PERCEIVED STIGMA AND BARRIERS TO CARE FOR PSYCHOLOGICAL TREATMENT: IMPLICATIONS FOR REACTIONS TO STRESSORS IN DIFFERENT CONTEXTS

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Two studies examined how perceiving a stigma and barriers to care for psychological treatment moderate the relationships between stressors and psychological symptoms. One study utilized a sample of college students and the other a sample of U.S. Army soldiers. Factor analytic results from the two samples supported stigma and barriers to care being separate constructs. In the student sample, perceived stigma interacted with subjective stress to predict depression, such that the relationship between stress and depression was stronger when perceived stigma was high. In the military sample, barriers to care interacted with work overload to predict depression, such that the relationship between overload and depression was stronger when perceived barriers to care were high. Results reveal the importance of examining both stigma and barriers to care as moderators of the stressor–strain relationship, and reinforce the need to develop interventions to address stigma and remove barriers to care.

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Stigma and barriers to care are two major concerns for individuals experiencing psychological difficulties (Britt, 2000; Cooper, Corrigan, & Watson, 2003; Hoge et al., 2004). In the present paper we test the hypothesis that perceiving stigma and barriers to care regarding psychological treatment may be especially important for individuals experiencing high levels of stress in different areas of their lives. When individuals are under high stress, perceiving a stigma and barriers regarding treatment may be especially predictive of mental health symptoms.

Corrigan and Penn (1999) have defined stigma as a negative and erroneous attitude about a person, akin to a prejudice or negative stereotype. Public stigma reflects the negative attitudes that the general public has toward people with mental illness, inviting discrimination, fear, and pessimism (Link, 1987; Link, Cullen, Frank, & Wozniak, 1987; Purvis, Brandt, Rouse, Vera, & Range, 1988; Skinner, Berry, Griffith, & Byers, 1995). Self stigma is the internalization of how the general public portrays people with mental illness, and the belief in that portrayal (Corrigan & Watson, 2002; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989; Link & Phelan, 2001). Furthermore, contact with the public often intensifies the self-stigmatizing beliefs that people with severe mental illnesses hold.

Possessing self-stigmatizing beliefs about mental illness should have negative consequences for people who already have psychological problems, and one such consequence involves a loss in self-esteem. It is likely that with the stigma of mental illness, a loss of self-esteem arises when individuals have to face the public’s negative ideas about severe mental illnesses. Thus, discouraged by the stigma, people with psychological problems may begin to doubt their own coping abilities to deal with daily life, thereby developing low self-esteem. As a result of stigma, individuals with psychological problems have low self-esteem and self-efficacy, encounter social isolation, and have lower social confidence (Holmes & River, 1998). In addition, Link, Struening, Neese-Todd, Asmussen, and Phelan (2001) found that perceptions of stigma among people with mental illness at Time 1 were associated with lower self-esteem six and 24 months later, even after controlling for self-esteem at Time 1. These results suggest that perceptions of stigma among those with a mental illness are prospectively related to decreases in self-esteem,
and illustrate how beliefs about stigma can have negative consequences for the individual.

In the context of the present research, individuals who are under a large amount of stress and start to experience psychological difficulties may be adversely affected by perceiving a stigma associated with seeking help for their difficulties. Corrigan and Matthews (2003) have referred to the perceived stigma we are assessing in the present research as label avoidance: Individuals will not want to seek help because doing so would result in the negative consequences associated with the label of seeking treatment. We argue that having this motivation to avoid the consequences associated with the label of receiving treatment should exacerbate the relationships among salient stressors and psychological symptoms. On the other hand, individuals who do not perceive as great a stigma with seeking treatment may feel more comfortable discussing their problems with others, and therefore be less affected by the stressful environment. Our reasoning is consistent with the modified labeling theory of Link et al., (1989), who argue that an internalization of the mental patient label can lead to secrecy and a withdrawal from social contact, especially involving those not very close to the individual.

In addition to perceived stigma being associated with psychological problems, individuals may also perceive barriers to care in seeking treatment for problems. Potential barriers to care include not understanding the procedures and options for getting treatment and not having the time in an already busy schedule to actually spend with a mental health professional. Having decided the benefits of treatment outweigh the stigma of getting help, individuals may have positive attitudes toward seeking treatment, but barriers to care may prevent them from getting treatment because they lack a sense of control over being able to find the time and resources for treatment. Hoge et al., (2004) found that soldiers and marines with mental problems were more likely to report barriers to care, such as not being able to get time off from work and not knowing where to receive treatment for psychological problems.

The major hypotheses of the present research are that stigma and barriers to care should exacerbate the effects of stressors on psychological health. When individuals are under a large amount of stress, they may consider the possibility of receiving treatment for psychological problems resulting from different stressors. If individuals an-
ticipate stigma and perceive barriers to care in seeking treatment, then stressors in their lives might be more predictive of psychological health than for individuals who do not perceive a stigma or barriers with seeking treatment. Cohen, Kamarck, and Mermelstein (1983) have shown that perceived stress is predictive of psychological and physical symptom reports. Our hypothesis is that this relationship should be stronger when individuals perceive stigma and barriers to care in seeking treatment for psychological problems.

Within the work environment, employees are working longer hours and are frequently faced with demanding deadlines. The high pressure to perform often results in work overload for many employees. Tennant (2001) has shown that work-related stressful experiences, such as overload, can contribute to depression; and that over time, encountering stressful experiences in the workplace can contribute to psychological disorders (see also Spector & Jex, 1998). We argue that perceiving a stigma and barriers to care associated with seeking treatment in a work environment will magnify the relationship between work overload and symptoms. When individuals perceive a stigma and barriers to care, they will likely believe that they cannot ask and receive help in dealing with being overloaded in work, therefore exacerbating the effects of overload on their health. If individuals do not perceive high levels of stigma or barriers to care, they should be less affected by higher levels of overload, because they are likely to feel more comfortable and certain about seeking help for the work-related difficulty.

We are aware of no prior research that has examined perceived stigma and barriers to care as moderators of the stressor-strain relationship. In addition, we are aware of no prior research showing that perceived stigma and barriers to care are separate constructs that are predictive of outcome measures. Thus, one of the goals of the present research was to validate the independent dimensions of stigma and barriers to care.

In the present study we examine the effects of stigma and barriers to care on the relationship between stress and well-being using two very different samples. The first study uses college students as participants, and examines stigma and barriers to care as moderators of the relationship between perceived stress and depression. We predict that the relationship between perceived stress and depression will be stronger for those students who perceive high stigma and bar-
riers to care associated with receiving treatment. The second study uses soldiers from a military base that has been deployed frequently to Iraq and Afghanistan. Among this sample we assess whether perceived stigma and barriers to care moderate the relationship between work overload and indexes of psychological symptoms. We predict that the relationship between work overload and the outcome measures will be stronger when soldiers report high levels of stigma and barriers to care associated with receiving treatment.

STUDY 1

METHOD

Participants and Procedure
Participants (N = 203) were students from a southeastern university who participated in the study to complete a research experience requirement for an Introduction to Psychology course or for extra credit in other psychology courses (e.g., Human Sexuality). The average age of the sample was 19 years (SD = 1.20), and the gender distribution was 28% male and 72% female. Concerning ethnicity, the sample was composed of 9% African–American, 5% Asian–American, 1% Hispanic–American, 88% Caucasian–American, and 1.5% Other. The breakdown of year in college for the participants was mostly freshman 63%, followed by sophomore 24%, junior 9%, and 5% senior.

Participants arrived to the study and completed an informed consent indicating the purpose of the present research was to better understand the relationships between stress, psychological health, and the stigma of seeking treatment for psychological problems. Participants completed the measures in small groups under controlled conditions and were assured their responses would remain anonymous.

Materials

Perceived Stigma and Barriers to Care for Psychological Problems. Eleven items were generated to assess the perceived stigma and barriers to care in seeking treatment for psychological problems. The six items designed to assess perceived stigma were based in part on the measure used by Britt (2000) to assess the stigma of psychological problems among soldiers (e.g., it would be embarrassing, I would be seen as weak), and the five items designed to assess barriers to care were based
on an analysis of factors that might make it difficult for individuals to get treatment for a mental health problem (e.g., not knowing where to get help, not having transportation; see Hoge et al., 2004). Participants were instructed “Using the scale provided, rate each of the possible concerns that might affect your decision to seek treatment for a psychological problem (e.g., a stress or emotional problem such as depression or anxiety attacks) from a mental health professional (e.g., a psychologist or counselor).” Participants responded to the items on a scale from 1 (strongly disagree) to 5 (strongly agree). These items were initially developed by Hoge et al., (2004) for use with military personnel seeking treatment for problems such as PTSD. However, the items could easily be modified for our student population. Hoge et al., (2004) reported information on individual items in the scale but did not report properties associated with the scale scores.

The 11 items assessing the two variables are presented in Table 1. The 11 items were submitted to a Principal Axis Analysis, and the results of the scree plot and eigenvalue >1 criteria suggested retaining two factors that accounted for 50% of the variance. The two factors were submitted to a Varimax rotation. As seen in Table 1, all items as-

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1 (Perceived Stigma)</th>
<th>Factor 2 (Barriers to Care)</th>
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<tbody>
<tr>
<td>Stigma Items</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It would be too embarrassing</td>
<td>.61</td>
<td>.10</td>
</tr>
<tr>
<td>It would harm my reputation</td>
<td>.79</td>
<td>.03</td>
</tr>
<tr>
<td>My peers might treat me differently</td>
<td>.70</td>
<td>-.03</td>
</tr>
<tr>
<td>My peers would blame me for the problem</td>
<td>.56</td>
<td>.07</td>
</tr>
<tr>
<td>I would be seen as weak</td>
<td>.63</td>
<td>.08</td>
</tr>
<tr>
<td>People important to me would think less of me</td>
<td>.62</td>
<td>.04</td>
</tr>
<tr>
<td>Barriers to Care Items</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don’t know where to get help</td>
<td>-.01</td>
<td>.42</td>
</tr>
<tr>
<td>I don’t have adequate transportation</td>
<td>.00</td>
<td>.46</td>
</tr>
<tr>
<td>It is difficult to schedule an appointment</td>
<td>-.02</td>
<td>.70</td>
</tr>
<tr>
<td>There would be difficulty getting time off work or school for treatment</td>
<td>.14</td>
<td>.75</td>
</tr>
<tr>
<td>Getting treatment costs too much money</td>
<td>.20</td>
<td>.50</td>
</tr>
</tbody>
</table>

Note. Items loading >.30 on expected factor are bolded.
sessing perceived stigma loaded on one factor and all items assessing barriers to care loaded on another factor, with no items loading greater than .30 on the opposing factor. The Cronbach Alpha for the perceived stigma scale was .82, and the Alpha for the barriers to care scale was .70.

Subjective Stress. The 14-item Perceived Stress Scale, or PSS (Cohen et al., 1983), was used to assess the overall level of stress students were feeling in their lives. Sample items include “In the last month, how often have you felt that things were going your way,” and “In the last month, how often have you felt felt nervous and ‘stressed’.” Cohen et al., (1983) found that the PSS correlated with the experience of stressful life events, depression, and health center visits. The coefficient alpha reliability was found to be about .84–.86 and the test–re-test correlation to range from .55 to .85. In the present study, the alpha for the scale was .83.

Depression. The Center for Epidemiological Studies Depression scale (CES–D) designed by Radloff (1977) was used to assess depression level. The CES–D is designed to measure frequency of depressive mood symptoms during the past week. Sample items include “I thought my life had been a failure,” “I felt lonely,” “I felt that everything I did was an effort,” and “I had crying spells.” Radloff (1977) reported a test–retest reliability of .32 for twelve months and .67 for four weeks, a Spearman–Brown coefficient of .90 or above for both normal and patient samples, and correlation with other self–report scales for depression. The alpha for the CES–D in the present study was .89.

RESULTS

Descriptive Statistics and Correlations
The means, standard deviations, and correlations among the continuous variables are presented in Table 2. Perceived stigma and barriers to care for psychological problems were modestly related. Stigma and barriers to care were moderately related to depression, whereas stress was strongly related to depression. The strength of this latter correlation is not surprising considering the sample was comprised of mostly Freshman students adjusting to their first year away from home. The positive correlations between stigma, barriers to care, and depression indicate that individuals who showed more signs of de-
pression were more likely to perceive stigma and barriers to care with seeking psychological treatment, which is likely a function of the increased relevance of the questions for those students showing more symptoms of depression (see Greene–Shortridge, Britt, & Castro, 2007).

Perceived Stigma and Barriers to Care as Moderators of the Stress–Depression Relationship

We hypothesized that the relationship between stress and depression would be affected by perceived stigma and barriers to care. We first mean–centered the predictors of perceived stigma, barriers to care, and perceived stress (Cohen, Cohen, West, & Aiken, 2003). Interaction terms were created by multiplying the centered predictor (stigma or barriers to care) by the centered moderator (perceived stress). We then conducted a moderated multiple regression with depression as the outcome measure, and perceived stigma, barriers to care, subjective stress, and the interactions between perceived stigma and stress and barriers to care and stress as predictors. After controlling for the lower–order main effects, the two interaction terms resulted in a significant change in $r^2$ of 1.5%, $F(2, 196) = 3.90, p < .05$. However, as seen in Table 3, only the interaction between perceived stigma and stress was a significant predictor of depression.

Given the nonsignificant interaction effect for barriers to care, we plotted the interaction between stigma and stress in Figure 1 based on the results from a moderated regression involving the main effects of stress and stigma and the interaction term between the two variables. Figure 1 depicts the interaction based on imputing values $+/-1$ SD on the predictors into the regression equation. As seen in Figure 1, the relationship between stress and depression was stronger when students perceived a stigma with seeking treatment for

<table>
<thead>
<tr>
<th>M (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>1. Perceived Stigma</td>
<td>2.69 (.74)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Barriers to Care</td>
<td>2.42 (.71)</td>
<td>.15*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Perceived Stress</td>
<td>2.76 (.48)</td>
<td>.16*</td>
<td>.26**</td>
<td></td>
</tr>
<tr>
<td>4. Depression</td>
<td>1.69 (.43)</td>
<td>.20**</td>
<td>.27**</td>
<td>.78**</td>
</tr>
</tbody>
</table>

*p < .05 level; **p < .01.
psychological problems. Viewing the interaction differently, perceived stigma was related to depression primarily under high stress conditions.

STUDY 2

METHOD

Participants and Procedure
The sample consisted of 3,648 soldiers from a large military base. The soldiers were 97% male and 3% female. The rank breakdown of the sample was 67% lower enlisted (private to specialist; E1 to E4), 25% NonCommissioned Officers (sergeant to sergeant major; E4–E9), 4% junior officers (second lieutenant to captain; 2LT to CPT), and .4% senior/warrant officers (Major to Colonel, all warrant officers). The ethnic breakdown of the sample was 66% White, 23% African–American, 11% Hispanic–American, and 3% Asian–American. Participants were generally surveyed in large groups. Participants signed an informed consent document and then returned their questionnaire to the researcher. The measures used in the present study were drawn from a larger database from a study investigating the impact of frequent high–risk deployments on soldier health and well–being (see Hoge et al., 2004).

Measures

Perceived Stigma and Barriers to Care. As in Study 1, 11 items were generated to assess perceived stigma and barriers to care for psychological problems. The wording of these items was different given the

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Stand. β</th>
<th>SE</th>
<th>DF</th>
<th>t–Value</th>
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</thead>
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<tr>
<td>Perceived Stigma</td>
<td>.05</td>
<td>.03</td>
<td>198</td>
<td>1.71</td>
</tr>
<tr>
<td>Barriers to Care</td>
<td>.04</td>
<td>.03</td>
<td>198</td>
<td>1.31</td>
</tr>
<tr>
<td>Subjective Stress</td>
<td>.67</td>
<td>.04</td>
<td>198</td>
<td>16.29*</td>
</tr>
<tr>
<td>Perceived Stigma*Subjective Stress</td>
<td>.11</td>
<td>.06</td>
<td>196</td>
<td>2.00*</td>
</tr>
<tr>
<td>Barriers to Care*Subjective Stress</td>
<td>.07</td>
<td>.06</td>
<td>196</td>
<td>1.24</td>
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</table>

*p < .05.
nature of the sample, but the items were designed to assess the same two constructs. The six items assessing the stigma of psychological problem were based in part on the stigma measured used byBritt (2000; see Hoge et al., 2004), and the five items assessing barriers to care were determined by an analysis of factors that might make it difficult for soldiers to get treatment for a mental health problem (e.g., not knowing where to get help, getting time off from work; see Hoge et al., 2004). Soldiers were instructed to “Rate each of the possible concerns that might affect your decision to receive mental health counseling or service if you ever had a problem.” Participants responded to items on a five-point scale ranging from Strongly Disagree to Strongly Agree.

The 11 items assessing the two variables are presented in Table 4. The 11 items were submitted to a Principal Axis Analysis, and the results of the scree plot and eigenvalue > 1 criteria suggested retaining two factors that accounted for 72% of the variance. The two factors were submitted to a Varimax rotation. As seen in Table 4, all items assessing perceived stigma loaded on one factor and all items assessing
barriers to care loaded on another factor. Although there were cases of items loading > .30 on the opposite factor, in all cases the loadings were greater for the hypothesized factor than the alternative factor. The Cronbach Alpha for the perceived stigma scale was .94, and the Alpha for the barriers to care scale was .85.

**Work Overload.** Work overload was assessed with a three–item scale developed by Cammann, Fichman, Jenkins, and Flesh (1983). Participants responded on a five–point scale anchored by “Strongly Disagree” and “Strongly Agree.” Sample items include: “I have so much work to do I cannot do everything well,” and “I never seem to have enough time to get everything done.” The alpha for the scale in the present study was .85.

**Depression.** Depression was assessed by a subscale from the Patient Health Questionnaire (PHQ; Spitzer, Kroenke, & Williams, 1999). Participants responded to the items on a four–point scale indicating the number of days they had experienced various symptoms (e.g., “Feeling down, depressed, or hopeless,” “Little interest or plea-
The Depression subscale of the PHQ is a frequently used and previously validated instrument for assessing depression. The Alpha for the Depression subscale in the present study was .91.

**Post–Traumatic Stress Disorder (PTSD).** PTSD was assessed using a modified version of the *Post–Traumatic Stress Disorder Checklist* (PCL; Blanchard, Jones–Alexander, Buckley, & Forneris, 1996). The checklist is a well–validated measure which includes 17 items that correspond to the diagnostic criteria for PTSD in the DSM–IV (see Hoge et al., 2004). Participants are told: “Below is a list of reactions that soldiers sometimes experience following deployment or in response to other stressful life experiences. Please mark how much you have been bothered by each problem IN THE PAST MONTH.” The items are responded to on a 5–point Likert scale (from not at all to extremely). Sample items include “Repeated, disturbing dreams of stressful experiences” and “Feeling irritability or having angry outbursts.” Responses across the 17 items are summed for a total score. The Cronbach Alpha in the present research was .95.

**RESULTS**

**Descriptive Statistics and Correlations**

The means, standard deviations, and correlations among the continuous variables are presented in Table 5. In this soldier sample perceived stigma and barriers to care were more strongly related, perhaps because factors such as leadership and unit climate are related to both stigma and barriers to care. Work overload was moderately related to both depression and PTSD. Depression and PTSD evidenced a relatively strong relationship with each other. Perceived

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Perceived Stigma</td>
<td>2.84 (1.05)</td>
<td>.61*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Barriers to Care</td>
<td>2.42 (.87)</td>
<td>.25*</td>
<td>.20*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Work Overload</td>
<td>3.02 (1.00)</td>
<td>.36*</td>
<td>.27*</td>
<td>.27*</td>
<td></td>
</tr>
<tr>
<td>4. Depression</td>
<td>1.71 (.72)</td>
<td>.31*</td>
<td>.21*</td>
<td>.27*</td>
<td>.67*</td>
</tr>
<tr>
<td>5. PTSD</td>
<td>30.53 (15.47)</td>
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</table>

*p < .01 level.
stigma and barriers to care were again related to psychological symptoms. These results again suggest that individuals experiencing psychological symptoms are also more likely to report stigma and barriers to care.

**Perceived Stigma and Barriers to Care as Moderators of the Work Overload–Depression Relationship**

We hypothesized that the relationship between work overload and depression would be moderated by perceived stigma and barriers to care. We tested this hypothesis among soldiers the same way we did among college students. We first mean–centered the predictors of perceived stigma, barriers to care, and work overload (Cohen et al., 2003). The main effects of perceived stigma, barriers to care, and work overload were entered into the regression, followed by the interactions between stigma and overload and barriers and overload. For the outcome measure of depression, after controlling for the main effects, the two interaction terms resulted in a significant change in $r^2$ of 1.3%, $F(2, 3126) = 24.61, p < .01$. However, as seen in Table 6, only the interaction between barriers to care and work overload was a significant predictor of depression.

Given the nonsignificant interaction effect for stigma, we plotted the interaction between barriers to care and work overload in Figure 2 based on the results from a moderated regression involving the main effects of barriers to care and work overload and the interaction term between the two variables. The interaction depicted in Figure 2 reveals that the relationship between work overload and depression is stronger when individuals perceive barriers to care associated with receiving treatment for psychological problems. Viewed differ-

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**Table 6.** Moderated Multiple Regression for Perceived Stigma, Barriers to Care, and Work Overload as Predictors of Depression

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Stand. β</th>
<th>SE</th>
<th>DF</th>
<th>t-Value</th>
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<tbody>
<tr>
<td>Perceived Stigma</td>
<td>.27</td>
<td>.01</td>
<td>3128</td>
<td>12.92*</td>
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<tr>
<td>Barriers to Care</td>
<td>.07</td>
<td>.02</td>
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<td>3.10*</td>
</tr>
<tr>
<td>Work Overload</td>
<td>.22</td>
<td>.01</td>
<td>3128</td>
<td>13.39*</td>
</tr>
<tr>
<td>Perceived Stigma*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Overload</td>
<td>.002</td>
<td>.01</td>
<td>3126</td>
<td>.098</td>
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<tr>
<td>Barriers to Care*</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Overload</td>
<td>.11</td>
<td>.02</td>
<td>3126</td>
<td>5.29*</td>
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</table>

*p < .05.
ently, the results reveal that the relationship between barriers to care and depression is stronger under conditions of high work overload.¹

**DISCUSSION**

The purpose of this study was to examine the effects of stigma and barriers to care on the relationship between stress and psychological health using two different samples. Results from the two samples provide support for the hypotheses that perceiving a stigma and barriers for mental health care exacerbates the relationship between perceptions of life stressors and psychological symptoms, although the overall strength of these moderating effects was relatively weak. Still, college students perceiving a greater stigma of seeking treatment showed a stronger relationship between subjective stress and

¹. A similar (though not quite as robust) pattern of results was obtained for PTSD as the outcome measure, with the interaction between barriers to care and work overload significantly predicting PTSD. Details from these analyses can be obtained from the first author.
depression, and military personnel who reported more barriers to care showed a stronger relationship between perceptions of work overload and symptoms of depression.

Students who are encountering stress from school may be less inclined to talk with others because of the perceived stigma of psychological problems, and therefore may be likely to report greater symptoms. Although prior research has investigated the stigma associated with the disclosure of mental disorders (Dalgin & Gilbride, 2003; Ellison, Russinova, & MacDonald–Wilson, 2003), much less research has explored the stigma associated with less severe problems that may be more intimately tied to academic–related stressors.

The findings with the military sample emphasize the importance of examining barriers to care for psychological treatment in addition to perceived stigma. The results of factor analyses revealed the presence of two separate dimensions underlying the items assessing barriers to care and perceived stigma, and revealed that barriers to care were particularly important for the military sample. It may be the case that the results found in the present study with work overload will generalize to other organizational stressors, such as role conflict, lack of control, or abusive supervision. It could be argued that the type of stressor examined among the military personnel, work overload, is a type of barrier in its own right. That is, high work overload should serve as a barrier to getting time off for needed psychological treatment. However, the results of the interaction reveal that variation in barriers to care was more predictive of symptoms under high workload conditions. This finding suggests that among people reporting a high degree of work overload, perceiving further barriers to care is a stronger predictor of health symptoms. Understanding the joint effects of occupational stressors, perceived stigma and barriers to care on psychological health is important and deserves more attention in the academic and organizational literature.

Although more longitudinal research is needed, the results of the present study indicate the importance of considering the implementation of policies and programs aimed at the reduction of stigma and perceived barriers to care for individuals under high levels of stress in different contexts. Examples of changes to existing policies that would support individuals receiving needed help include persons not losing their job for seeking mental health support, being able to seek mental health support during the work day, and having their
visits to mental health professionals be anonymous. Future research is needed to investigate whether these types of programs result in individuals getting treatment for mental health problems before these problems turn into more severe difficulties that compromise an individual’s adaptive functioning.

LIMITATIONS OF THE PRESENT RESEARCH

All of the measures used in the present research were self-report in nature and assessed at a single point in time. The self-report aspect of the study invites the criticism that the findings may have been the result of a same-source bias. However, we believe it is unlikely that such an explanation could account for the unique pattern of the supported interaction between the stressors and perceived stigma and barriers to care in the prediction of psychological symptoms. The cross-sectional nature of the design precludes any causal inferences regarding the relationships obtained. For example, our data cannot rule out the possibility that an increase in symptoms precedes the perception of stigma and barriers to receiving mental health treatment. Only longitudinal designs are capable of specifying possible causal relationships among the variables of interest.

Another potential criticism is whether the results of the present study, found with soldiers on a military base and students in an academic setting, will generalize to individuals in diverse life contexts. Although issues of generalization can only be addressed through replication, we believe the moderating effects of perceived stigma and barriers to care on the relationships between stress and symptoms will be obtained in other populations, and hope that additional research will be conducted examining the processes by which stigma and barriers to care affect other samples. A strength of the present study is obtaining support for the primary hypotheses using individuals in very different circumstances with differing attributes. Sears (1986) has argued that college students possess unique demographics that may affect the findings of psychological research. This concern seems less relevant for the present research given the replication of key results with a very different sample. However, it is interesting that the interaction between stigma and perceived stress emerged as the significant predictor for students, whereas the interaction between barriers and work overload emerged as the significant predictor for soldiers. The latter finding is likely a
function of the frequent deployments faced by soldiers, making pragmatic obstacles to receiving treatment more salient. The former finding may be a function of students being particularly sensitive to the consequences of being labeled for one’s identity.

Finally, the percentage of variance in the outcomes accounted for by the interactions between stigma, barriers, and stressors was small. It is worth noting that detecting interactions between continuous variables in field settings is notoriously difficult (see Cohen et al., 2003), and the effects sizes that are detected tend to be small (Chaplin, 1991; Frazier, Tix, & Barron, 2004). Interaction effect sizes in the 1% realm are therefore not atypical in applied research. In study 1, the two interactions between stigma and perceived stress and barriers to care and perceived stress together accounted for 1.5% of the variance in depression, and in study 2, the two interactions between stigma and work overload and barriers and work overload together accounted for 1.3% of the variance in depression.

FUTURE RESEARCH DIRECTIONS

Because this study used data from the college student and military population, the results may not reflect that of the general population, especially those who may be less accepting or understanding of psychological problems. Future research could examine whether people of different cohorts perceive a greater stigma associated with seeking treatment and whether barriers to care play a more important role for some individuals than others in their decision to seek help for their problem. Future research should address how stigma and barriers to care perceptions vary across, culture, ethnicity, socioeconomic status, educational level, and exposure to mental health issues, using prospective research designs when possible. Finally, the present research examined the moderating effects of stigma and barriers to care on the relationships between stressors and psychological symptoms, but did not examine questions of mediation, that is, specifically why the moderating effects were obtained. The presumed mechanism is that individuals perceiving a high stigma and barriers to treatment keep their difficulties to themselves, thereby preventing adaptive coping with life circumstances (Link et al., 1989). However, further research will be necessary to specify the specific processes responsible for the moderation demonstrated in the present studies.
REFERENCES


