

Background

- Facebook has become a significant component in the daily routine of graduate students.
- In the US, 90% of adults aged 18 to 29 years are on social media and actively use their accounts (Austin-McCain, 2017).
- There has yet to be an overall consensus on the relationship between Facebook use and students’ academic performance
- Little to no knowledge regarding the effect of Facebook use in the physician assistant student population.

Research Question

Is there a correlation between Facebook use and academic productivity, academic satisfaction, and academic success in physician assistant students?

Hypothesis: Increased levels of Facebook activity will negatively impact the academic productivity, academic satisfaction, and academic success of a physician assistant (PA) student.

Null Hypothesis: There is no significant correlation between Facebook activity and academic productivity, academic satisfaction, and academic success of a physician assistant (PA) student.

Goal and Purpose

- Determine if elevated levels of Facebook activity will negatively impact the academic productivity, academic satisfaction, and academic success of a PA student.
- Aid PA students in identifying activities that may be detrimental or beneficial to academic performance, such as increased Facebook usage
- Aid students in recognizing time spent on Facebook and help to improve time management, thereby enabling increased academic productivity.

Methods

- Analytical, prospective research design.
- Population: 90 physician assistant students from the Hardin-Simmons University (HSU) Master of Physician Assistant Studies program.
 - 29 students in their final semester of schooling
 - 31 students in their clinical rotations
 - 30 students in their didactic studies.
- Subjects received an email to their HSU account with a link via Survey Monkey, along with a letter of informed consent, reasoning for the study, and explanation of voluntary, anonymous participation.
- Surveys were sent once during November 2019 and again to unresponsive students during February of 2020.
- Following data collection, statistical analysis utilized ordinal data from the Likert Scale, revised into continuous, numerical interval data.
- A multiple regression model was conducted and the statistical power of the study was calculated via the SPSS statistical program.
- Reliability of the survey was measured via the Cronbach alpha method.

About the Survey

Characteristics: anonymous, voluntary, 21 item web-based questionnaire

Three main factors assessed: subject’s Facebook usage, academic success, and productivity and satisfaction.

Facebook usage:

- Measured using a 7-item self-reporting, anonymous survey that used semantic differential scales and the Verbal Frequency Scale.
- Participants responded to each item using the following categories: 1 = Never, 2 = Infrequently, 3 = Occasionally, 4 = Often, and 5 = Always. Their responses were saved as numerical data points. The higher the numerical value, the higher the Facebook usage.

Academic success:

- Based on the participant’s self-reported GPA, selected from options of continuous GPA ranges.
- The higher a participant’s GPA, the higher the level of academic success.

Academic Productivity and Satisfaction:

- Measured using a 9-item self-reporting, anonymous survey using The Likert Scale and Verbal Frequency Scale.
- Participants indicated their answers by responding with the following categories: 1 = Never; 2 = Infrequently; 3 = Occasionally; 4 = Often; 5 = Always OR 1 = Strongly Agree; 2 = Agree; 3 = Neutral; 4 = Disagree; 5 = Strongly Disagree. The higher the numerical value, the lower their level of academic productivity and satisfaction. .

Demographics:

- Evaluated through the following 4 items: confirmation that the participant is a Hardin-Simmons PA Program student, the participant’s age, the participant’s gender, and the participant’s prospective year of graduation.

Survey Examples

Facebook Use

- Do you own a Facebook?
- How often do you spend time on Facebook?
- How often do you post on Facebook or on other people’s Facebook pages?

Academic Success

- Which of the following best represents your GPA following the first semester of your Physician Assistant education (on a 4.0 scale)?
- I pass my exams.

Academic Productivity and Satisfaction

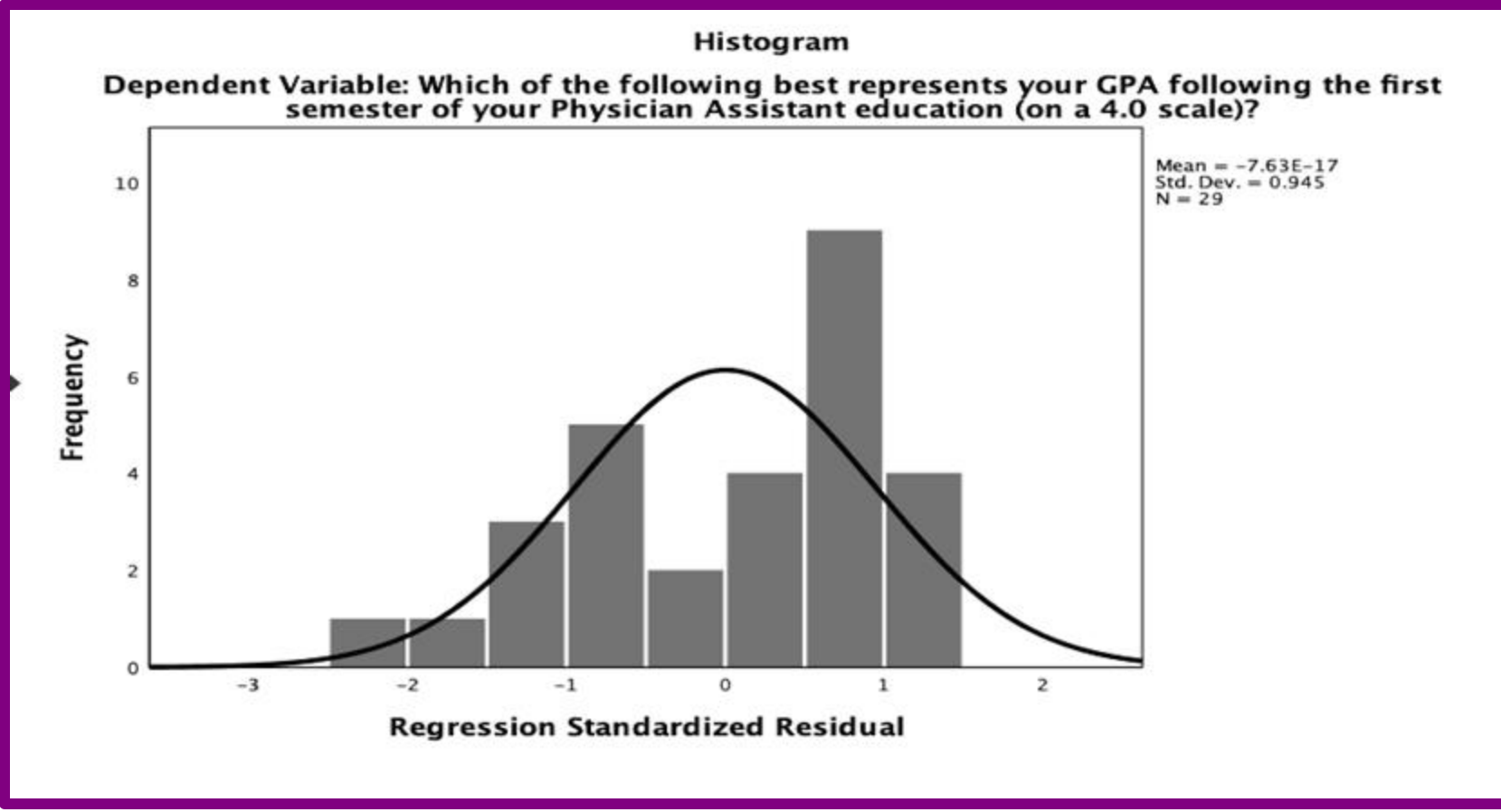
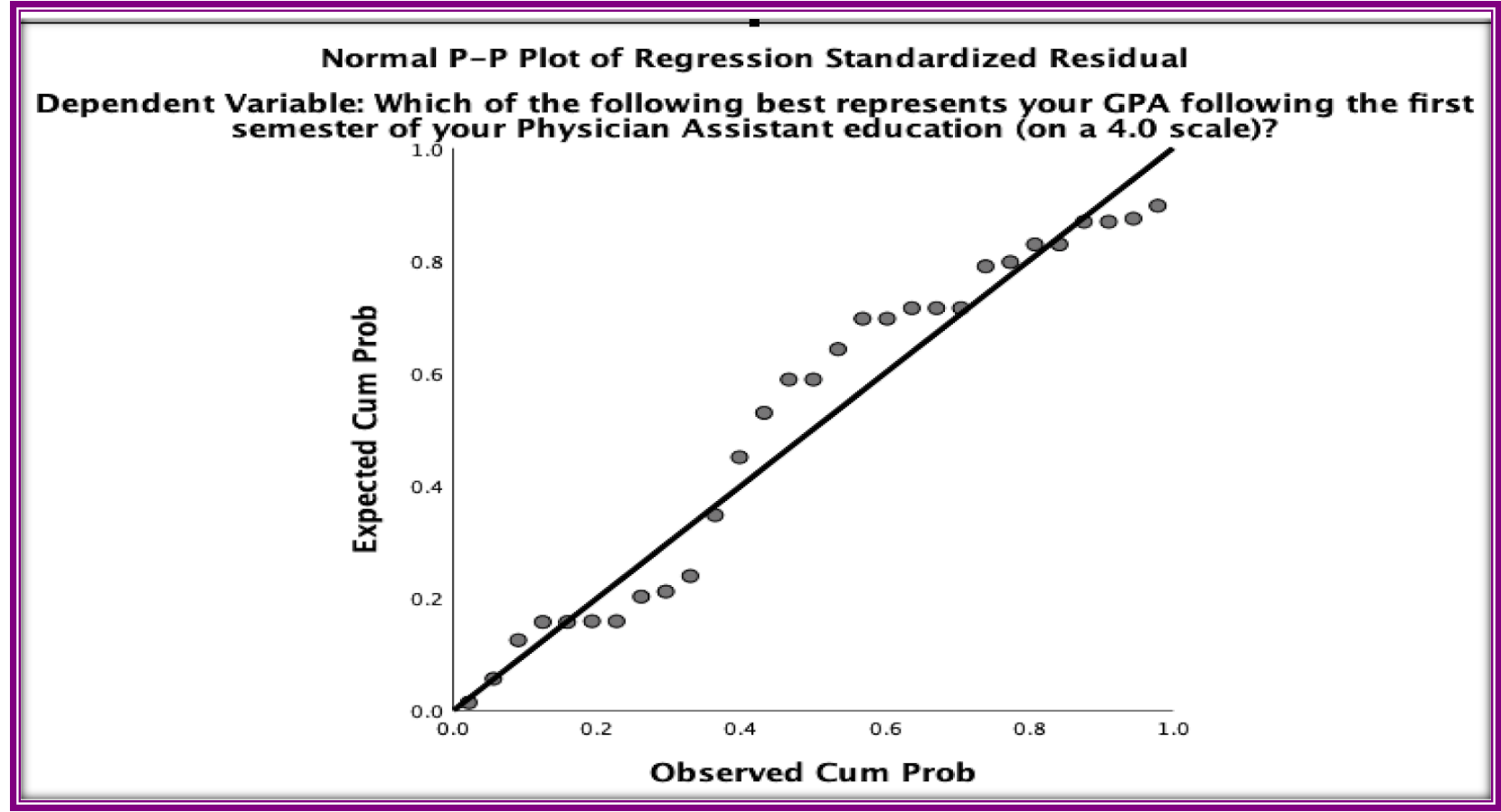
- I miss class.
- I actively participate in class.
- In general, I am satisfied with my academic performance.
- I feel prepared for exams.

Results and Statistical Analysis

- 90 students were given access to the survey. There were a total of 29 acceptable responses.

Correlation between Facebook Use and Academic Success

- Multiple regression demonstrated partial linearity.
- Independence of residual (Durbin-Watson statistic 2.353)
- Homoscedasticity was present.
- No evidence of multicollinearity (tolerance > 0.1)
- No studentized deleted residuals > ±3 standard deviations, no leverage values > 0.2, and values for Cook's distance above 1.
- The assumption of normality was met.



- The multiple regression model did not demonstrate statistical significance as predicted by GPA, $F(3, 25) = .968$, $p = .423$, adj. $R^2 = -.003$. All three variables did not add statistical significance to the prediction, $p > .05$.

Table 3 Summary of Multiple Regression Analysis			
Variable	B	SE _B	β
Constant	2.299	1.053	
Time on FB	0.418	0.390	0.238
Freq. of FB posts	0.156	0.386	0.094
Freq of status updates on FB	0.228	0.437	0.106

Note:* $p < .05$, B = unstandardized regression coefficient, SE_B = Standard error of the coefficient, β = standard coefficient, FB = Facebook

Correlation between Facebook Use and Academic Productivity

- There was no statistically significant correlation between Facebook use and how prepared PA students felt for exams.
 - $r_s(27) = -.037$, $p > .05$.

Correlation between Facebook Use and Academic Satisfaction

- There was no statistically significant correlation between Facebook use and how satisfied PA students were with their academic performance.
 - $r_s(27) = -.108$, $p > .05$.

Conclusion and Discussion

- No statistical significant correlation between Facebook use and academic success, satisfaction, or productivity.
- We cannot accept the alternative hypothesis that social media serving as an outlet for high stress educational programs, leading to positive effects of Facebook usage on academic performance.
- Study limitations:
 - limited sample size
 - lack of question specificity
 - lack of Facebook use differentiation (desktop, laptop, tablet, smart phones, etc)
 - Utilization of ordinal data for the majority of analysis
 - Sole utilization of self-reported data

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