



# The Association between PTSD, Gratitude, Academic Adjustment, and Dropout Decisions in Veteran Students with Disabilities: Brief Report

RESEARCH

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## ABSTRACT

The purpose of this exploratory study was to explore whether gratitude is associated with the intention to dropout when accounting for academic adjustment and posttraumatic stress disorder (PTSD) symptoms among a sample of student veterans with disabilities. A cross-sectional survey was conducted, involving the participation of 129 student veterans with disabilities from a Hispanic Serving Institution in a Southwest state in the US. Descriptive statistics and multiple linear regression model statistics were adopted to analyze the data. The result pertained to the multi-variable model indicating that gratitude accounted for a significant amount of the variance in intention to dropout,  $R = .73$ ,  $R^2 = .53$ ,  $\Delta R^2 = .50$ ,  $F(6, 118) = 22.18$ ,  $p < .001$ . A significant association was found between gratitude and intention to dropout among student veterans with disabilities ( $\beta = -.20$ ,  $p = .01$ ). Specifically, gratitude was significantly associated with lower intentions to dropout, even when accounting for the effects of PTSD symptoms and academic adjustment among the sample participants. Effective gratitude interventions could be used as promising strategies to address the risk of dropout among student veterans with disabilities, particularly those dealing with PTSD symptoms and/or poor academic adjustment.

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## INTRODUCTION

In higher educational settings, student veterans frequently encounter heightened challenges in achieving successful academic adjustment due to a combination of internal and external stressors (Umucu et al., 2018, 2019; Umucu, 2021; Norman et al., 2015), resulting in higher dropout rates than their non-veteran peers (Barnhart, 2011; Umucu, Chan, Phillips, et al., 2022). Meanwhile, PTSD, a prevalent mental health disorder, can negatively affect academic adjustment and performance of student veterans, both with and without disabilities (Elliott, 2015; Umucu, Chan, Lee, et al., 2022; Umucu, Ghosh, et al., 2022; Umucu, Rumrill, et al., 2022). The probability of completing a postsecondary education may be reduced by both PTSD symptoms and poor academic adjustment in the student veterans population; however, the research is very limited in this context. Therefore, it is important to examine malleable protective factors, such as gratitude, that might buffer the negative effects of PTSD symptoms for this expanding student population.

Gratitude at the trait level, which describes the steady tendency to respond to certain types of emotional responses, is defined as the predisposition to be aware of when the self is a benefactor of some positive outcome or good deed, often attributed to the actions of other people (McCullough et al., 2002). Multiple studies demonstrate that gratitude could function as a protective factor by facilitating the development of social relationships, and that people who have higher levels of gratitude tend to exhibit fewer negative perceptions of themselves and others (Lee, 2022; Phillips et al., 2022; Smith et al., 2016; Wood et al., 2010; Umucu, Lo, et al., 2022). Studies among student veterans also suggest that gratitude may buffer their psychological health risks by demonstrating negative associations with perceived stress and suicidal ideation (Umucu, Lo, et al., 2022; Valikhani et al., 2019).

Although gratitude has been recognized as a protective factor for both students and veterans with PTSD, there is a scarcity of research that examines the impact of gratitude on dropout intentions for student veterans, particularly when considering PTSD symptoms and academic adjustment. Therefore, this study aims to explore whether gratitude is associated with intention to dropout when accounting for academic adjustment and PTSD symptoms among a sample of student veterans with disabilities.

## METHODS

This study explores the central research question: Is there a significant association between gratitude and the intention

to dropout when accounting for academic adjustment and PTSD symptoms? To address the research question, data were collected from a Hispanic Serving Institution in a Southwest state in the US following IRB approval. A web-based survey was electronically distributed through the university's disability center, where students access rehabilitation and accommodation services. Participants received a gift card (\$10) upon completion of the study.

The 20-item *PTSD Checklist for the DSM-5* (PCL-5; Weathers et al., 2013) was used to assess PTSD symptoms. The PCL-5 scores demonstrated strong internal consistency ( $\alpha = .95$ ) in the present study. Academic adjustment was measured by the 4-item academic problems subscale of the *Inventory of Common Problems* (ICP; Hoffman & Weiss, 1986). The internal consistency reliability coefficient was found to be  $\alpha = .80$ . Dispositional gratitude was measured with the 6-item *Gratitude Questionnaire-6* (GQ-6; McCullough et al., 2002). The internal consistency reliability coefficient was found to be  $\alpha = .83$ . Dropout decisions were measured by using the 5-item *Intentions to Terminate University Studies Scale* (Dresel & Grassinger, 2013). The internal consistency reliability coefficient was  $\alpha = .82$  for the current study. Descriptive statistics were calculated to identify participants' sociodemographic characteristics. To test our main research question, we fit a multiple linear regression model with intention to dropout as the outcome variable. We added gratitude, academic adjustment, and PTSD symptoms as predictors in the same model.

## RESULTS

A total of 129 student veterans with disabilities with an average age of 33.05 years and a standard deviation of 8.80 years ( $M_{age} = 33.05$ ,  $SD_{age} = 8.80$ ) receiving rehabilitation, counseling, and accommodation services were recruited for this study. Most of our sample was male (72.87%), White (81.40%; multiracial = 6.20%; African American = 4.65%; and others = 7.75%), and identified as Hispanic, Latino, or Spanish origin (51.94%). Some participants in the sample identified themselves as belonging to multiple racial and ethnic identities, such as Hispanic and White, or any other combination of racial and ethnic identities. Most participants served in the Army (62.02%), followed by the Navy (16.28%), the Air Force (10.85%), the Marine Corps (9.30%), and the Coast Guard (1.55%). Please see Table 1 (below) for detailed participant demographic information.

A three-step hierarchical regression analysis was conducted to test whether gratitude is associated with intention to dropout for student veterans with disabilities. Demographic variables (i.e., age, gender [1 = male, 0 = female], and race/ethnicity [1 = Hispanic as dummy coded])

DEMOGRAPHIC	TOTAL NUMBER	PERCENTAGE (%)
Gender		
Male	94	72.87%
Female	35	27.13%
Race		
White	105	81.40%
Hispanic, Latino, or Spanish	67	51.94%
Multiracial	8	6.20%
African American	6	4.65%
Others	10	7.75%
Military Service		
Army	80	62.02%
Navy	21	16.28%
Air Force	14	10.85%
Marine Corps	12	9.30%
Coast Guard	2	1.55%

**Table 1** Participants' Demographic Information.

were entered in the first step. This set did not account for a significant amount of the variance in intention to dropout,  $R = .19$ ,  $R^2 = .04$ ,  $\Delta R^2 = .02$ ,  $F_{(3, 121)} = 1.46$ ,  $p = .23$ . Then, academic problems and PTSD were entered in the second step of the regression analysis. The addition of these variables accounted for a significant amount of the variance in intention to dropout,  $R = .71$ ,  $R^2 = .51$ ,  $\Delta R^2 = .47$ ,  $F_{(5, 119)} = 24.33$ ,  $p < .001$ . Finally, gratitude was entered in the third step of the hierarchical regression. The addition of gratitude accounted for a significant amount of the variance in intention to dropout,  $R = .73$ ,  $R^2 = .53$ ,  $\Delta R^2 = .50$ ,  $F_{(6, 118)} = 22.18$ ,  $p < .001$ . Examination of the standardized regression coefficients indicated that gratitude ( $\beta = -.20$ ,  $p = .01$ ) was significantly associated with intention to dropout. When all three predictors were added, the regression model explained 53% of variance in intention to dropout. The final model revealed that higher levels of PTSD symptoms ( $\beta = .31$ ,  $p < .001$ ) and academic problems ( $\beta = .35$ ,  $p < .001$ ) were positively associated with intention to dropout. Higher gratitude was associated with lower intentions to dropout ( $\beta = -.20$ ,  $p = .01$ ) above and beyond the effects of PTSD symptoms and academic problems. Please see [Table 2](#) (below) for detailed results.

PREDICTORS	<i>b</i>	<i>SE</i>	$\beta$	<i>t</i>	95% CI [LL, UL]	<i>P</i> VALUE	TOLERANCE	VIF
Step 1								
Age	-0.02	0.01	-0.18	-1.99	[-0.04, 0.00]	.051	.99	1.01
Gender	-0.12	0.20	-0.05	-0.58	[-0.52, 0.28]	.562	.99	1.02
Hispanic status	-0.04	0.18	-0.02	-0.24	[-0.40, 0.32]	.809	.98	1.02
Step 2								
Age	-0.02	0.01	-0.19	-2.95	[-0.04, -0.01]	.004	.98	1.03
Gender	0.14	0.15	0.06	0.97	[-0.15, 0.44]	.333	.96	1.05
Hispanic status	-0.14	0.13	-0.07	-1.09	[-0.40, 0.12]	.280	.97	1.03
Academic problems	0.37	0.08	0.40	4.61	[0.21, 0.53]	<.001	.57	1.76
PTSD	0.02	0.01	0.37	4.35	[0.01, 0.03]	<.001	.56	1.78
Step 3								
Age	-0.02	0.01	-0.14	-2.16	[-0.03, 0.00]	.033	.89	1.12
Gender	0.10	0.15	0.05	0.69	[-0.19, 0.39]	.494	.94	1.06
Hispanic status	-0.08	0.13	-0.04	-0.57	[-0.34, 0.19]	.567	.93	1.08
Academic problems	0.33	0.08	0.35	4.03	[0.17, 0.48]	<.001	.54	1.86
PTSD	0.02	0.01	0.31	3.43	[0.01, 0.03]	<.001	.51	1.98
Gratitude	-0.16	0.06	-0.20	-2.48	[-0.29, -0.03]	.015	.63	1.58

**Table 2** Hierarchical Regression Analysis Results.

Note: *b* = unstandardized regression coefficients; *SE* = standard error;  $\beta$  = standardized regression coefficients; LL = lower level; UL = upper level; VIF = variance inflation factor; Step 1:  $R^2 = .04$ ,  $\Delta R^2 = .02$ ,  $F_{(3, 121)} = 1.46$ ,  $p = .23$ ; Step 2:  $R = .71$ ,  $R^2 = .51$ ,  $\Delta R^2 = .47$ ,  $F_{(5, 119)} = 24.33$ ,  $p < .001$ ; Step 3:  $R = .73$ ,  $R^2 = .53$ ,  $\Delta R^2 = .50$ ,  $F_{(6, 118)} = 22.18$ ,  $p < .001$ .

## DISCUSSION

This study examined the associations between gratitude, academic adjustment, PTSD symptoms, and dropout intentions for student veterans with disabilities. The results revealed that PTSD symptoms were positively correlated with dropout intentions for the sample of student veterans with disabilities, which is consistent with the previous findings that student veterans generally have a higher rate of dropout due to transition and health-related challenges (Barnhart, 2011; Elliott, 2015). Conversely, greater academic adjustment was associated with lower dropout intentions. This finding aligns with prior studies in the field, emphasizing the importance of providing academic adjustment support, particularly for first-generation college student veterans (Barnhart, 2011; Durdella & Kim, 2012; Jenner, 2017; Rumrill et al., 2023; Wurster et al., 2013; Umucu, Moser, et al., 2020; Umucu, Wu, et al., 2020).

Furthermore, our results indicated that gratitude was significantly associated with reduced intentions to dropout, even after accounting for the effects of PTSD symptoms and academic adjustment, suggesting that gratitude may serve as an important protective factor for student veterans with disabilities. Our findings align with previous studies indicating that gratitude can function as a protective factor for people with PTSD, including veterans (Israel-Cohen et al., 2015; McGuire et al., 2022). In higher education settings, the elevated levels of gratitude among student veterans also linked to concurrent increase in their institutional commitment levels (Browning et al., 2018). Previous research suggests that student veterans experienced benefits from higher levels of institutional commitment, as it can foster robust peer connections, amplify reception of social support, promote more positive perceptions of others, along with higher gratitude (Smith et al., 2016; Wood et al., 2010). Due to their prior experiences in the military, which involve collaborative efforts to achieve institutional goals (Naphan & Elliott, 2015), student veterans may derive particular benefits from developing close and supportive peer relationships (Grenawalt et al., 2023; Umucu, Lee, et al., 2021; Umucu, 2022; Umucu, Kriofske Mainella, et al., 2023; Umucu, Lee et al., 2023). This could aid their adjustment to the academic environment, contribute to a reduction in dropout rates, and potentially lead to a more satisfying college experience.

## IMPLICATION

Veterans, including student veterans, face an elevated risk of both physical and mental health concerns, highlighting the importance of employing contemporary approaches

to enhance their overall quality of life (Umucu, Reyes, et al., 2021; Umucu, Villegas, et al., 2021; Umucu & Lee, 2023). Although additional work is needed to extend these findings with larger samples and with prospective study designs, the results from this study might provide some insight into the unique experiences of student veterans and how clinicians can support them. Our findings support previous research that suggests positive psychology factors, including gratitude, is a protective factor for student veterans (Seligman & Csikszentmihalyi, 2000; Smith et al., 2016; Wood et al., 2010; Umucu, Castruita Rios, et al. 2022; Umucu, Lee, et al., 2022), and could further suggest its potential impact on intentions to dropout from academics. For instance, implementing gratitude interventions could be a valuable approach to enhance psychosocial resources for student veterans who are at risk of dropout, particularly in the presence of PTSD symptoms and/or poor academic adjustment.

Several studies have demonstrated the effectiveness of gratitude interventions in college settings (Rash et al., 2011; Senf & Liao, 2013; Young & Hutchinson, 2012). As an example, maintaining a daily gratitude journal has been shown to be an effective intervention for enhancing academic performance among college students (Flinchbaugh et al., 2012; Nawa & Yamagishi, 2021). Other examples of gratitude techniques include the “three good things” and “the gratitude visit” interventions. In the “three good things” approach, individuals will list three specific things they are grateful for and reflect on the reasons behind their occurrence (Seligman et al., 2005). Within “the gratitude visit” intervention, individuals will write a gratitude letter expressing thanks to someone who has supported them, with an additional step of attempting to read the letter to that person (Lamas et al., 2014).

The study’s findings highlight the importance of addressing PTSD-related symptoms and enhancing the overall college experience for student veterans. Moreover, through implementing gratitude interventions into clinical settings and within higher education institutions, student veterans will be able to develop a more grateful mindset, which will lead to higher life satisfaction and help to improve their retention in higher education. Gratitude can also be used as a protective factor in supporting student veterans in managing stress and establishing coping mechanisms (Gungor et al., 2021). Given the adaptable nature of gratitude interventions, along with their cost-effective and low-burden characteristics, clinicians and professionals working with student veterans could find great value in incorporating gratitude interventions as a part of their approaches.

Several limitations should be considered while interpreting the results of the current study. First, due to its

cross-sectional design, causation cannot be inferred. Future studies should examine these variables with a longitudinal design to assess the prospective effects of gratitude on dropout intentions. Second, this study focused on PTSD symptoms and did not account for other diagnoses and disabilities, which can be additional barriers for many student veterans (Elliott, 2015) and could impact their dropout intentions. Specifically, there are ongoing debates in the field regarding the optimal factor structures for the PCL-5 assessment (Blevins et al., 2015). Future research is needed to determine the potential role of both physical and psychological comorbidities on the relationship between gratitude and dropout intentions.

## ETHICS AND CONSENT

The research has been approved by The University of Texas at El Paso IRB ethics committee.

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## COMPETING INTERESTS

The authors have no competing interests to declare.

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