



BURNOUT AND CURRICULUM ENGAGEMENT IN DOCTOR OF PHARMACY STUDENTS AS RELATED TO SELF-REPORTED PERFORMANCE



TOURO UNIVERSITY
CALIFORNIA
COLLEGE OF PHARMACY

Manpreet Kaur, Jacob Long, Fu Sang Luk, Jordon Mar, Diana Nguyen, Tatiana Ouabo, Jasmeet Singh, Bobby Wu

Advisors: Shadi Doroudgar, Pharm.D., BCPS, CGP, BCPP, APh, Vanishree Rajagopalan, M. Pharm., PhD, Margaret Schulte, Pharm.D., CGP

Touro University California College of Pharmacy, 1310 Club Drive, Vallejo, California 94594

Introduction

- Burnout and engagement are multidimensional states that can influence academic performance.¹
- Burnout measures unresolvable stress, while engagement measures feelings of positivity and fulfillment.²
- Several studies have investigated the prevalence of burnout and engagement among healthcare clinicians, academic faculty, and graduate students, but few have related these scales to student academic performance or self-perception of academic ability and achievement. There have not been any reports examining burnout and engagement specifically in Doctor of Pharmacy (PharmD) students.^{1,3-5}

Objectives:

- To describe the stress and sense of fulfillment of students in a PharmD program by surveying students using the Utrecht Work Engagement Scale (UWES-9) and the Maslach Burnout Inventory (MBI) respectively.
- To describe self-perception of academic performance of students in a PharmD program by surveying students using the Student Attitudes Assessment Survey (SAAS).
- To investigate whether students' self-perception of academic performance is positively associated with engagement and negatively associated with burnout.

Study Design and Methodology

- A four-part Qualtrics survey, consisting of demographic questions and three validated scales, was administered in May 2017 (after final exams) to first and second year pharmacy students enrolled in didactic coursework at Touro University California-College of Pharmacy. IRB (P-0517) was approved on May 4th, 2017.
- Demographic questions included age, gender, ethnicity, and an optional question about self-reported GPA. Questions taken from the School Attitude Assessment Survey-Revised (SAAS-R) were included to assess each student's self-perception of academic ability and achievement.
- The Maslach Burnout Inventory (MBI) assessed burnout using questions in three subscales: Emotional Exhaustion (MBI-EE), Cynicism (MBI-C), and Professional Efficacy (MBI-PE).
- Lastly, the Utrecht Work Engagement Scale (UWES) measured student engagement in academic pursuits using questions in three subscales: Vigor (UWES-V), Dedication (UWES-D), and Absorption (UWES-A).
- Linear regression and Logistic regression analyses were performed using STATA 14. Self-reported GPA and SAAS scores were measured against MBI and UWES. Cronbach's alpha was set at 0.05.

SURVEY	QUANTIFICATION
Demographics	Descriptive analysis was used to document demographics. Continuous data was reported as a mean ± SD and categorical data was reported with numbers and percentages.
School Attitude Assessment Survey – Revised (SAAS-R)⁶	Academic self-perception (ASP) of a student's personal academic abilities and achievements
Maslach Burnout Inventory (MBI)⁷	Burnout measured through 3 subscales: <ul style="list-style-type: none"> Emotional Exhaustion (EE): feelings of overextension and exhaustion Cynicism (C): an indifference or distant attitude towards your studies Professional Efficacy (PE): satisfaction with past and present accomplishments; reversed professional efficacy (rPE) is the reverse scored PE used to indicate the lack of PE
Utrecht Work Engagement Scale-9 (UWES-9)⁸	Student's engagement within their studies through 3 subscales: <ul style="list-style-type: none"> Vigor (V): high levels of energy, resilience, and willingness to invest effort Absorption (A): being fully concentrated and happily engrossed in one's work Dedication (D): a sense of significance from one's work

Table 1. Instrumentation and Implications

Demographics

Participants (N = 162)	Mean ± SD	Frequency (%)
Age	25 ± 3.34	
Gender		
Female		104 (64.2)
Male		58 (35.8)
Ethnicity		
Asian/Pacific Islander		114 (70.4)
Caucasian (Non-Hispanic)		19 (11.7)
Other		12 (7.4)
Latino or Hispanic		11 (6.8)
African American		5 (3.1)
Native American		1 (0.6)

Table 2. Demographics collected from survey participants.

Self-Reported GPA (N=96)

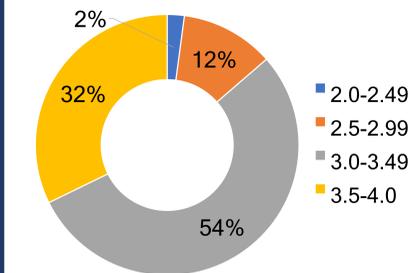


Figure 1. Self-reported GPA.

Results

MBI Descriptive Statistics			
	Scale Range	Average	SD
MBI-EE	0-30	23.02	6.14
MBI-C	0-30	15.85	7.70
MBI-rPE	0-36	8.99	5.14

UWES Descriptive Statistics			
	Scale Range	Average	SD
UWES-V	0-18	9.06	3.63
UWES-D	0-18	11.37	3.41
UWES-A	0-18	10.80	3.64

Table 3A-3B. The scale range and sample mean scores of each MBI and UWES subscale, illustrating the placements of pharmacy students.

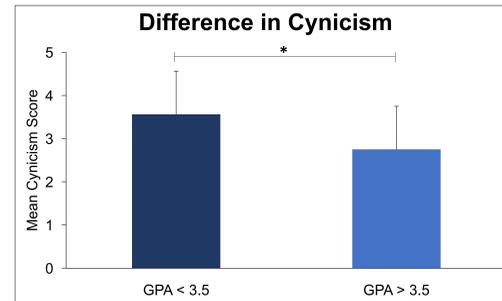


Figure 2. Mean cynicism scores for GPA above and below 3.5.

Academic Self-Perception vs. Burnout		
	SAAS-R (N=162) Coefficient	P-value
MBI-EE	-1.863	p < 0.001
MBI-C	0.533	p = 0.183
MBI-rPE	-3.951	p < 0.001

Table 4. Burnout as a predictor of Academic self-perception. The burnout subscales were investigated as predictors of academic self-perception scores in the total sample population. There was a significant correlation between academic self-perception and emotional exhaustion (p < 0.001) and reversed professional efficacy (p < 0.001) scores respectively.

Logistic Regression (Reported GPA > 3.5)		
	GPA (N=96) Coefficient	P-value
MBI-EE	-0.025	p = 0.903
MBI-C	-0.337	p = 0.058
MBI-rPE	-0.172	p = 0.949
UWES-V	-0.528	p = 0.040
UWES-D	0.735	p = 0.047
UWES-A	-0.275	p = 0.361

Table 3. Logistic Analysis Table (Probability of Reported GPA > 3.5). The subscales for burnout and engagement were investigated as predictors of obtaining a GPA above 3.5 in students who self-reported their GPA. Only the engagement subscales for vigor (p = 0.040) and dedication (p = 0.047) had significant associations.

Academic Self-Perception vs. Engagement		
	SAAS-R (N=162) Coefficient	P-value
UWES-V	0.128	p = 0.843
UWES-D	2.664	p = 0.003
UWES-A	-0.587	p = 0.441

Table 5. Engagement as a Predictor of Academic self-perception. The engagement subscales were investigated as predictors of academic self-perception scores in the total sample population. There was a significant correlation between academic self-perception and dedication scores (p = 0.003).

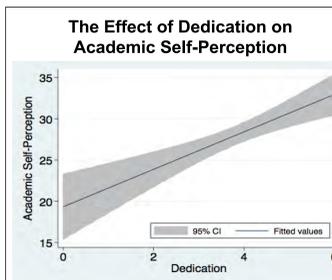
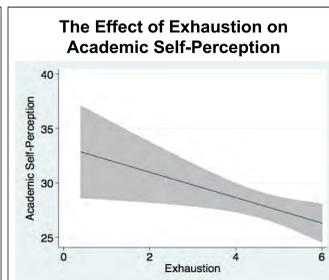
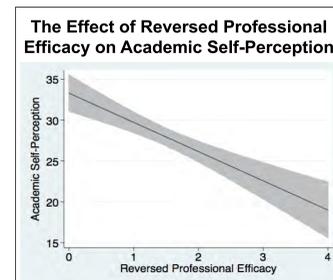


Figure 3A-3C: Trends for significant subscales of burnout and engagement. Reversed professional efficacy and exhaustion are negatively correlated with academic self-perception and dedication is positively correlated with academic self-perception.

- There are no significant differences in burnout and engagement between students who reported their GPA vs students who did not.
- In both the total population and the subpopulation who self reported GPA, those who felt they underperformed reported lower academic self-perception scores and higher reversed professional efficacy scores.

Discussion

- In the subpopulation that self-reported their GPA, we found a significant difference in cynicism between those who self-reported a GPA below 3.5 and those with GPA above 3.5. However, there were no differences in any of the other burnout measurements (MBI-EE, MBI-PE).
- A logistic regression showed that two subscales of burnout (EE, rPE) did not have a significant implication for students who self reported their GPA with a cutoff of 3.5. However, those reporting higher cynicism reported a GPA below 3.5. Similarly, those reporting higher dedication (UWES subscale) also reported a GPA above 3.5. Vigor, another subset of engagement, showed a negative association with self-reported GPA which differs from published literature.¹
- A linear regression of our total population showed that there is a negative correlation between two subscales of burnout (MBI-EE, MBI-rPE) and academic self-perception (measured with SAAS). Conversely, only the dedication subscale of engagement (UWES-D) showed a positive correlation with academic self-perception.
- Limitations of the study include small sample size. Self-reporting also increases the probability of inaccurate reporting.

Conclusion

- This is the first study examining burnout in pharmacy students.
- Previous studies have shown that academic performance is positively associated with engagement and negatively associated with burnout.¹
- This study examined pharmacy students' subjective view of their academic performance to determine if the same association can be applied.
- The results showed that self-perception of academic performance in pharmacy students largely conformed to the associations shown in previous studies.¹
- Future studies can further explore the same relationship by including other pharmacy schools. Instead of measuring self-reported GPA, objective academic success should be measured by obtaining de-identified GPA from the school's registrar.

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