Effect of demographic and clinical factors on depression self-efficacy

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Abstract

Aim of the study. For individuals with depression, depression self-efficacy is important. This study sought to understand the factors that are associated with depression self-efficacy.

Material and methods. Participants (N = 275) in a trial of an internet-based depression intervention completed the Depression Self-Efficacy Questionnaire [1].

Results. A 3-way (gender * treatment experience * family history of depression) interaction predicted depression self-efficacy. Women with treatment experience reported significantly lower self-efficacy scores compared to those without treatment experience. For men, however, family history of depression moderated the relationship between past treatment experience and self-efficacy. Thus, among men with family history of depression, those without prior treatment experience had the highest depression self-efficacy scores and those with prior treatment experience – the lowest, but this pattern was not observed in men with unknown or no family history of depression.

Discussion. Self-efficacy of depression appears to vary based on gender, past treatment experience, and the individual's family history of depression, and for some individuals, past treatment experience may be associated with reduced self-efficacy.

Conclusions. Findings suggest possible targets for interventions aiming at increasing depression self-efficacy.

self-efficacy; depression; gender; family history

INTRODUCTION

Depression is a significant contributor to the global burden of disease [2]. A substantial body of research highlighted the relationship between depression and the construct of self-efficacy, that is, individuals' beliefs in their ability to exercise control over their ideas, thoughts, and ac-

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tions [3]. The association between depression and lower self-efficacy is now well-established. Furthermore, some studies suggest that one's self-efficacy can predict future depression [4] as well as duration of remission after treatment [5].

A domain of self-efficacy that is of particular interest for depression is depression-related self-efficacy, or individuals' perceived ability and willingness to cope with and manage symptoms of depression. Though numerous studies have investigated the relationship between depression and self-efficacy, studies of depression self-efficacy specifically are scarce, prompting some authors to call for a greater exploration of

self-efficacy specifically regarding management of depressive symptoms [1]. Indeed, depression self-efficacy has been shown to be a predictor of relapse and rehospitalization [6,7], suggesting that it is an important, though understudied, variable. To date, few studies investigated factors that may be related or contributing to depression self-efficacy, such as individual differences. There is some evidence that gender differences may be present in self-reports of perceived coping ability, with men reporting higher self-efficacy [8,9]. However, other studies found no evidence of gender differences in self-efficacy scores related to mental health or depression [10,11].

Thus, the purpose of this investigation is to address the gap in the literature by exploring factors associated specifically with depression self-efficacy, with a special focus on factors that are readily assessed in most treatment settings, including family history of depression, gender, and prior treatment experience. Considering that these variables are often gathered early in treatment, knowing whether they might be related to depression self-efficacy may help providers structure treatment in a way to bolster depression self-efficacy of their patients.

MATERIALS AND METHODS

Participants.

Participants (N = 275) were individuals taking part in a single-arm trial of a fully-automated internet intervention for depression from September 2012 to February 2013 [12]. Eligible participants were ≥ 18 years of age, English proficient, and reported having frequent access to the internet and email (3+ times per week). Participants were recruited largely via Google Ads (formerly Google Adwords), but also via word of mouth, links on other websites, and other avenues.

Measures.

Demographics and History. Participants were asked about their age, gender, English language proficiency, treatment history, and family history of depression (whether one or both parents/caregivers suffered from depression), as well as other questions that are not part of this report.

Quick Inventory for Depressive Symptomatology (QIDS; [13]) is a 16-item self-report measure of depressive symptom level. The items are rated on a 4-point scale, with each point describing the level of the symptom, from 0 (no symptom) to 3 (description of severe symptom). Scores ranging from 6 to 10 indicate mild depression, 11 to 15 – moderate depression, 16 to 20 – severe depression, and greater than 21 – very severe depression.

Depression Self-Efficacy Questionnaire (DSEQ) was created by modifying items from the Self-Efficacy Questionnaire for Depressed Adolescents [1,12]. DSEQ contains 12 items rated on a sliding scale from 0 to 100. There are no specific cut-offs, but higher scores indicate higher depression self-efficacy.

Participants also completed other measures that are not part of this report.

Procedures.

Participants arriving at the intervention website read a brief description and, if interested and eligible, signed consent and completed questions about their demographics and baseline assessments (QIDS and the DSEQ). Participants received feedback on their responses; those indicating suicidality received a statement of concern and a link to resources. Participants were then given the link to the Depression Management Course (DMC), which consisted of eight lessons based on Cognitive-Behavioral Therapy for depression. The DMC is described in detail elsewhere [12]. All procedures were approved by the Institutional Review Board of the Institutional Review Board of the University of California, San Francisco (#10-00059).

Analytical considerations.

The current report presents analyses of baseline survey data gathered as part of the parent study. Family history of depression of one parent/caregiver and both parents/caregivers were combined into a single category: family history present; the other two categories were "no family history" and "uncertain family history". Depression treatment history was dichotomized to present (regardless of treatment type) and absent. An ANCOVA model was constructed, with baseline DSEQ score as the dependent variable and

treatment history and family depression history as main predictors of interest, controlling for QIDS score and demographic variables (age and gender). 3-way and 2-way interactions between main predictors and control variables were explored; non-significant interactions were iteratively removed until none remained.

RESULTS

Of 275 participants, 190 (69.1%) were women. Participants' mean age was 35.49 years old (SD = 12.91). Participants' mean QIDS score was 15.17 (SD = 4.51), suggesting moderate-to-severe depression, and their mean DSEQ score was 44.68 (SD = 18.13). Of the 275 participants, 161 (58.5%) reported having had prior treatment. Approximately half of the participants (n = 139, 50.6%) reported having a family history of depression, 68 (24.7%) reported no family history of depression, and 68 (24.7%) reported an unknown family history of depression.

An ANCOVA model revealed a significant three-way interaction (gender * prior treatment experience * family history of depression) in predicting depression self-efficacy scores ($F_{(2,261)}$ = 3.316, p = 0.038; see Figure 1 and Table 1), controlling for age and QIDS scores. Regarding control variables, age was directly related to self-efficacy ($F_{(1,261)}$ = 6.70, p = .01, partial eta^2 = .025), and QIDS scores were inversely related to self-efficacy ($F_{(1,261)}$ = 111.58, p < .001, partial eta^2 = .299).

To better understand the 3-way interaction, it was split by gender, and separate analyses were conducted for women and men, as described below.

For women, the 2-way interaction (family history * treatment history) was not significant ($F_{(2,182)}$ = 0.62, p = .54), and it was removed to examine main effects. Treatment experience was related to self-efficacy, such that women with no treatment experience had higher depression self-efficacy scores compared to those with treatment experience ($F_{(1,184)}$ = 8.37, p = .004) (See Figure 1 and Table 1). Family history of depression was not related to depression self-efficacy (p = .86). Regarding controls, age was directly related to depression self-efficacy scores ($F_{(1,184)}$ = 8.36, p = .004), and QIDS scores were inversely related ($F_{(1,184)}$ = 58.02, p = .00).
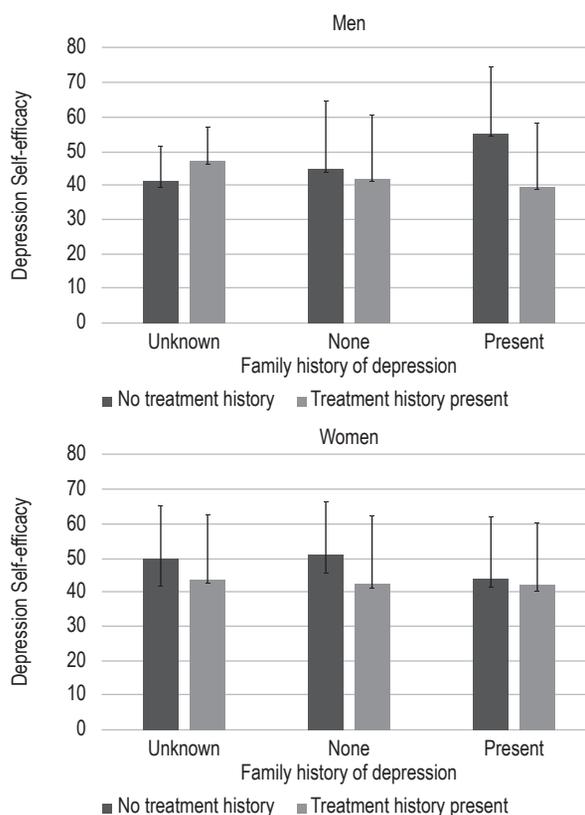

Figure 1. Depression self-efficacy scores for women and for men, by family history of depression and treatment history.

Table 1. Depression self-efficacy scores for women and for men, by family history of depression and treatment history.

Family history	Men		Women	
	No treatment history Mean (SD)	Treatment history present Mean (SD)	No treatment history Mean (SD)	Treatment history present Mean (SD)
Unknown	41.25 (10.3)	47.25 (9.6)	49.88 (16.1)	43.82 (19.5)
None	44.75 (19.9)	42.33 (18.1)	51.05 (16.2)	42.37 (20.8)
Present	55.12 (19.3)	39.68 (18.5)	44.86 (17.8)	42.26 (18.8)

For men, the two-way interaction (family history * treatment history) bordered on significance ($F_{(2,77)} = 3.07$, $p = 0.052$); it should be noted that the subsample of men was quite small ($n = 85$). As can be seen in Figure 1 and Table 1, treatment-naive men with a family history of depression appeared to have higher depression self-efficacy compared to men with treatment experience, who reported the lowest depression self-efficacy scores. Regarding main effects, only QIDS score was inversely related to self-efficacy ($F_{(1,77)} = 50.48$, $p < .001$, partial eta^2 = .40).

DISCUSSION

Our findings suggest family history and treatment experience may affect depression self-efficacy differently depending on gender and treatment experience.

Results for women suggest that prior treatment consistently relates to lower depression self-efficacy regardless of family history of depression. Research suggests that individuals with previous treatment experience are more likely to think positively about treatment for depression [14] and are more likely to seek mental health treatment [15]. It is possible, that for women, depression self-efficacy is externalized to treatment, if improvement is attributed to treatment, which might lead to a belief that only treatment can manage their depression.

For men, family history of depression moderates the relationship between past treatment experience and self-efficacy. Thus, the pattern of men with a family history of depression resembled that of the women; indeed, those without treatment experience had highest self-efficacy scores and those with treatment experience – the lowest. Treatment-naive men with a family depression history may have learned what to do to forestall depression; this is consistent with previous research highlighting an association between family history and no treatment history with lower treatment-seeking behavior [16], though more recent reports find different results [17]. It may also be consistent with the finding that greater social support is associated with higher depression self-efficacy [9], as a family with past depression history may offer advice and assistance, though it is unclear why this effect was not observed for women. Given the pervasive stigma of mental illness among men [18], it is possible that those who seek treatment only do so when they cannot manage symptoms any longer (low depression self-efficacy) and given their family history, may feel hopeless about their own depression prospects. Men with unknown and no family history of depression did not seem to exhibit this pattern; indeed, the pattern was reversed for men with unknown family history of depression.

There are several limitations that should be acknowledged. Given that data came from participants in an online depression intervention website, individuals whose depression self-efficacy may have been low enough to preclude them from engaging with such a website or high enough that engagement was deemed unnecessary may not be represented. Further, participants were proficient in written English, had frequent Internet access, and an interest in information and resources for depression. The findings may therefore not generalize to individuals who are not proficient in the English language, infrequent Internet users or with limited Internet access, or those who lack insight into or awareness of their condition.

These findings suggest that depression self-efficacy may be influenced by individual factors, such as gender, and clinical and familial factors, such as past treatment experience and family history of depression. Given that higher depression self-efficacy is important for clinical outcomes [6,7], there is a need to develop interventions aimed at enhancing depression self-efficacy, and our findings offer clinicians guidance regarding the types of clients for whom such interventions may be most beneficial. Gender, treatment history, and family history of mental illness are commonly gathered at the onset of treatment. The results of this study suggest that patients may benefit from personalized discussions about depression self-efficacy based on these three factors. For instance, men with a family history of depression may benefit from realizing that observing family members with depression gave them knowledge and resources about mood management. Women, on the other hand, may benefit from more in-depth discussions about their own agency over depression management. Providers in general should

continue to emphasize that the use of treatment does not indicate one's inability to manage depression, but rather an indication of being proactive in utilizing all available resources. Furthermore, the provision of additional psychoeducational resources for depression (e.g., resources available from trusted sources such as the World Health Organization or national health organizations) may serve to enhance one's perception of their ability to cope with and manage symptoms, either independently or via professional help, which has the potential to positively influence overall public health.

Declaration of interest: *The authors declare that they do not have any conflicts of interest*.

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