N, Coe N, Gunnell D. Help-seeking behaviour in men and women with common mental health problems: Cross-sectional study. *British Journal of Psychiatry*. 2005; 186(4):297–301. [PubMed: 15802685]
- Onken, LS.; Blaine, JD.; Battjes, R. Behavioral therapy research: A conceptualization of a process. In: Henggeler, SW.; Amentos, R., editors. *Innovative approaches from difficult to treat populations*. Washington, DC: American Psychiatric Press; 1997. p. 477-485.
- Parkerson, GR. User's guide for Duke Health Measures: Duke Health Profile (DUKE), Duke Severity of Illness Checklist (DUSOI), Duke Case-Mix System (DUMIX), Duke Social Support and Stress Scale (DUSOCS). Durham, NC: Department of Community and Family Medicine, Duke University Medical Center; 2002.
- Pederson EL, Vogel DL. Male gender role conflict and willingness to seek counseling: Testing a mediation model on college-aged men. *Journal of Counseling and Development*. 2007; 54(4):373–384.
- Rounsaville BJ, Carroll KM, Onken LS. A stage model of behavioral therapies research: Getting started and moving on from stage I. *Clinical Psychology: Science and Practice*. 2001; 8:133–142.
- Smith JP, Tran GQ, Thompson RD. Can the theory of planned behavior help explain men's psychological help-seeking? Evidence for a mediation effect and clinical implications. *Psychology of Men and Masculinity*. 2008; 9(3):179–192.



Table 1

Raw scores at baseline, 1 month follow-up, and three-month follow-up (Standard deviation or percent in parentheses)

Variable	Control			GBMI		
	Baseline N = 11	1 mo N = 10	3 mo N = 11	Baseline N = 12	1 mo N = 12	3 mo N = 12
BDI <sup>a</sup>	18.09 (8.40)	17.3 (6.63)	17.05 (11.12)	17.58 (9.25)	12.5 (9.20)	10.38 (8.88)
BAI <sup>b</sup>	7.81 (7.49)	7.8 (6.07)	11.51 (14.67)	11.58 (5.62)	8.67 (6.95)	7.91 (6.04)
AUDIT <sup>c</sup>	6.27 (7.62)	6.33 (6.75)	4.85 (5.36)	8.33 (8.62)	4.54 (5.28)	5.17 (5.89)
SCL <sup>d</sup>	7.27 (6.17)	5.8 (2.94)	5.55 (6.22)	6.13 (6.73)	4.85 (4.47)	2.67 (2.30)
ATSPPHS <sup>e</sup>	25.0 (4.84)	26.1 (4.15)	26.29 (4.50)	27.66 (8.15)	29.0 (7.24)	29.17 (5.91)
PPL <sup>f</sup>	49.36 (12.48)	55.3 (12.82)	50.91 (15.66)	43.58 (10.04)	43.81 (10.49)	40.25 (7.62)
Intentions – F <sup>g</sup>	1.91 (2.34)	1.3 (1.83)	1.27 (1.95)	2.67 (1.87)	2.83 (2.25)	2.5 (2.43)
Intentions – I <sup>h</sup>	5.27 (2.69)	5.4 (3.92)	5.64 (3.47)	7.5 (3.00)	6.33 (2.39)	6.67 (2.90)
Formal Help (%)	0(0%)	2(20%)	4(36%)	0(0%)	2(17%)	3(25%)
Parent help (%)	7(64%)	4(36%)	4(36%)	4(33%)	3(25%)	3(25%)
Partner help (%)	9(82%)	5(45%)	6(55%)	11(92%)	7(58%)	9(75%)
Friend help (%)	7(64%)	3(27%)	5(45%)	9(75%)	6(50%)	9(75%)

Note.

<sup>a</sup>BDI = Beck Depression Inventory-II.

<sup>b</sup>BAI = Beck Anxiety Inventory.

<sup>c</sup>AUDIT = Alcohol Use Disorders Identification Test.

<sup>d</sup>SCL = Symptom Checklist 90 – R, Hostility subscale.

<sup>e</sup>ATSPPHS = Attitudes towards Professional Help Seeking Scale.

<sup>f</sup>PPL = Perceptions of Problems in Living, Stigma subscale.

<sup>g</sup>Intentions – F = HSBS, Intentions to Seek Formal Help subscale.

<sup>h</sup>Intentions – I = HSBS, Intentions to Seek Informal Help subscale.

**Table 2**  
Comparison of differences scores at 1 month follow-up and three-month follow-up

Variable	Control			GBMI			Cohen's D (P-value)
	1 mo N = 10	3mo N = 11	1 mo N = 12	3 mo N = 12	1 mo N = 22	3 mo N = 23	
BDI <sup>a</sup>	-.08	-1.03	-5.08	-7.2	.43 (.35)	.50 (.27)	
BAI <sup>b</sup>	-.3	3.73	-2.9	-3.67	.37 (.42)	.59 (.19)	
AUDIT <sup>c</sup>	-.56	-1.42	-4.09	-3.17	.81 (.11)	.45 (.32)	
SCL <sup>d</sup>	-1.8	-1.73	-1.28	-3.47	-.07 (.86)	.22 (.62)	
ATSPPHS <sup>e</sup>	1.30	1.29	1.33	1.5	0 (.99)	-.04 (.93)	
PPL <sup>f</sup>	6.8	1.54	.91	-3.33	-.64 (.16)	.39 (.36)	
Intentions – F <sup>g</sup>	-.40	-.64	.17	-.17	.39 (.39)	.28 (.55)	
Intentions – I <sup>h</sup>	.30	.37	-1.17	-.83	-.85 (.07)	-.51 (.26)	
Formal Help (%) <sup>j</sup>	2(20%)	4(36%)	2(17%)	4(33%)			
Parent help (%) <sup>j</sup>	0(0%)	2(18%)	3(25%)	1(8%)			
Partner help (%) <sup>k</sup>	0(0%)	0(0%)	2(17%)	3(27%)			
Friend help (%) <sup>l</sup>	1 (10%)	2(18%)	1 (9%)	2(17%)			

Note. Difference scores were calculated by subtracting baseline scores from follow-up scores.

<sup>a</sup>BDI = Beck Depression Inventory-II.

<sup>b</sup>BAI = Beck Anxiety Inventory.

<sup>c</sup>AUDIT = Alcohol Use Disorders Identification Test.

<sup>d</sup>SCL = Symptom Checklist 90 – R, Hostility subscale.

<sup>e</sup>ATSPPHS = Attitudes towards Professional Help Seeking Scale.

<sup>f</sup>PPL = Perceptions of Problems in Living, Stigma subscale.

<sup>g</sup>Intentions – F = HSBS, Intentions to Seek Formal Help subscale.

<sup>h</sup>Intentions – I = HSBS, Intentions to Seek Informal Help subscale.

<sup>i</sup> Formal help (%) = the number/percent of participants that increased their use of formal help from a counselor, psychiatrist, or primary care doctor since baseline.

<sup>j</sup> Parent help (%) = the number/percent of participants that increased their use of informal help from parents since baseline.

<sup>k</sup> Significant other help (%) = the number/percent of participants that increased their use of informal help from their partner since baseline.

<sup>l</sup> friend help (%) = the number/percent of participants that increased their use of informal help from friends since baseline