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Effect of Religiosity and Combat Exposure on Combat Veteran Posttraumatic Growth

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Positive psychology has been used to explain positive coping and little attention has been paid to the role of religiosity in posttraumatic (Mishkind, Reger, & Gahm, 2010); female victims of sexual assault (Moreira-Almeida, Neto, and Koenig, 2006) found religious practices and Religion is prominent in American culture and human experience. but a paucity of research has studied posttraumatic growth among service members who served in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) (Bennato, 2011; Pietrzak et al., 2010), and little attention has been paid to the role of religiosity in posttraumatic growth among combat veterans (Badgett, 2009).

Religion is prominent in American culture and human experience. Moreira-Almeida, Neto, and Koenig (2006) found religious practices and behavior were related to psychological well-being, including “life satisfaction, happiness, positive affect, and positive moral.” (p. 24). Religious beliefs can provide a framework to understand and cope with traumatic experiences (Overcash & Calhoun, 1996). However, religious beliefs can also be a barrier to psychological well-being by using maladaptive thinking and coping strategies that can lead to increased distress rather than better psychological functioning.

Objectives
The purpose of this study is to investigate two research questions:
1. Do pre-deployment religiosity among combat military service members and level of religiosity predict posttraumatic growth?
2. And, do the level of combat exposure and changes in religiosity predict posttraumatic growth in combat military service members?

Methods
The sample, obtained from an archival data set (Orton, 2012), was a group of National Guard soldiers that deployed to the war in Iraq from 2007 to 2008 (N=75). Participants were given pre- and post-deployment measures one month before and six months after returning from the Iraq war. Four regression equations were used to examine posttraumatic growth. The predictor variables were religious behavior (DUREL scale), religious coping (Brief RCOPE scale), spiritual well-being (Brief Spiritual Well-Being scale), and combat exposure (CES). The two criterion variables were measured by the Posttraumatic Growth Inventory (PTGI) and the PTGI Plus (three additional spiritual change items).

Participants
Three Army National Guard Infantry platoons deployed to the Iraq War (221 participants assessed one-month prior to deployment and 75 participants completed post-deployment assessments due to Army administrators misidentifying the disidentified master list.
All the participants were male with a mean age of 27-43% of participants were married, 6% were divorced, 77% completed high school/GED, 3% bachelors, 4% postgraduate
Religious affiliations: 31% endorsed “none”; 21% Christian Orthodox, 20% Protestant, 15% Catholic, 1% Jewish, and 12% other
Ethnicity: 75% European American, 4% Native American, 4% Hispanic/Latino, 3% Asian American, 3% African American, 1% Pacific Islander

Measures
Eight predictor variables were derived from four measures:
1) The Duke University Religious Index (DUREL) is a five-item measure that assesses organized religious activity (e.g., frequency of attending religious services), non-organized religious activity (e.g., frequency of praying, meditating, or using religious text) and internal religiosity (i.e., internalization of one’s religious practices and beliefs) (Keoen, Parkerson, & Meador, 1997). Prior research found the Cronbach’s alpha to be .91. for all five items, and this current study also calculated a .91 alpha.
2) The Brief Religious Coping scale (Brief RCOPE) is a 14-item measure designed to integrate religious dimensions that measure levels of coping, and helpfulness (Parkerson, Smith, Koenig, & Perez, 1998). Type of coping strategy is dichotomized into two categories: negative religious coping (e.g., feeling angry at God) and positive religious coping (e.g., religious forgiveness). The Brief RCOPE median coefficient alphas across 30 studies ranged from .81 to .92 for negative and positive religious coping respectively. This current study calculated alphas ranging from .84 to .96 respectively.
3) The Brief Spiritual Well-Being Scale (Brief SWB) is a 6-item measure derived from the 20-item Spiritual Well-Being instrument (Bufford, 2011; Paloutzian & Ellison, 1982). Spiritual well-being is defined by measuring vertical (i.e., well-being in relationship to God) and horizontal directions (i.e., life’s purpose and satisfaction), and the two directions are combined for a total spiritual well-being score. Prior research calculated Cronbach’s alpha to be .91, yet this current study found a .61 alpha.
4) The Combat Exposure Scale (CES) measures subjective accounts of the frequency and intensity of combat encounters (Keane et al., 1989). The CES has seven-questions with five-point ordinal values that measure frequency of certain types of combat (ranging from 0-8) to heavy (33-41). Prior research calculated the Cronbach’s alpha to be .85, and the current study found a .87 alpha.

Two criterion variables were derived from the Posttraumatic Growth Inventory (PTGI) and the PTGI Plus, which include three additional items to the spiritual change factor. PTGI leads on the following five factors (Tedeschi and Calhoun, 1996): relating to others, new possibilities, personal strength, spiritual change, and meaning. The two criterion variables were measured by the Posttraumatic Growth Inventory (PTGI) and the PTGI Plus (three additional spiritual change items).

Results
For this group of combat soldiers, religiosity and severity of combat exposure did not predict posttraumatic growth. In addition, no support was found that the actual changes in combat soldier religiosity and severity level of combat exposure would predict posttraumatic growth. Only one prior study could be found that investigated the relationship between spiritual change and posttraumatic growth (Badgett, 2009). Among Vietnam War veterans, Badgett found that combat exposure and spirituality predicted higher posttraumatic growth. The present results do not support Badgett’s findings that combat exposure and religiosity leads to posttraumatic growth. It is possible that the positive growth Badgett found was driven by context (i.e., Vietnam War vs. Iraq War) and length of time since exposure and time of assessment (i.e., almost 40 years vs. 6 months). In addition, changes in combat circumstances (e.g., the possibility of multiple serial deployments) and social or cultural changes during the intervening years may affect the relationship between religiosity, combat exposure, and posttraumatic growth.

Discussion
The low amount of combat exposure in this sample of National Guard combat soldiers, likely did not provide the necessary conditions of stress to activate protective mechanisms that could lead to greater posttraumatic growth. Prior studies indicate that a positive or curvilinear relationship often occur in response to a stressor (e.g., healthcare, stressor exposure) (Paloutzian & Ellison, 1982). However, moderate levels of stress yielded higher posttraumatic growth (Petraitis et al., 2010). Therefore, it is possible that this study’s level of combat exposure was insufficient to initiate positive growth processes.

Another potential confound to this current study is the high rate of non-religious participants who could lower positive engagement (i.e., athletic or non-religious participants) on having a negative religious orientation, whereas one study found only 21% of the military personnel affiliated as Athiest or endorsed not being religious (Segal & Segal, 2004). In addition, it is possible that National Guard personnel, who choose to spend their weekends drinking, tend to be less religious, and individuals who are more religious, may not want to compromise their religious values by missing religious activity on weekends.

Finally, it is possible that these results may have been due to the low statistical power (N=75). A larger sample size might have increased the power to improve sensitivity in finding significant relationships between combat exposure, religiosity, and posttraumatic growth.

The interaction of religious variables between combat exposure and posttraumatic growth warrants further investigation. Studying religious factors and combat service members could provide more understanding of the relationship on the relationship between religiosity, resilience, and meaning making. For example, religious coping styles can lead to positive adjustment (Rosa, Huddal, Clark, & Vander Wal, 2009).

Selected References
Aspinwall, L., & Tedeschi, R. (2010). The value of positive psychology for health psychology. Psychological Inquiry (São Paulo, Brazil), 21(1), 4-12.
Scholarship
Annals of Behavioral Medicine: A Psychological Inquiry, 10(2), 242-250.

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