

The Aftermath of the Gulf War: Mental Health Issues Among Iraqi Gulf War Veteran Refugees in the United States

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Iraqi Gulf War (GW) veteran refugees, or those who fled the Hussein regime and were subsequently granted refugee status by the United States, are at high risk for the same mental health maladies that afflict U.S. GW veterans. We conducted a pilot survey on a group of Iraqi GW veteran refugees to assess levels of post-traumatic stress disorder (PTSD), depression, panic, and anxiety. We hypothesized that significantly more participants with PTSD would report depression, panic, and anxiety symptoms than their non-PTSD counterparts. We further expected that those with PTSD would report significantly higher mean scores on depression, panic, and anxiety than those participants not identified as having PTSD. Results indicated high levels of each of the symptom categories among the PTSD groups. PTSD sufferers conjointly assessed with significantly elevated levels of depression and panic as compared to their non-PTSD counterparts.

The Gulf War (GW) during the 1990s marked the first large-scale, U.S. military deployment since Vietnam. The effects of the GW have been long lasting and have included veterans being plagued with numerous maladies. Health issues have arisen on large scales. For example, post traumatic stress disorder (PTSD) has been reported among U.S. veterans at levels ranging from 1.9% (Barrett et al., 2002; Iowa Persian Gulf Study Group [IPGSG], 1997) up to 10.1%, depending on deployment status (Feussner, 2002); depression has been reported at 17.0% (IPGSG), and anxiety at 4.0% (IPGSG). Some of these health issues have been relatively simple to diagnose because of their similarities with veterans' symptoms from previous wars such as Vietnam. Others have been more elusive to identify,

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partly because of the lack of a comparable combat environment and partly because of their similarities with contemporary maladies that have not previously been associated with combat or veteran status.

From a sociopolitical perspective, many Americans view the Gulf War as one fought by the United States, partnered with Kuwait, against Iraq. This view may be based upon an overall lack of information on the part of the general American public (Bennett, 1994) as well as the inherent self-bias of national news reporting (Halliday, 1997). In fact, some Iraqis, including those who fought in the Iraqi military and fled the Hussein regime at the conclusion of the war, were subsequently granted refugee status by the United States because of their pledged allegiance to it. Thus, an overlooked perspective is that Iraqi GW veteran refugees are exiled from their homelands as a result of the GW, and that some of them actually served in the revolution against the Iraqi regime. (Nassar-McMillan & Hakim-Larson, 2003).

Historically, refugees from combat situations in other regions have reported significant levels of PTSD (e.g., Blair, 2000; Mollica, Wyshak, & Lavelle, 1987), depression (e.g., Blair, 2000, 2001), and anxiety (Lee, Lee, Chun, Lee, & Yoon, 2001; Tang & Fox, 2001). These symptoms may be characteristic of immigrant, refugee, and exile issues. Exiled Iraqi veterans of the GW, in the United States as refugee immigrants, are a neglected population in terms of mental health treatment. Their circumstances may be similar to those of other refugee veteran groups in that the host of losses and traumas they have experienced render them particularly vulnerable to maladies such as PTSD, anxiety, depression, and the like (Kira, 2001). A better understanding of the needs and issues among this group is necessary in order to provide more effective mental health services (Nassar-McMillan & Hakim-Larson, 2003).

In addition to war traumas, recent U.S. immigrants from the Arab world may join their second- and third-generation counterparts in exhibiting a confused ethnic identity (Nassar-McMillan, 2003). In part, this confused identity results from the political tensions between the United States and numerous countries in the Arab world. Individuals of Arab descent may be unwilling or reluctant to divulge any personal information, particularly regarding their ethnicity, to mainstream Americans. Iraqi GW veteran refugees may be, in addition, distrustful of their earlier immigrant counterparts, who may come from a different cultural and religious background within Iraq. Their distrust of others may even extend to their recently immigrated peers, due to the political regime in Iraq, which pitted factions of both civilians and military personnel against one another (Nassar-McMillan & Hakim-Larson, 2003). These factors represent a stark contrast from Arab culture in general, which emphasizes the importance of com-

munity. Taken together, many Iraqi GW veteran refugees may view their personal environment as threatening and or unsafe. Since the World Trade Center bombings in New York City on September 11, 2001, anti-Arab sentiment in the United States has heightened, creating yet another layer of stress for this group of Iraqi GW veteran refugees (Nassar-McMillan).

Perhaps due to some of these factors, only a few published research studies have been conducted into the mental health status of Iraqi GW veteran refugees in the United States (Jamil et al., 2002; Takeda, 2000; Via, Callahan, Barry, Jackson, & Gerber, 1997) or in other countries (Gorst-Unsworth & Goldenberg, 1998). There remains a need for inquiry on this issue. In our study, we examined some of the variables present in other research on U.S. veterans of the GW, namely PTSD, depression, and anxiety (Barrett et al., 2002). Based on large-scale national research efforts aimed at identifying medical and psychological consequences of U.S. veterans' participation in the GW, we believed that Iraqi GW veteran refugees would exhibit similar symptoms, particularly those associated with PTSD. We also believed that participants' overall symptom profiles would be more similar to those of other refugee groups from combat situations than to those of U.S. GW veterans in that PTSD would be correlated with higher levels of depression, panic, and anxiety. Thus, we hypothesized that, among the Iraqi refugee participants, a significantly higher percentage of those with PTSD would report depression, panic, and anxiety symptoms. Further, we expected the participants with PTSD to report significantly higher mean scores on depression, panic, and anxiety measures than those who did not have PTSD.

METHODS

Participants

A convenience sample of Iraqi Gulf War male veteran refugees was obtained by soliciting volunteers from a social gathering place for Iraqi and other Arab Americans in a large Midwestern city. The sample was composed of 32 male participants. Of these, 25 were stationed in Iraq, with 7 in Kuwait during the GW. In addition, 18 served in Southern Iraq, while 12 served elsewhere in the region; 11 joined the Army during or after 1990, while 14 joined the Army prior to 1990; and 22 served as soldiers, while 4 served in other support positions.

Measures

The interview questionnaire was based on one developed and used in several large-scale studies involving thousands of U.S. veterans of the GW (Barrett et al., 2002; IPGSG, 1997). The original instrument includes items

from dozens of often-utilized, validated, standardized instruments such as the PTSD Checklist-Military Version (PCL-M; Weathers, Litz, Herman, Huska, & Keane, 1993), the Primary Care Evaluation of Mental Disorders (PRIME-MD; Spitzer et al., 1996), and the Marlowe-Crowne Social Desirability Scale (MCSDS; Strahan & Gerbasi, 1972). In addition, several questions regarding demographic and background information were included such as the region of service during the Gulf War.

PTSD. The PTSD Checklist-Military Version (Weathers et al., 1993) includes 17 items based on an ordinal scale (i.e., no = 1, a little bit = 2, moderately = 3, quite a bit = 4, and extremely = 5) for a possible total of 85 points. Scores of 50 or more indicate the presence of PTSD, while those below 50 do not. Psychometric information on the PCL from a study of 123 male Vietnam veterans includes test-retest reliability of 1.0, an alpha coefficient of 1.0, and item-scale total correlations ranging from .6 to .9. A second study of 1006 male and female Persian Gulf veterans, reported by the same researchers, yielded an alpha coefficient of 1.0 and item-scale total correlations ranging from .5 to .8. In our study, participants were asked to rate the magnitude of their experience with 17 specific symptoms (e.g., "having repeated, disturbing memories of their military experiences;" "being overly alert, watchful, or on guard"). An additional yes or no question was asked about each symptom, referring to whether the symptom was experienced before August of 1990. Adequate Cronbach's alpha reliability coefficients ($r = .9$) were indicated for these 17 items in our study.

Depression. The depression scale developed for the larger instrument and utilized in this study includes a series of 11 questions, either based upon or directly extracted from the Primary Care Evaluation of Mental Disorders (PRIME-MD; Spitzer et al., 1996). The PRIME-MD, validated on a sample of 1,000 adult patients of primary care clinics, yielded an overall accuracy rate of 88%, and strong agreement with diagnoses of independent mental health professionals ($\kappa = .7$). Questions such as, "Have you had problems with feeling tired?" were asked regarding symptoms experienced by respondents. A total of two to four symptoms indicate the presence of minor depression, while five or more indicate major depression. A second set of three questions was asked to identify dysthymia, which is characterized by a chronically depressed mood. For example, one question is, "Over the past 2 years, have you *often* felt down or depressed, or had little interest or pleasure in doing things?" The existence of any one of the symptoms indicates the presence of dysthymia. In the current study, items representing depressive symptoms yielded Cronbach's alpha reliability coefficients of .8.

Panic. Panic, a subscale of anxiety, was measured by 16 items replicated from the larger study as either extracted from or based upon PRIME-MD

(Weathers et al., 1993) items. Panic was measured by three separate item groups. In order for a participant to be classified as having panic, each of the three item groups needed to be represented. For example, the first group, comprised one item (e.g., "During the *past month*, have you had an anxiety attack—where you suddenly felt fear or panic?"), needed to be present, along with at least one of the two symptoms composing the second group (e.g., "Have you ever had four attacks in a 4-week period"), and four or more symptoms from the third group consisting of 13 items (e.g., "The last time you had a really bad anxiety attack, were you short of breath?"). The items representing panic symptoms in our study yielded a Cronbach's alpha reliability coefficient of .9.

Anxiety. An additional 8 items, also replicated from the larger study as either extracted from or based upon PRIME-MD (Weathers et al., 1993), provided the anxiety measure. Among the two additional item groups testing for General Anxiety Disorder, two or more symptoms from the first group composed of six items (e.g., "In the past month, have you had trouble falling or staying asleep?") plus both items comprising the second group (e.g., "In the past month, have you been bothered by feeling restless so that it is hard to sit still?"), needed to be present in order for participants to be classified as anxious. Our Cronbach's alpha reliability coefficient for the anxiety symptoms was .8.

Social desirability. Social desirability refers to respondents' tendency to give answers that they believe will cause them to be perceived as most desirable (Paulhus, 1991). We utilized the same short, homogenous version of the MCSDS ($r = .8$; Strahan & Gerbasi, 1972) that had been incorporated into the larger instrument and study. Ten statements were posed for either agreement or disagreement (i.e., yes or no) regarding participants' experiences (e.g., "I have never deliberately said something that hurt someone's feelings."). An analysis of these items yielded a lack of interpretable and reliable results. Thus, we were unable to form a scale score using a standard scoring strategy.

Procedure

Participants were verbally asked a series of questions, in their native language of Arabic, regarding their experiences during the war. They were interviewed about their self-perceived health, including their mental health, relative to pre-, during-, and post-GW times. The informed consent process was considered critical to the success of the pilot study, because of the high levels of distrust potentially held by our participants. Prospective participants were told that (a) the purpose of our study was to enhance our knowledge about the effects of the GW on Iraqi veteran refugees, (b) the overall results would be provided to their local community as well as a

larger scientific audience, and (c) the specific information each person provided would be held in strictest confidence. Additionally, they were assured that their personal information would, in no way, be utilized for any political or governmental purpose. The interviewers were two Iraqi American physicians from out of state.

Table 1
Percent of Respondents Reporting PTSD Symptoms by Group *

Item	Non-PTSD (n=13)		PTSD (n=19)		Total (n=32)	
	%	n	%	n	%	n
1. Had repeated, disturbing memories of your military experiences?	7.7	1	57.9	11	37.5	12
2. Had repeated, disturbing dreams of your military experiences?	7.7	1	68.4	13	43.8	14
3. Suddenly acted or felt as if your military experiences were happening again?	7.7	1	36.8	7	25.0	8
4. Felt very upset when something happened that reminded you of your military experiences?	38.5	5	73.7	14	59.4	19
5. Had trouble remembering important parts of your military experiences?	23.1	3	63.2	12	46.9	15
6. Lost interest in activities you used to enjoy?	46.2	6	78.9	15	65.6	21
7. Felt distant or cut off from other people?	38.5	5	52.6	10	46.9	15
8. Felt emotionally numb or unable to have loving feelings for those close to you?	7.7	1	15.8	3	112.5	4
9. Felt as if your future will somehow be cut short?	23.1	3	68.4	13	50.0	16
10. Had trouble falling or staying asleep?	30.8	4	63.2	12	50.0	16
11. Been feeling irritable or had angry outbursts?	15.4	2	78.9	15	53.1	17
12. Had difficulty concentrating?	23.1	3	78.9	15	56.3	18
13. Been overly alert, watchful, or on guard?	0.0	0	5.3	1	3.1	1
14. Been feeling jumpy or easily startled?	15.4	2	0.0	0	6.3	2
15. Had physical reactions when something reminded you of your military experiences?	0.0	0	26.3	5	15.6	5
16. Avoided thinking about your military experiences, or avoided having feelings about them?	7.7	1	73.7	14	46.9	15
17. Avoided activities or situations because they reminded you of your military experiences?	7.7	1	68.4	13	43.8	14

* Percentages represent responses in the "Quite a Bit" and "Extremely" categories.

Table 2
Description of Scale Scores by PTSD Group

Scale	Non-PTSD					PTSD					Total					t
	Mean	SD	Min	Max	n	Mean	SD	Min	Max	n	Mean	SD	Min	Max	n	
Depressive Symptoms	3.8	2.0	0	7	12	6.2	1.2	4	8	18	5.3	2.0	1	8	30	-3.7**
Anxiety Symptoms	4.4	0.7	3	5	10	5.1	0.9	3	6	18	4.9	0.9	3	6	28	-2.2*
Panic Symptoms	4.5	3.6	0	10	13	8.8	3.8	0	13	19	7.1	4.3	0	13	32	-3.2**

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

Table 3
Percent of Respondents Qualifying for Specific Diagnostic Categories by PTSD Group

Diagnostic Category	Non-PTSD		PTSD		Total		χ^2
	%	n	%	n	%	n	
Depression							
No Depression	16.7	2	0.0	0	6.7	2	8.2*
Minor Depression	41.7	5	11.1	2	23.3	7	
Major Depression	41.7	5	88.9	16	70.0	21	
Dysthymia							
No Dysthymia	30.8	4	15.8	3	21.9	7	1.0
Dysthymia	69.2	9	84.2	16	78.1	25	
Anxiety							
No Anxiety	69.2	9	63.2	12	65.6	21	0.1
Anxiety	30.8	4	36.4	7	34.4	11	
Panic							
No Panic	61.5	8	21.1	4	37.5	12	5.4*
Panic	38.5	5	78.9	15	62.5	30	

* $p < .05$.

RESULTS

Initially, in order to examine the prevalence of PTSD among the sample of participants, we computed scale scores for the items from the PTSD Checklist-Military Version (Weathers et al., 1993) and classified participants into PTSD or non-PTSD groups based on the PCL-M scoring protocol. Among the 32 participants, 59% scored above the cut-score for PTSD, while 41% scored below. Response percentages for all of the PTSD scale items are reported in Table 1. Second, in order to better describe the sample, we examined equivalence between the PTSD and non-PTSD groups with respect to demographic and background variables. Although Chi Square analyses indicated no statistically significant group differences, some patterns are worthy of note. There was no significant difference between the groups with respect to the percentage of those who served in Iraq versus Kuwait. However, those who served in southern Iraq, as opposed to serving in other regions, represented 70.6% of the PTSD group ($n = 12$), while only 46.2% represented the non-PTSD group ($n = 6$). In addition, 75.0% of the non-PTSD group members joined the military prior to 1990 ($n = 6$), while 52.9% of the PTSD group joined the military during or after 1990 ($n = 9$). Those who served as soldiers, as opposed to serving in other military support positions, during the GW represented 93.8% of the PTSD group ($n = 15$), while representing only 70.0% of the non-PTSD group ($n = 7$).

We employed a Chi Square contingency table analysis to examine significant associations in the frequency of PTSD / non-PTSD classification and diagnostic category (i.e., depression, dysthymia, anxiety, and panic) using the percentage of participants within each condition as the dependent variable. The association between PTSD and depression was significant, $\chi^2 = 8.2, p < .05$, as was the association between PTSD and panic, $\chi^2 = 5.4, p < .05$. The results indicated high levels of both minor and major depression, with 23.3% of participants reporting two to four symptoms (i.e., minor depression) and 70.0% reporting between five and eight symptoms (i.e., major depression). With regard to panic scores, 62.5% of the participants' scores indicated the presence of panic, while 37.5% did not. The associations for PTSD and both dysthymia and anxiety were not significant, dysthymia $\chi^2 = 1.0$; anxiety $\chi^2 = .1$. Percentages of respondents qualifying for specific diagnostic categories among both PTSD and non-PTSD groups are reported in Table 3.

To test the hypothesis that participants with PTSD would report higher mean scores on depression, panic, and anxiety symptoms, we first examined Pearson correlations between the three measures of psychological dysfunction. The correlation between the anxiety scale score and the panic

scale score was .5. The symptoms of depression scale score was correlated with the anxiety scale score ($r = .6$) and the panic scale score ($r = .6$). Therefore, a multivariate analysis of variance was performed to compare the PTSD and non-PTSD groups on a linear composite of the three scale scores and a statistically significant multivariate difference was found ($F(3,24) = 4.84, p < .01$). We then conducted three follow-up t -tests to determine whether there were significant mean scale score differences in the dependent variables (i.e., depression, anxiety, panic) for the independent variable (i.e., PTSD, non-PTSD). Results were significant for all three dependent variables with the PTSD group scoring higher than the non-PTSD group: depression = $t = -3.68, p < .01$; anxiety $t = -2.16, p < .05$; panic $t = -3.16, p < .05$. Means and standard deviations for scale scores are presented in Table 2. These differences, when expressed as standardized mean difference effect sizes, were greater than a full standard deviation unit and can be considered large (depressive symptoms = 1.17; anxiety = 1.01; panic = 1.18).

Responses to the MCSDS prevented us from generating accurate and meaningful scale scores. We believe that this outcome, or lack thereof, is important because it points to the possibility that the MCSDS may not be valid for use on this population due to possible cultural or linguistic miscommunication issues.

DISCUSSION

We had hypothesized that, among participant Iraqi veterans who are refugees in the United States, those with PTSD would report depressive, panic, and anxious symptoms more frequently than their non-PTSD counterparts. This hypothesis, for each of the symptom categories, was supported with statistical significance. Further, we expected the participants with PTSD to assess with significantly higher mean scores on depression, panic, and anxiety measures than those who did not have PTSD. This hypothesis was supported on two of the three measures. PTSD was found to be associated with both depression and panic measures. Several possible causes for the psychological symptomology found in this study have been suggested (Haley & Kurt, 1997), including medical and environmental (e.g., chemical exposures) factors. Interactions of these variables also might incur synergistic effects. We also believe that deployment is a major factor in appropriate interpretation of these research results. Veterans from all U.S. wars, as well as immigrant refugees from combat situations around the world, have historically reported the presence of PTSD-like symptoms, including prior to PTSD being added to the *Diagnostic Statistical Manual of Mental Disorders* in 1980 (American Psychiatric

Association, 1980). Further, in the Arab American population, PTSD is a common presenting issue when seeking mental health services, perhaps due to the overall conflict and political turmoil present in the Middle East region in general (Kamoo, Hakim-Larson, Nassar-McMillan, & Porcerelli, 2001) as well as the perceived rejection from the new host (i.e., United States) culture (Nassar-McMillan, 2003). From the perspective of migration stresses, Iraqi GW veteran refugees are especially vulnerable to both pre-and-post immigration traumas, which likely interact with their combat experiences. Their pre-migration stresses (Orley, 1994) may include the trauma and repression of the political regime as well as being in combat as military personnel. The high levels of depression and dysthymia may reflect the horror of the pre-migration experience of this participant pool, and is not unlike the experiences reported in studies of other refugee groups immigrating under similar circumstances (Blair, 2001; Lee et al., 2001; Tang & Fox, 2001). Further, if physical or psychological torture was experienced prior to or during the war, multiple other complicating symptoms may occur (Behnia, 1997) such as damaged self, social, and institutional trust. These experiences have, in studies of other populations, been linked to higher anxiety scores (Blair; Lee et al.; Tang & Fox). In our sample, over half of the participants reported experiencing panic. It is difficult to determine the relationship between torture and other factors which were not within our current focus.

Regarding post-migration stresses, issues such as culture shock and rejection by the host culture often are cited (Orley, 1994). This dynamic represents an issue for the Iraqi GW veteran refugee population, due in part to the lack of knowledge many U.S. citizens have about the Gulf War in general. For example, as mentioned earlier in this paper, the *Iraqis* are considered by many Americans to be the *enemy*, with little or no regard to the fact that Iraqi refugees fought in the war as U.S. allies. Finally, cultural biases of counselors and other mental health clinicians can also serve to exacerbate the post-migration stresses experienced by this population.

Although the PTSD, depression, panic, and anxiety were measured by separate instrument items, the maladies of each are likely related. Indeed, there appear to be many overlaps among participants experiencing PTSD and either depression or anxiety, or both. While previous work with other veteran and refugee populations may also have yielded similar patterns, the association between measures had not yet been established with Iraqi GW veteran populations. Effective treatment of mental health symptoms necessitates accurate and comprehensive identification and diagnosis.

Some limitations were inherent in our study. All participants were residents of a single, Midwestern state at the time of study and represent a rel-

atively small, nonrandomized sample. Additionally, the sample was comprised of individuals residing in an ethnic enclave (Brody, 1994). It is difficult to know how this issue might have impacted the experiences of these participants in terms of either pre- and post migration stressors as well as their overall response patterns. The presence of the ethnic enclave may serve to insulate them from some other, potentially more severe, external stressors or could, conversely, exacerbate their distrust of others from their own country of origin (Nassar-McMillan & Hakim-Larson, 2003). Although a larger scale study is needed to obtain more conclusive results, our study contributes to a sparse body of professional literature because it is among the first of its kind conducted with Iraqi GW veteran refugees as participants.

IMPLICATIONS FOR MENTAL HEALTH COUNSELORS

The findings of this study yield numerous important implications for mental health counselors. In terms of conceptualizing the symptomology of veterans, particularly Iraqi refugees of the Gulf War, it may be useful to think of Post Traumatic Stress Syndrome rather than Post Traumatic Stress Disorder (Deahl, 1997; Friedman & Jaranson, 1994). Although the term *disorder* connotes pathology and dysfunction, the symptoms experienced by such participants can be viewed from an alternative perspective of healthy functioning and adaptation to horrific experiences. Such a reframing may allow for a more empowering and empathic approach to clinical intervention, including diagnosis. For example, paranoid symptoms as a result of having experienced torture may be viewed as less pathological if viewed in the context of the torture experience. The specific example of torture further underlines the need for accurate assessments of such experiences (Turner & McIvor, 1997). If torture is identified, the mental health counselor can expect to encounter a more difficult time in establishing rapport with the client, because breach of trust is a key result of the torture experience. In such cases, mental health counselors need to pay special attention to gaining knowledge about their clients' experiences, either directly or indirectly, and to express empathy and validation for their situation.

Again, in terms of viewing the experiences of Iraqi GW veteran refugees within their experiential contexts, grief and loss reactions may be viewed as more adaptive and normal (Friedman & Jaranson, 1994; Neimeyer, 1998). Total losses must be considered such as loss of homeland, family members, and cultural identity. Mental health counselors must be prepared for a wide range of emotions that may accompany their clients' grief and help them to reconstruct personal meaning within their overall

contextual environment (Balk, 1999; Neimeyer). By allowing clients the freedom to reconstruct such meaning, their own personally relevant themes (Brewington, Nassar-McMillan, Flowers, & Furr, in press), rather than the clinicians', may emerge through the process.

One additional issue reported by U.S. veterans of the GW is governmental denial of a Gulf War Syndrome as a valid medical diagnosis and a corresponding denial of medical benefits. Iraqi GW veteran refugees also are likely to encounter such a scenario. Regardless of how the services may be funded, it is important to respect clients' perspectives of their symptoms and maladies, aside from how other sources may define them. In helping clients to reconstruct the personal meaning of their experiences, specific mental health issues may become illuminated and more easily diagnosed. It may be useful to refer clients to additional resources for information such as the U.S. Office of Special Assistance or the Department of Defense Gulf War Veterans hotline, whose missions are to advocate for appropriate medical care for Gulf War veterans (Simmons, 2001). These resources may be able to provide (a) information to help with appropriate diagnoses, (b) referrals to local Veteran Centers or other specialized service providers, or (c) direct and indirect advocacy for individual clients.

Further, more education is needed on PTSD and related issues (Weine et al., 2002), particularly on how it manifests among veterans generally, and Iraqi GW veteran refugees specifically. Finally, social policy needs to include mental health as well as general health issues for veteran populations (Beiser & Hyman, 1997; Dhooper & Tran, 1998; Von Buchenwald, 1994). We hope that our research program and this study contribute to this goal in a way that is useful to mental health counselors.

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