

# Moral Stress and Job Burnout Among Frontline Staff Conducting Clinical Research on Affective and Anxiety Disorders

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There has been increased attention on job-related stress and burnout experienced by clinicians working with vulnerable and at-risk populations, including effects on personal mental health, therapeutic decision-making, and job effectiveness. Little is known, however, about the job-related stressors and symptoms of burnout experienced by clinical research staff working with similar populations, especially in terms of moral stress they may experience when adherence to scientific procedures appears to conflict with their personal commitment to address the clinical needs of their research participants or role as health care provider. In this national study, 125 frontline research workers conducting clinical research studies with individuals diagnosed with affective and anxiety disorders completed an online survey including measures assessing research work–related moral stress, job burnout, organizational ethics climate, and organizational research support. Results indicated that younger research workers, those whose research work was part of a graduate assistantship, and perceptions of higher participant research risk were associated with higher levels of moral stress and job burnout. Supportive organizational climates were associated with lower levels of moral stress and job burnout. Recommendations for clinical research workers, supervisors, and clinical training directors are discussed.

*Keywords:* clinical research, research ethics, moral stress, job burnout

Professional work with individuals diagnosed with mental health conditions can be both immensely rewarding and highly stressful. A growing literature has identified clinical work-related distress, including burnout and secondary trauma, experienced by practitioners who work with patients with histories of trauma; partner violence; drug abuse; suicidality; and affective, anxiety, and other serious disorders (Cohen & Collens, 2013; Salston & Figley, 2003; Voss Horrell, Holohan, Didion, & Vance, 2011; Webb, 2011). The emotional toll and precarious nature of professional practice can jeopardize psychologists' own mental health in the form of emotional exhaustion, depersonalization, compassion

fatigue, vicarious trauma, and lowered self-efficacy (Jenaro, Flores, & Arias, 2007; Lee, Lim, Yang, & Lee, 2011; Linnerooth, Mrdjenovich, & Moore, 2011; McGourty, Farrants, Pratt, & Can-kovic, 2010). Occupational stress among professional psychologists can also lead to reduced willingness to help, overcompensating efforts to "save" clients, boundary violations, empathy failure, and other behaviors that impair job performance and risk compromising competent therapeutic decisions (Bearse, McMinn, Seegobin, & Free, 2013; Collins & Long, 2003; Johnson et al., 2011; Newell & MacNeil, 2010; Simmons & Koester, 2003; Webb, 2011).

In institutional settings, occupational stress can stem from a complex combination of actual work-related conditions or factors; interpersonal stressors, such as disagreements with coworkers or supervisors; or environmental conditions, including inadequate support or pressure to complete tasks (Hanna & Mona, 2014; Mazzola, Walker, Shockley, & Spector, 2011; Maslach, 2003). In a recent study, Rupert and Kent (2007) found that burnout was especially prominent among psychologists working in agency settings who reported emotional exhaustion related to the number of work demands and less control over work activities. Staff perceptions of organizational support, including work environments that promote respectful interactions and support for workers who may experience stress or job burden, have been linked to lower levels of staff turnover, workplace stress, and unethical behaviors in traditionally high-stress professions, such as nursing (Gelsema, van der Doef, Maes, Akerboom, & Verhoeven, 2005; Hamric, Borchers, & Epstein, 2012; Hart, 2005; Lutzen, Blom, Ewalds-Kvist, & Winch, 2010; Pauly, Varcoe, Storch, & Newton, 2009; Schluter, Winch, Holzhauser, & Henderson, 2008; Ulrich et al., 2007). To date, however, there has been little attention on the similar and unique stressors that may emerge among clinical

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research staff whose jobs require direct interactions with research participants suffering from trauma, anxiety, and other affective disorders.

### Stress Factors in the Conduct of Research Involving Participants With Mental Disorders

Clinical research staff engaged in participant recruitment, informed consent, and more clinically intensive study tasks, such as diagnostic intake and interviews with participants diagnosed with affective and anxiety disorders, may experience stressors similar to those experienced by clinicians, including vicarious traumatization, emotional exhaustion, impaired performance, and burnout. Research participants diagnosed with mental health conditions may present with vulnerabilities that raise unique moral dilemmas and challenges in attempting to fulfill professional research obligations and meet the needs of the individuals with whom they work (Fisher, 2013), such as determining informed consent capacity, disclosing confidential information (such as self-harm or harm to others), concerns about participant coercion, and personal safety concerns among staff (Fulford & Howse, 1993; Newman, Risch, & Kassam-Adams, 2006; Roberts et al., 2002; Suarez-Blacazar & Kinney, 2006). Such dilemmas have the potential to contribute to personal or professional boundary blurring and confusion among both staff and clients with regard to the nature and intent of interventions, the responsibilities of research staff, and expectations of services by patient-participants (Garland, McCabe, & Yeh, 2008; Resnik, 2009; Roberts et al., 2002).

Research staff may also be confronted with feelings of powerlessness and relational alienation unique to the limiting nature of their investigative roles. For example, specific study inclusion and exclusion criteria during recruitment and screening may involve rejecting persons who are in need of services or accepting individuals into protocols whom staff believe are insufficiently individualized for participants' needs. As with practicing psychologists, stress associated with role limitations may be exacerbated in institutional settings, where most clinical research takes place. In addition, frontline research staff are often graduate students, graduates of master's programs, or postdoctoral fellows, who may have had little training or experience in handling the pressures associated with the unique limitations of mental health research.

Staff working under research-related limitations in the discharge of individualized clinical services may experience painful feelings and psychological disequilibrium associated with perceived lack of ability to do what they believe is right. These feelings may be characterized as moral stress, first described by Jameton (1984, 1993) to describe emotional conflict experienced by nurses who felt institutional constraints limited their ability to pursue the right course of action. Moral stress has been associated with feelings of anger, frustration, powerlessness, job burnout, and emotional exhaustion among nurses, physicians, and other health professionals (Corley, Elswick, Gorman, & Clor, 2001; Hamric & Blackhall, 2007; Hamric et al., 2012; Joseph & Deshpande, 1997; Lutzen et al., 2010; Maslach, 2003; Schluter et al., 2008; Ulrich et al., 2007).

Fisher, True, Alexander, and Fried (2013) were the first to apply the moral stress framework to examining ethics-relevant work-related attitudes experienced by a national sample of frontline research staff members whose responsibilities included face-to-face interaction with participants in community-based drug-use

research. Using psychometrically validated scales completed through an anonymous Web-based survey, they found that approximately half of the respondents experienced at least moderate levels of moral stress and that more than one third felt overburdened by job demands. Some concerns were related to challenges implementing human subjects' protections, including concern that participants did not fully understand the informed consent or ignored research risks when money was offered. At least one third of respondents expressed unease about what they perceived to be the lack of external validity of required inclusion criteria and restrictions on providing participants with needed referrals. On the positive side, frontline researchers who perceived their organizations as committed to research ethics and staff support experienced lower levels of moral stress.

### Purpose of This Study

The primary aim of this study was to begin to focus empirical attention on the nature of and organizational factors influencing work-related moral stress and job burnout among frontline staff who conduct recruitment, screening, informed consent, psychological assessment, and clinical interviews for research involving individuals with affective and anxiety disorders. Moral stress and organizational support have been studied among drug use researchers (Fisher et al., 2013), but research has not yet investigated these questions among mental health researchers. In the current study, we adapted Web-based measures previously used to examine moral stress, job burnout, and organizational climate among community-based drug research workers to address these specific study goals: (a) explored the nature of moral stress and its relationship to job burnout among research staff members conducting face-to-face research tasks for empirical studies on anxiety and mood disorders and (b) tested the hypothesis that perceived organizational support for general and ethics-specific research responsibilities serves as a protective factor for these stressors.

### Method

#### Participants

Participants were recruited through e-mail announcements to a national sample of 153 principal investigators currently conducting research on anxiety or mood disorders in the United States identified through the National Institute of Health Research Portfolio Online Reporting Tool (RePORT). The e-mail asked investigators to forward a survey announcement to any research staff currently working on a mental health-related study under their supervision. The announcement described the study and inclusion criteria (current face-to-face engagement in research activities with participants with anxiety or mood disorders) and included a link to a dedicated website to complete the online survey. A total of 139 research workers responded. We excluded from analysis 10 participants who did not complete survey measures, indicated no face-to-face contact with participants, or engaged in serial responding (e.g., consistently endorsing a single rating for all Likert-type questions). Four participants indicated that they had not earned a college degree and were excluded to facilitate analysis, leaving a total of 125 participants.

## Measures

**Moral stress and job burnout.** Items assessing moral stress and job burnout were adapted for mental health research workers from the Research Moral Stress Scale (RMSS; Fisher et al., 2013;  $\alpha = .92$ ). A 4-point Likert-type scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*), the RMSS was developed to examine moral distress among frontline workers conducting community-based drug use research. On the RMSS, in response to the stem “In my current mental health research job,” participants answer 25 items tapping job concerns over participant welfare (e.g., “I believe the risks of participation are too high for some participants”) and burnout example (e.g., “I worry the research is hardening me emotionally”). On the basis of a review of the literature on challenges conducting clinical research with individuals diagnosed with mental health conditions, we added four additional items that tapped concerns specific to mental health research work (see Table 1 for a list of all scale items adapted for this study).

**Research ethics climate.** The 13-item Research Ethics Climate Scale (RECS; Fisher et al., 2013;  $\alpha = .85$ ) taps participant perceptions of organizational policies and procedures aimed at promoting the welfare of research participants and a positive ethical environment for research staff. We adapted the stem of this 4-point Likert-type scale, which ranges from 1 (*strongly disagree*) to 4 (*strongly agree*), to say “The organization where I currently work on a mental health research study” and followed it by items including statements such as “Monitors staff adherence to ethical procedures” and “Has adequate policies to protect participant privacy and confidentiality.”

**Organizational support.** The 16-item Organizational Research Support Scale (ORSS; Fisher et al., 2013;  $\alpha = .92$ ) employs a 4-point Likert-type scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*) that asks participants to evaluate statements related to general institutional attention to and work-related resources for research staff. The ORSS stem adapted for this study, “The organization where I currently work on a mental health research study,” was followed by statements such as “Provides clear expectations about research staff duties” and “Includes research staff in recruitment and data collection planning.”

**Social desirability.** The Marlowe-Crowne Social Desirability Scale Short Form (Crowne & Marlowe, 1960; Reynolds, 1982;  $\alpha = .75$ ) was included to assess response bias among respondents. This frequently used measure assesses participants’ desire to present in a positive light in both work and social situations through responses to 13 true–false statements. The Marlowe-Crowne scale has been used in a number of related studies, including research with frontline drug research workers (Fisher et al., 2013) and organizational ethics climate (e.g., Olson, 1998), and has been shown to be a reliable measure of response bias.

**Demographic information.** Descriptive data were collected on personal demographic data (e.g., age, gender, self-reported ethnic identity, level of education, and income), the nature of the mental health research that respondents were currently working on (e.g., methods and design, specific work roles), and research sample characteristics (e.g., participant diagnosis and comorbid conditions, socioeconomic status, race or ethnicity) and whether they counsel research participants even when not part of their research job. On the basis of community advisory board recom-

Table 1

Factor Loadings and Descriptive Statistics for Items on the Moral Stress Scale for Clinical Research (MSS-CR) and the Research Job Burnout Scale (RJBS)

Scale item	Factor loading		% agree	<i>M</i>	<i>SD</i>
	MSS-CR ( $\alpha = .90$ )	RJBS ( $\alpha = .85$ )			
Could not adequately protect participants’ confidentiality	.74	.22	5	1.24	.61
Feel tempted to hint at inclusion criteria with potential participants to increase enrollment	.70	.06	9	1.36	.71
Believe the risks of participation are too high for some participants	.70	.27	10	1.37	.77
Feel I am offering false hope to research participants	.66	.34	13	1.50	.78
Have considered disclosing confidential information to protect from harm	.64	.13	15	1.52	.85
Lose the trust of participants because they had a bad research experience in the past	.64	-.04	26	1.83	.90
Do not believe some participants really understand the research they agree to	.64	.17	38	2.18	.93
Worry participants feel pressure to consent	.63	.04	20	1.63	.93
Think the research has little value	.62	.31	7	1.38	.67
See other staff members treat participants with disrespect	.62	.22	7	1.38	.63
Could not correct a problem in how the research was conducted	.60	.29	30	1.98	.96
Worry that participants are confused about treatment and research	.59	.27	42	2.30	1.03
Know some participants have given false answers to get into the study	.55	.10	41	2.22	.95
Cannot provide participants with the service referrals they need	.55	.18	27	1.91	.97
Do not believe participating in the study will benefit participants	.53	.18	13	1.61	.75
Believe offering money made some participants ignore risks	.49	.16	42	2.32	.89
Believe the screening criteria exclude people who should be in the study	.49	.13	22	1.90	.88
Am overburdened by the demands of my research job	.14	.80	48	2.45	1.04
Am emotionally drained at the end of the day	.07	.76	59	2.62	.83
Feel that conducting the research is very stressful	.16	.74	49	2.40	.85
Lack the time to do my research well	.32	.72	35	2.10	.95
Worry the research is hardening me emotionally	.34	.59	33	2.02	.91

mendations, we added a “decline to answer” option to certain personal questions considered potentially sensitive in nature (such as current income).

## Procedures

Informed consent information was presented on a screen prior to beginning the survey, and participants could withdraw (by closing their web browser) at any time prior to submitting their survey information. Upon completion of the survey, participants were led to a separate web page (that could not be linked with their responses) to request an electronic \$40 Amazon.com gift certificate to be e-mailed to them. The study was anonymous and did not solicit any identifying information. Internet Protocol addresses were not collected, and the website was constructed with firewall and other security protections to prevent anyone, including the investigators, from linking participants to responses. To further protect confidentiality, we obtained a Certificate of Confidentiality from the National Institute of Health. The study was approved by the university’s Institutional Review Board.

## Results

This section begins with descriptive statistics on participant demographic characteristics and work experience. This is followed by a factor analysis yielding distinct research-related moral stress and research job burnout scales, interitem reliabilities on all scales, mean scale scores, and percentage agreement with highly endorsed items. Pearson product moment correlations between demographic variables and scale scores, as well as relationships among scales, were then examined. Multiple linear regression was conducted to determine the relative contribution of key demographic and scales scores to moral stress and job burnout within this sample.

### Respondent Demographics

As illustrated in Table 2, respondents were mostly female, non-Hispanic White, and currently working full time on a mental health research study. The sample was geographically representative and included participants from 24 U.S. states. The mean age was 31 years ( $SD = 9.44$ ), with a majority of the sample below age 40. Most reported a bachelor’s or master’s degree, although 19% had a doctoral degree. For those who reported earning a master’s or doctoral degree, the majority indicated formal training in mental health counseling. Approximately one fifth reported that their current mental health research work was part of a graduate assistantship. Almost half reported 5 or more years of experience working on mental health research studies, and over 75% reported authorship on research publications or presentations.

### Work-Related Study Characteristics and Research Worker Responsibilities

As illustrated in Table 3, the majority of mental health research work was conducted in a medical center or health care facility and was described as intervention or treatment research. More than half indicated that their current study was a randomized clinical trial, with the majority involving psychotherapy and/or medication trials. Of these trials, the majority (82%,  $N = 49$ ) of research workers indicated that one of their work-related tasks was conducting

Table 2  
*Clinical Research Staff Demographic and Work Characteristics*

Research worker demographics	% (n)
Gender	
Male	23 (29)
Female	77 (96)
Ethnicity	
Hispanic/Latino	8 (10)
African American	4 (5)
Caucasian	77 (96)
Other	11 (14)
Last time worked on a research study	
Currently	90 (112)
Past year	10 (13)
No. of mental health research studies as research worker	
1	7 (9)
2–3	32 (42)
4–5	26 (34)
5 or more	34 (44)
Experience	
Less than 1 year	6 (8)
1–2 years	13 (16)
2–5 years	35 (44)
5 or more	46 (57)
Authored publications	
0–2	56 (70)
3 or more	44 (55)
Hours worked per week	
19 or less	10 (12)
20–34	17 (21)
35+	73 (92)
Work as part of graduate assistantship	18 (22)
Has formal training in mental health counseling	59 (74)
Education	
College degree	44 (55)
Master’s	37 (46)
PhD or PsyD	19 (24)
Age	
20–29	54 (65)
30–39	30 (39)
40–49	8 (9)
50+	8 (9)
% time of direct participant contact	
25	21 (26)
50	24 (30)
75	35 (44)
100	20 (25)
Presentations	
0–2	42 (52)
3 or more	58 (73)
Income ( $M = \$30,000$ – $\$40,000$ )	
Less than \$10,000	2 (3)
\$10,001–\$20,000	13 (16)
\$20,001–\$30,000	20 (25)
\$30,001–\$40,000	18 (23)
\$40,001–\$50,000	18 (22)
\$50,000 or more	25 (31)
Decline to answer	4 (5)

interviews with participants. Most respondents reported working with participants diagnosed with major depression or posttraumatic stress disorder, with a considerable amount of diagnostic comorbidity (average number of mental health diagnoses per sample = 2.71,  $SD = 2.24$ ), and one third indicated that the majority of their sample was diagnosed with a comorbid substance use disorder. Almost two thirds worked with samples that included

Table 3  
*Percentage and Number of Research Workers' Research Duties and Characteristics of the Current Mental Health Research Study*

Category and variable	% (n)
Research duties and work settings	
Research jobs performed	
Informed consent	84 (105)
Participant interview	81 (101)
Survey administration	80 (100)
Enrollment/intake	78 (98)
Publication/ dissemination	68 (85)
Recruitment	66 (83)
Data entry	66 (82)
Participant debriefing	50 (63)
Statistical analysis	46 (58)
Study design	41 (51)
Qualitative data coding	23 (29)
Research Setting	
Hospital/medical center	74 (92)
College/university	49 (61)
Outpatient facility	19 (24)
Randomized clinical trial	60 (75)
Type of clinical trial	
Medication	12 (9)
Therapy	48 (36)
Therapy + medication	32 (24)
Other	8 (6)
Referrals provided to participants	72 (90)
Frequency of meeting with supervisor	
Never	2 (3)
Less than once month	6 (7)
Monthly	7 (9)
Once every 2–3 weeks	17 (21)
Weekly	68 (85)
Research project funding (federal grant)	77 (96)
Research worker study sample characteristics	
Diagnosis	
Depression	68 (85)
Bipolar	32 (40)
PTSD	61 (76)
Mood only	31 (39)
Anxiety only	23 (29)
Multiple anxiety and/or mood disorder diagnoses	63 (79)
Co-morbid substance use diagnosis (50%+)	33 (42)
Ethnic minority (50%+)	54 (67)
Military veterans (50%+)	47 (59)
Economically disadvantaged (50%+)	78 (97)

Note. PTSD = posttraumatic stress disorder.

traumatized individuals (diagnosed with either posttraumatic stress disorder or acute stress disorder). Among traumatized research participant samples, approximately two thirds (65%) included predominantly military veterans. Approximately half of all study samples involved participants from ethnic minority populations.

Consistent with data on research workers engaged in street drug use studies (Fisher et al., 2013), most of the participants held multiple work-related responsibilities ( $M = 6.60$ ,  $SD = 2.67$ , range = 1–13). The most common duties performed were related to informed consent, enrollment/intake, and administration of interview protocols and surveys.

Preliminary analyses indicated that few demographic variables were related to types of studies and role responsibilities. Staff with

formal mental health training were more likely to be working on a randomized clinical trial,  $\chi^2(1) = 4.83$ ,  $p < .05$ , or a study that provided referrals,  $\chi^2(1) = 9.79$ ,  $p < .01$ . The only role responsibilities distinguished by level of education were intake interviews,  $\chi^2 = 6.63$ ,  $p < .01$ , and qualitative data coding,  $\chi^2 = 12.37$ ,  $p < .001$ , with research professionals with graduate degrees more likely to conduct these tasks.

### Psychometric Evaluation of Research Moral Stress and Job Burnout

Exploratory factor analysis using varimax rotation on the research moral stress and job burnout items adapted for this study was conducted to determine whether items reflecting research job burnout and research moral stress represented distinct dimensions. On the basis of perusing the initial scree plots, we extracted two factors for items with a minimal component loading of .40, accounting for 41% of the variance.

As illustrated in Table 1, the 17 items loading on Factor 1 reflected endorsement of statements describing concerns about potential participant harms and the adequacy of human subjects' protections. A cumulative Moral Stress Scale for Clinical Research (MSS-CR) was calculated for these items, yielding an alpha coefficient of .90 ( $M = 1.75$ ,  $SD = .53$ ). Whereas cumulative levels of job stress even at minor levels was evidenced by approximately 18% of the sample, endorsement of specific job stress items (calculated as scores of 3 or 4, indicating *agree* or *strongly agree*, respectively) ranged from 5% to 42% (see Table 1). The seven items loading on Factor 2 reflected job burnout, and a cumulative Research Job Burnout Scale (RJBS) score was calculated, yielding an alpha coefficient of .85 ( $M = 2.14$ ,  $SD = .66$ ). Approximately 54% of the sample indicated at least minimal levels of job burnout, and endorsement of individual items (a rating of *somewhat agree* or *strongly agree* ranged from 16% to 59%).

**Research ethics climate and organizational support.** Perceptions of the research organization's ethical climate, as measured by the Research Ethics Climate Scale (RECS), were generally positive ( $M = 3.40$ ,  $SD = .44$ ), with all but one item yielding endorsements (*somewhat agree*, *strongly agree*) between 74% and 96%. These ratings indicated that at their research sites supervisors and organizational administrators (a) provided ethics training, monitored staff adherence to ethical procedures, and implemented appropriate procedures for staff reporting of ethical violations and (b) had adequate policies stressing protection of participant welfare, confidentiality, and fair and noncoercive compensation. Only the item "Provides a summary of research results to study participants" received a relatively low endorsement (37%).

Ratings on the Organizational Research Support Scale (ORSS) were similarly positive ( $M = 2.89$ ,  $SD = .61$ ), with a somewhat wider range of endorsements (41%–90%). Highly endorsed items (70%–90%) indicated that research organizations made research workers feel part of the research team and respected their opinions, gave sufficient instructions, provided clear expectations and appropriate feedback, and had policies to protect staff safety. Somewhat fewer respondents (59%–64%) thought research sites provided adequate counseling and opportunities for staff to discuss job pressures. Between 55% and 59% endorsed items indicating too much pressure was put on high recruitment expectations and required staff to take on multiple roles.

## Relationships Among Variables

**Relationships among scale scores.** Correlations among scale scores are provided in Table 4. As expected, MSS-CR and RJBS scores were positively correlated with each other and negatively correlated with RECS and ORSS scores. Social desirability correlated significantly with the RECS ( $r = .25, p < .01$ ) but not with any other scales. Associations between the RECS and other measures remained highly significant when social desirability was partialled out.

**Relationships among demographic variables and scale scores.** Few demographic variables were significantly related to scale scores. As illustrated in Table 5, working as a graduate research assistant, conducting research with participants with substance abuse disorders, counseling participants when it was not part of research-related responsibilities, and higher endorsements indicating the belief that participants would be harmed by disclosure of confidential information were significantly correlated with both MSS-CR and the RJBS. In addition, judging the research to have greater than minimal risk was positively related to levels of MSS-CR, whereas age was negatively related to RJBS. Respondents who were graduate assistants reported higher levels of research job burnout,  $t(123) = -2.72, p < .05$ , than did staff who were not conducting research for credit or as part of a supervised graduate experience.

Separate multiple linear regressions were conducted to determine the relative contribution of key demographic and work factors to research moral stress and job burnout. Employment as part of graduate assistantship, percentage of participants diagnosed with a substance use disorder, counseling participants when it was not part of research-related responsibilities, perceived confidentiality risk, belief that research presented greater than minimal risk to participants, and RECS score were regressed onto the MSS-CR. The ORSS was not entered due to multicollinearity with the RECS (tolerance = .06; Tabachnick & Fidell, 2001). The entered variables accounted for 48% of variance as measured by the adjusted  $R^2$  ( $F = 20.17, p < .001$ , Durbin-Watson = 1.91). Review of beta scores indicated that all variables independently and significantly contributed to the variance in the MSS-CR scores: graduate assis-

tantship ( $\beta = .20, t = 2.70, p < .01$ ), percentage of participants diagnosed with a substance use condition ( $\beta = .30, t = 3.90, p = .001$ ), perception of research as presenting higher levels of confidentiality risk ( $\beta = .20, t = 2.77, p < .05$ ), counseling participants when it was not part of research-related responsibilities ( $\beta = .17, t = 2.54, p < .01$ ), and the RECS ( $\beta = -.37, t = -5.30, p < .001$ ).

Employment as part of graduate assistantship, percentage of participants diagnosed with a substance use disorder, level of confidentiality risk, age, RECS and the MSS-CR scores were regressed onto the RJBS. The entered variables accounted for 40% of variance as measured by the adjusted  $R^2$  ( $F = 12.73, p < .001$ , Durbin-Watson = 2.09). Multicollinearity diagnostics indicated acceptable tolerance and variance inflation factor values for all variables. Review of beta scores indicated that only three variables independently and significantly contributed to the variance in research job burnout: age ( $\beta = -.19, t = -2.52, p < .01$ ), RECS ( $\beta = -.18, t = -2.04, p < .05$ ), and MSS-CR ( $\beta = .45, t = 4.66, p < .001$ ).

## Discussion

Results from the current study suggest that research with individuals diagnosed with affective and anxiety disorders may be associated with moral stressors specific to the vulnerabilities of the research participants with whom they work as well as dilemmas related to personal and professional obligations to participants. In the current study, research workers who were younger, those whose research work was part of a graduate assistantship, and perceptions of higher participant research risk were associated with higher levels of moral stress and job burnout. Work climates and supervisory relationships that were perceived as supportive were associated with lower levels of moral stress and job burnout.

This study contributes to the growing empirical literature focused on illuminating the ethical landscape of research work with vulnerable populations. In recent years, professionals, policymakers, and researchers have increasingly called attention to the negative consequences of prolonged and extreme emotional stress experienced among practitioners in the "helping professions" who

Table 4

*Scale Score Correlations and Correlations Between the Moral Stress Scale for Clinical Research and the Research Job Burnout Scale and Demographic Variables*

Scale and variable	1	2	3	4
1. Moral Stress Scale for Clinical Research	—			
2. Research Job Burnout Scale	.60**	—		
Partial correlations controlling for social desirability	.57**			
3. Research Ethics Climate Scale	-.54**	-.45**	—	
Partial correlations controlling for social desirability	-.53**	-.46**		
4. Organizational Research Support Scale	-.32**	-.51**	.71**	—
Partial correlations controlling for social desirability	-.31**	-.52**	.70**	
Marlow-Crowne Social Desirability Scale	-.10	-.15	.25**	.17
Research worker age	-.12	-.28**	.24**	.20*
Research work as graduate assistant	.33**	.17*	-.09	.04
Counseled participants when not part of job	-.31**	-.23**	.27*	.22*
Sample characteristics: substance use diagnosis	.38**	.27**	-.20*	-.13
Sample characteristics: confidentiality risk	.41**	.29**	-.22*	-.11
Research greater than minimal risk	.22*	.11	-.13	.05

\*  $p < .05$ . \*\*  $p < .01$ .

Table 5  
*Multiple Regression Analyses Predicting Research Moral Stress and Research Job Burnout Score Correlations and Correlations Between Moral Stress Scale for Clinical Research (MSS-CR) and Research Job Burnout Scale (RJBS) and Demographic Variables*

Category and variable	$\beta$	$t$	Adj. $R^2$	$F$	$p$
Research moral stress					
Dependent variable: MSS-CR			.48	20.17	<.001
Independent variables					
Employment as part of a graduate assistantship	.20	2.70**			
% participants diagnosed with a substance use disorder	.30	3.90***			
Counseling participants when not part of job	.17	2.54*			
Perceived confidentiality risk	.20	2.77**			
Research greater than minimal risk	.09	1.32			
Research Ethics Climate Scale (RECS)	-.37	-5.30***			
Research job burnout					
Dependent variable: RJBS			.40	12.73	<.001
Independent variables					
Employment as part of a graduate assistantship	-.03	-.44			
% participants diagnosed with a substance use disorder	.03	.44			
Perceived confidentiality risk	.07	.87			
Age	-.19	-2.52**			
RECS	-.18	-2.04*			
MSS-CR	.45	4.66***			

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

work with vulnerable populations (American Psychological Association Committee on Colleague Assistance, 2006; Barnett, 2008; Figley, 2002; Tamura, 2012; Turner et al., 2005; Webb, 2011; Wise, Hersh, & Gibson, 2012). This is the first study that we are aware of that has attempted to measure these types of stressors among workers conducting mental health clinical research.

Two measures were created for this study to assess research-related moral stress and job burnout among research workers conducting frontline research work involving participants with affective disorders. Although overall levels of research stress and burnout were relatively low, research workers exhibited symptoms of each that warrant concern. Overall, results suggest that mental health research workers care deeply about both fulfilling professional research responsibilities and addressing the clinical and other needs of participants. These dual responsibilities can sometimes create a tension between scientist and practitioner, analogous to what has been termed the *scientist-citizen dilemma* (Fisher, 2013; Fisher & Goodman, 2009; Fisher & Rosendahl, 1990; Veatch, 1987), which describes situations in which researchers experience a conflict between fulfilling research responsibilities and protecting the welfare of research participants. The tension described by participants in our sample more closely resembles a scientist-practitioner dilemma, in which researchers feel a dual obligation to produce scientifically valid research and to address the clinical needs of research participants. Indeed, while performing professional research duties, workers in this sample appeared acutely aware of the clinical needs of their participants, with more than one third providing participant counseling even when not part of their research responsibilities. Providing such counseling was significantly associated with higher levels of moral stress, suggesting tension between the dual role of scientist and practitioner.

This study also addressed thorny questions that arise in conducting clinical research with vulnerable populations, including concerns about the informed and voluntary nature of consent in

studies that address clinical symptoms. Workers in the current study expressed concerns about participant decisions to enroll in mental health research, including worry about participant confusion with respect to key differences between an individualized, prescribed treatment and an intervention research study; beliefs that participants provide false answers to screening questions in order to meet inclusion criteria; and worry that research risks may be overlooked when money is provided as an inducement. These findings add to a burgeoning literature on informed consent for clinical research (e.g., Dunn, Candilis, & Roberts, 2006; Roberts et al., 2002), which has often focused on the ability of participants to understand and rationally manipulate the components of consent to make an informed decision and suggest that perhaps other factors, including disparities in access to health care resources and limited economic means, may be important factors affecting the decision to enroll in research.

There is currently no database describing the demographic characteristics, qualifications, and job responsibilities of frontline researchers working on federally funded mental health research. This national study, therefore, provides an initial impression of the individuals who conduct research with individuals diagnosed with affective and anxiety disorders. Consistent with previous empirical research with frontline research workers (Fisher et al., 2013), our sample of mental health research workers was highly educated and experienced. On the whole, the sample described challenging professional work, with most assisting in clinical trials with samples with significant vulnerabilities, including histories of trauma, multiple psychiatric diagnoses, and few economic resources. There were, however, few characteristics of the research workers' research-related work or the research workers themselves that were strongly related to research stress and burnout. Irrespective of individual or research work characteristics, though, more than half reported emotional exhaustion, and almost the same number indicated that they felt overburdened and that the work was stressful,

suggesting that, similar to clinical settings, professional engagement with vulnerable populations in general may be associated with symptoms of emotional and professional burnout.

Within our sample, conducting research that presented greater than minimal risk and higher confidentiality risks to participants and studies that included higher percentages of participants with comorbid substance use disorders were associated with higher levels of research moral stress. We also found that younger research workers and those whose research work was part of a graduate assistantship exhibited higher levels of stress and burnout, respectively. This may be due to lack of both research and clinical experience among newer research workers; lack of ability to select work assignments (in the case of graduate assistants); lack of self-care strategies developed by older, more experienced staff; or, as evidenced in other professions (Hart, 2005), the fact that high levels of moral stress cause eventual job turnover among experienced workers. Future research should further examine the extent to which research worker age, student status, and ability to choose work or assistantship assignment might impact levels of moral stress and burnout.

The work environment, through specific research ethics policies and general job support, appeared to be a protective factor against research moral stress and job burnout, but there were some concerning trends. For example, although most research workers in the current sample perceived their organization as supportive, research staff surveyed reported an average of over six job responsibilities, and, perhaps not surprisingly, more than half indicated they felt pressure to take on multiple roles and were burdened with what they perceived as unrealistic recruitment expectations. On the whole, though, it was encouraging to note that research workers in the current study perceived their research sites and supervisors as valuing ethics procedures and guidelines, providing ethics training, and encouraging workers to voice ethical concerns.

Overall, the current study expands on previous research on stress among research workers (e.g., Fisher et al., 2013; Suarez-Balcazar & Kinney, 2006) and highlights the moral concerns of research workers working with vulnerable populations as they attempt to meet their professional obligations and address the personal needs of their participants. It reinforces previous findings (Fisher et al., 2013) of the importance of a supportive and responsive research climate as a protective factor against work-related stress.

## Limitations

Given the lack of national data with respect to the characteristics of professional research workers, the representativeness of the current sample is unclear. Although our sample appeared to represent a geographically wide area, it was overwhelmingly non-Hispanic White, female, and highly educated. In addition, it is unclear the extent to which the relatively low levels of moral stress and burnout may, in part, be due to a lack of sample representativeness; it could be that research workers with high levels of stress or burnout refused to participate or that principal investigators who direct staff with high stress and burnout may not have distributed the survey. In addition, due to the sheer number of professional responsibilities held by each worker, the primary job of the research worker was unclear; such information may have contributed to a better understanding of the relationship between specific

duties and job stress and burnout. Finally, this was an anonymous self-report survey and is therefore susceptible to validity threats stemming from serial responding, nonresearch staff responders, poor recall, and bias. It is, however, reassuring to note that social desirability correlations with scale scores of interest were low.

## Implications for Training and Research

Results from this study suggest that a supportive research environment with clear ethics policies serves as a protective factor against job stress and burnout, underscoring the importance of research supervisors' and organizations' attending to staff concerns and proactively addressing job stress. Although research environments were considered supportive, many research workers in the current sample were emotionally exhausted and overwhelmed and felt pressure to perform. Providing opportunities for counseling and other outlets to process stressors, clarifying role responsibilities, and emphasizing self-care strategies may alleviate job stress and burnout.

In addition, results from this study underscore the need for institutional review boards to be attentive to the potential threats to the responsible conduct of mental health research, including ways in which the research design might address or minimize the potential for harmful multiple relationships, coercion, and inadequate or ineffective informed consent procedures. In addition, results suggest that workers might benefit from specific organizational policies and training programs addressing the tensions and potential boundary violations associated with research staff's attempting to provide nonresearch-related clinical services to vulnerable participant populations.

Finally, these findings hold important implications for graduate training programs, especially those programs that place students in clinical research assistantships. The higher rates of stress and burnout experienced by graduate research assistants and younger research workers in our sample suggest that training programs may play a critical role in preparing students for the realities of clinical research through additional training, opportunities to process stressful incidents, and mentoring and guidance from experienced members of the department.

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