



EXPLORING THE RELATIONSHIP AMONG ACADEMIC
SUCCESS AND GAME MASTERY IN COMMERCIAL VIDEO
GAME PLAY AT A HISTORICALLY BLACK UNIVERSITY

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INTRODUCTION

- Disparities persist for African Americans in the esports industry
- The historical black college and university (HBCU) landscape provides an ideal landscape to investigate video game impact on academic success
- Link to academic success and and video games play (Ventura et al., 2012)

BACKGROUND

- A questionnaire was established by student leaders
 - Asked to self-report skill level in different video games
- Goal was to identify potential players
- Esports faculty advisors recognized the opportunity to use the data

Purpose was to investigate the relationship between academic success and video game mastery for both gaming enthusiast and esports team members at one historically black university

RESEARCH QUESTIONS

- RQ 1. What is the difference in academic success for HBCU students that participate on the esports team and those who are gaming enthusiast?
- RQ 2. Can video game mastery level be used to predict academic success for historically black college students?

METHODS

- Participants self reported their skill level on 9 popular video games.
- **Games:** NBA 2K, Smash, Rocket League, Call of Duty, Counter Strike: Global Offensive, League of Legends, Apex Legends, Fortnite, and Overwatch
- Ranking playing based on 4 skill levels: noncompetitive, competitive(casual player), baller (above average) master (certified top 20%)

Analysis

- The difference in mean was used to compare the connection between academic success and the two groups. (RQ1)
- A Welch's t test was used to determine if any specific games had a relationship with academic success. (RQ2)

RESULTS

141 responses total responses

119 gaming enthusiast, 22 gamers that were select to the esports team

The average GPA of all participants was 3.14



Esports team members

TABLE I

Gaming Enthusiast

	Fall 21	Spring 22	Cumulative
Avg. GPA	2.97	3.03	3.19
Count	22	22	22
Std Dev	0.9372378133	1.214341786	0.7956985278

	Fall 21	Spring 22	Cumulative
Avg. GPA	3.09	3.10	3.15
Count	119	109	117
St. Dev	0.8946923762	0.9455946734	0.7946452089

Game	Skill Level	Mean GPA	Variance	Count	Two-Tail T
League of Legends	Masters	3.33213	.50753	47	.03066
	Others	3.02726	.72134	84	
Rocket League	Masters	3.27243	.59999	70	.04134
	Others	2.98082	.69745	61	
Fortnite	Masters	3.25351	.62775	74	.06216
	Others	2.98491	.67624	57	
Counter Strike	Masters	3.28962	.54502	52	.07254
	Others	3.03595	.72057	79	
Apex Legends	Masters	3.23141	.60748	71	.15051
	Others	3.0245	.7136	60	
Overwatch	Masters	3.22238	.64566	63	.24669
	Others	3.05721	.67306	68	
NBA 2k	Masters	3.19904	.54025	83	.28093
	Other	3.02875	.86886	48	
Smash	Masters	3.099	.66441	90	.43537
	Others	3.21927	.66196	41	
Call of Duty	Masters	3.14103	.63166	87	.93294
	Others	3.12795	.73699	44	

TABLE 2

League of Legends and Rocket League masters were shown to possess higher mean GPAs than students who played other games

***Welch t-test one and two tail analysis at 95% confidence assuming unequal variance

DISCUSSION

Matuszewski et al. (2020) found that individuals with high levels of mastery in League of Legends exhibited the **personality traits of being less agreeable and introverted but open to new experiences.**

These personality traits possibly are independently motivated to master games and excel academically



DISCUSSION

Rocket League's simplicity, yet trainable skill makes it a candidate for machine learning game play research (Ibrahim et al., 2021).

Additional research is necessary to determine if Rocket League methodical training is the characteristic that is linked to predicting HBCU academic success.



CONCLUSION

- **Further research** needed to explore why League of Legends and Rocket League was found to have a relationship with academic success for HBCU gamers.
- **Opportunity** to study game mastery and academic success in other environments

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