The Time Veterinary Medicine Students Study Each Week is Driven by Exams, not Quizzes

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Class Time Demands

- Undergraduate
  - 12-20 credit hours
- Graduate
  - 6-9 credit hours
  - Seminars
- Professional
  - 19-21 credit hours required

Schedule Fall 2013					
	Monday	Tuesday	Wednesday	Thursday	Friday
8:00	Statistics		Statistics		Statistics
9:00					
10:00	Chemistry II	Accounting	Chemistry II	Accounting	Chemistry II
11:00	Bus. Comm.		Bus. Comm.		Bus. Comm.
12:00					
1:00					
2:00	Chemistry Lab	Wildlife Damage Mgmt		Wildlife Damage Mgmt	
3:00					
4:00					
5:00					
6:00					

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Schedule Fall 2017					
	Monday	Tuesday	Wednesday	Thursday	Friday
8:00	Meet w/ Jen	ASCI 845/ VMED 645		ASCI 845/ VMED 645	
9:00					
10:00	Endocrinology		Endocrinology		Endocrinology
11:00		Lab Mtg			
12:00					ABS Seminar
1:00					
2:00					
3:00			Graduate Seminar		
4:00				Advanced Teaching Strategies	
5:00					
6:00					

Class Time Demands

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Schedule Spring 2019					
	Monday	Tuesday	Wednesday	Thursday	Friday
8:00	Pathology	Pathology Lab		Pathology	
9:00	Anatomic Radiology		Physiology		Neuroanatomy
10:00		Physiology		Physiology	
11:00	Neuroanatomy		Neuroanatomy		Animal Welfare
12:00					
1:00	Anatomy	Anatomy	Anatomy	Foundations	Anatomy
2:00					
3:00					
4:00					
5:00					
6:00					

Workload and Mental Health

- Veterinary school application is competitive
  - > than 2 applicants/seat
  - UNL program → undergrad science GPA average > 3.5
- 30% of vet students report depression above clinical cut off[1]
  - 2017 rates for American adults: 7.1%[2]

[1]Hafen et al., 2008 [2]National Institute of Mental Health

Workload and Mental Health

Table 1: Stressors for first-semester ($N = 93$) and second-semester ($N = 78$) veterinary medical students

Variables*	First Semester *M* (*SD*)	Second Semester *M* (*SD*)
Concerns about academic performance	1.77 (1.00)	1.72 (0.91)
Financial concerns	1.70 (0.87)	1.95 (0.90)
Heavy workload	1.70 (0.99)	1.81 (0.82)
Being behind in studies	1.61 (0.96)	1.65 (0.82)
Amount of time spent studying	1.60 (0.93)	1.65 (0.74)
Balancing school with personal life	1.18 (1.02)	1.23 (1.06)
Perception of not being as smart as other students	1.11 (1.01)	0.95 (0.90)

*Possible scores: 0–3 (0 = not at all or not currently experiencing, 1 = slightly, 2 = moderately, 3 = extremely)

Testing and Retention

- "Testing Effect"[1]
  - Improves knowledge retention
- Quizzes can encourage regular studying[2]
  - Less "cramming" for exams
- Gaps in knowledge
  - Professional-level programs
  - Effects of other courses

[1]McDaniel et al., 2007 [2]Azorlosa, 2011

Objective

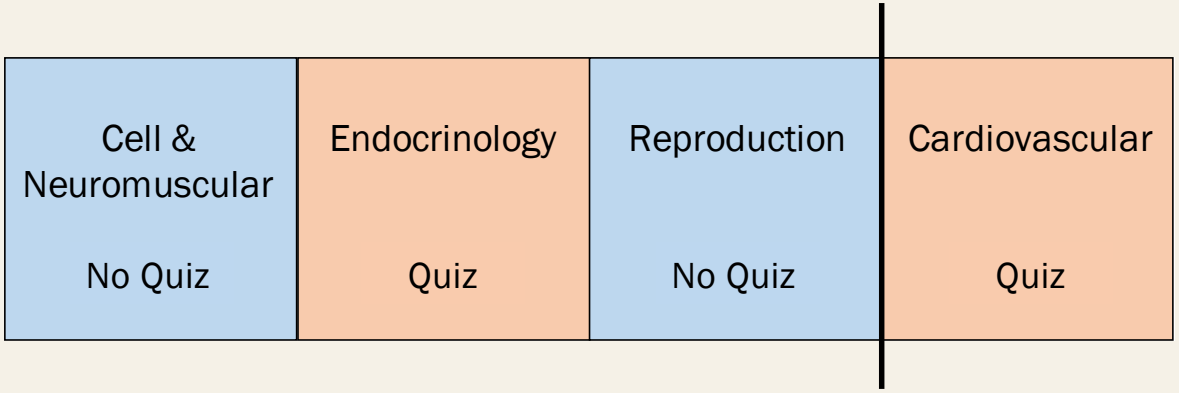
To determine the effects of weekly quizzes on student study habits

Hypothesis

Assigning weekly quizzes will encourage distributed study

Methods

- 27 first-year veterinary medicine students
- Systems Physiology course
- 4 units
  - Independent
  - Equal course time
  - Time of semester effect

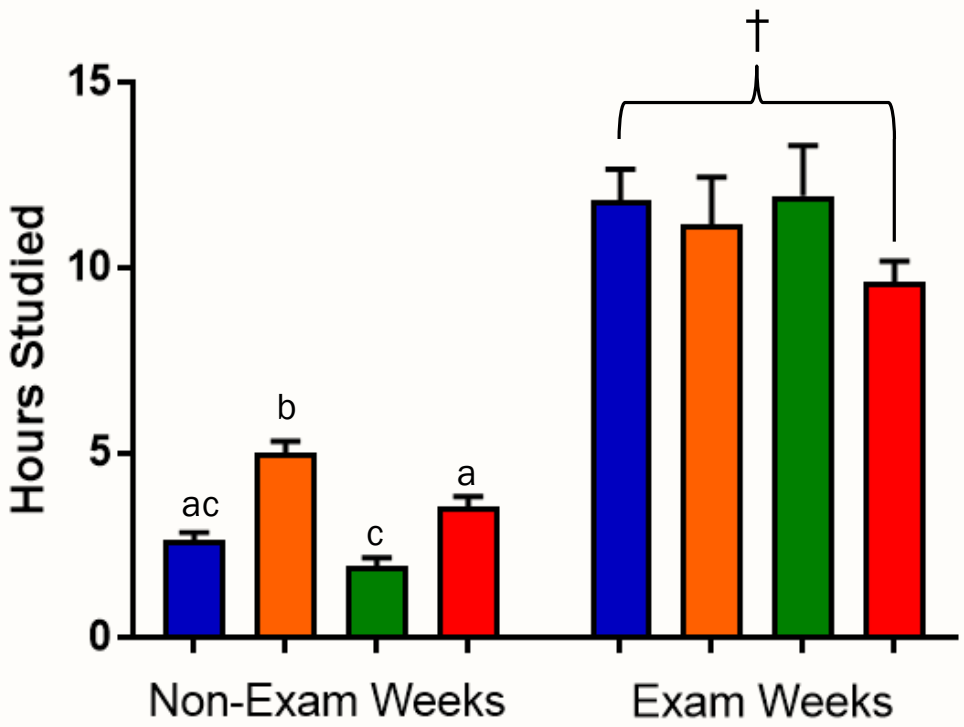


- Quiz points = exam points
  - No quiz units → quiz questions added to exam

Methods

- Anonymous surveys
  - Weekly
    - Study time
  - End-of-semester
    - Overall perceptions
- Unique student identifier within survey
  - Allows tracking of students over the course

Effects of quizzes on study time varied by unit

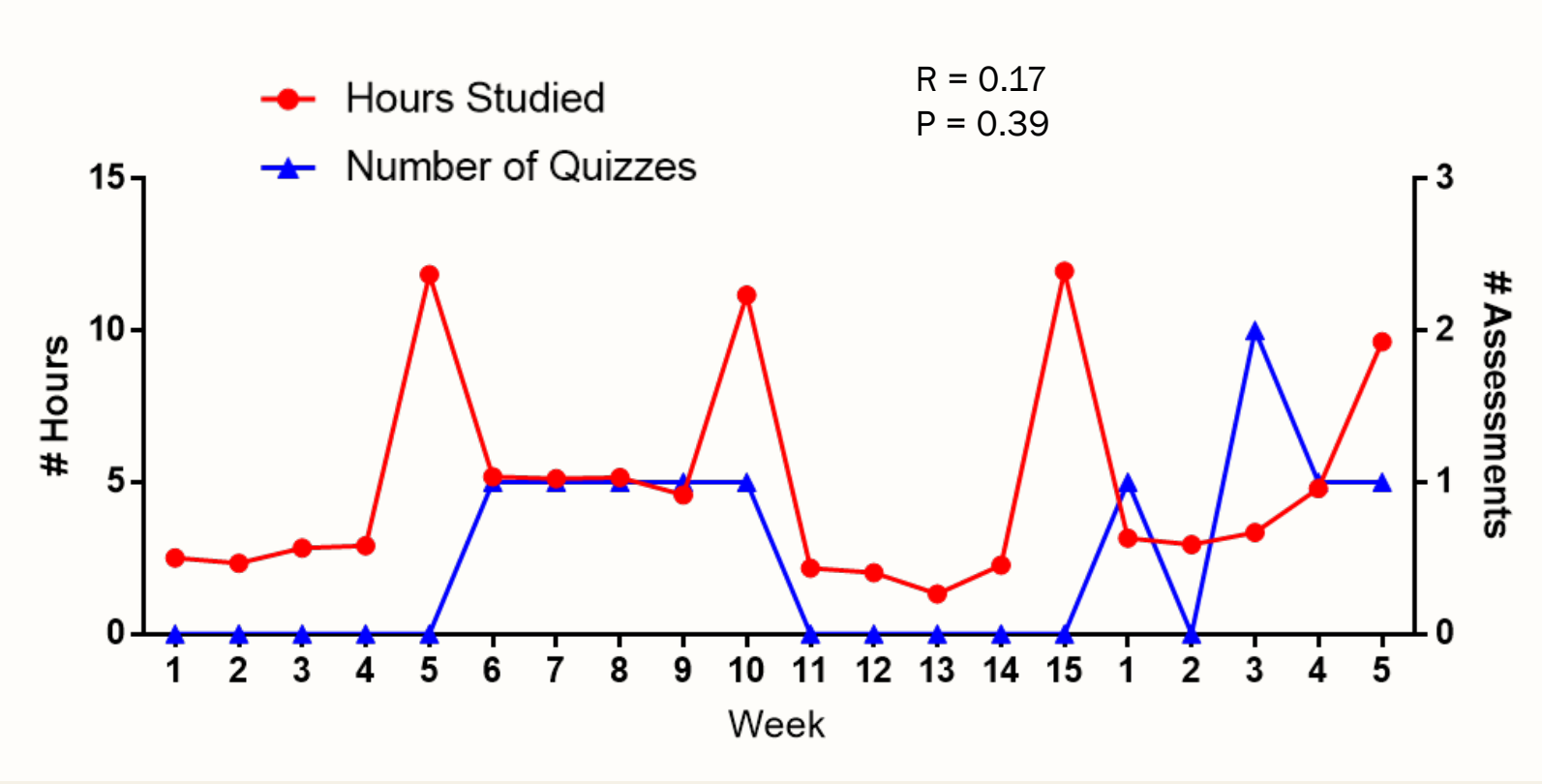


CNM (no Q)
Endo (Q)
Repro (no Q)
Cardio (Q)

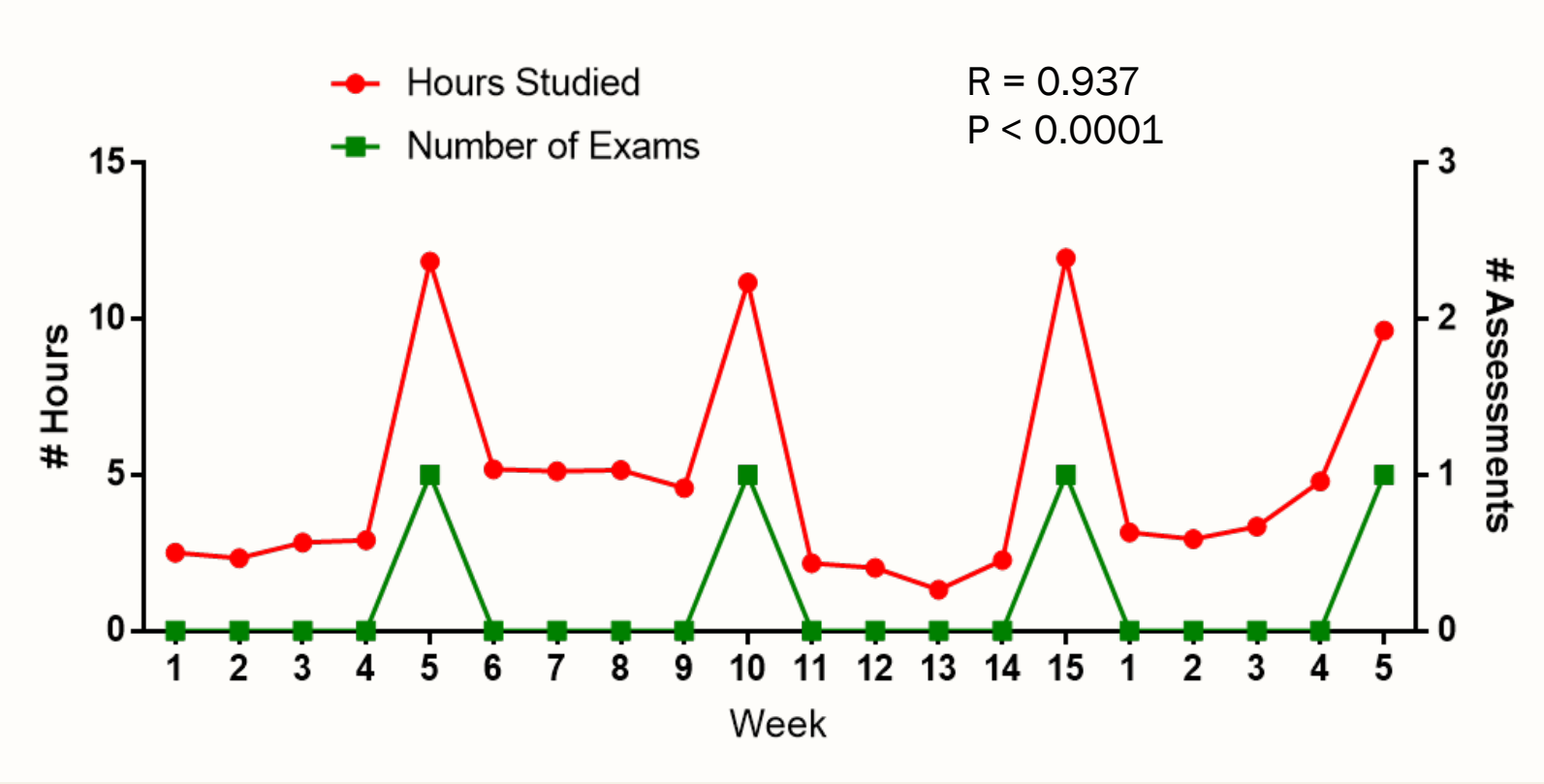
Different letters represent significance, $P < 0.05$

† $P < 0.1$

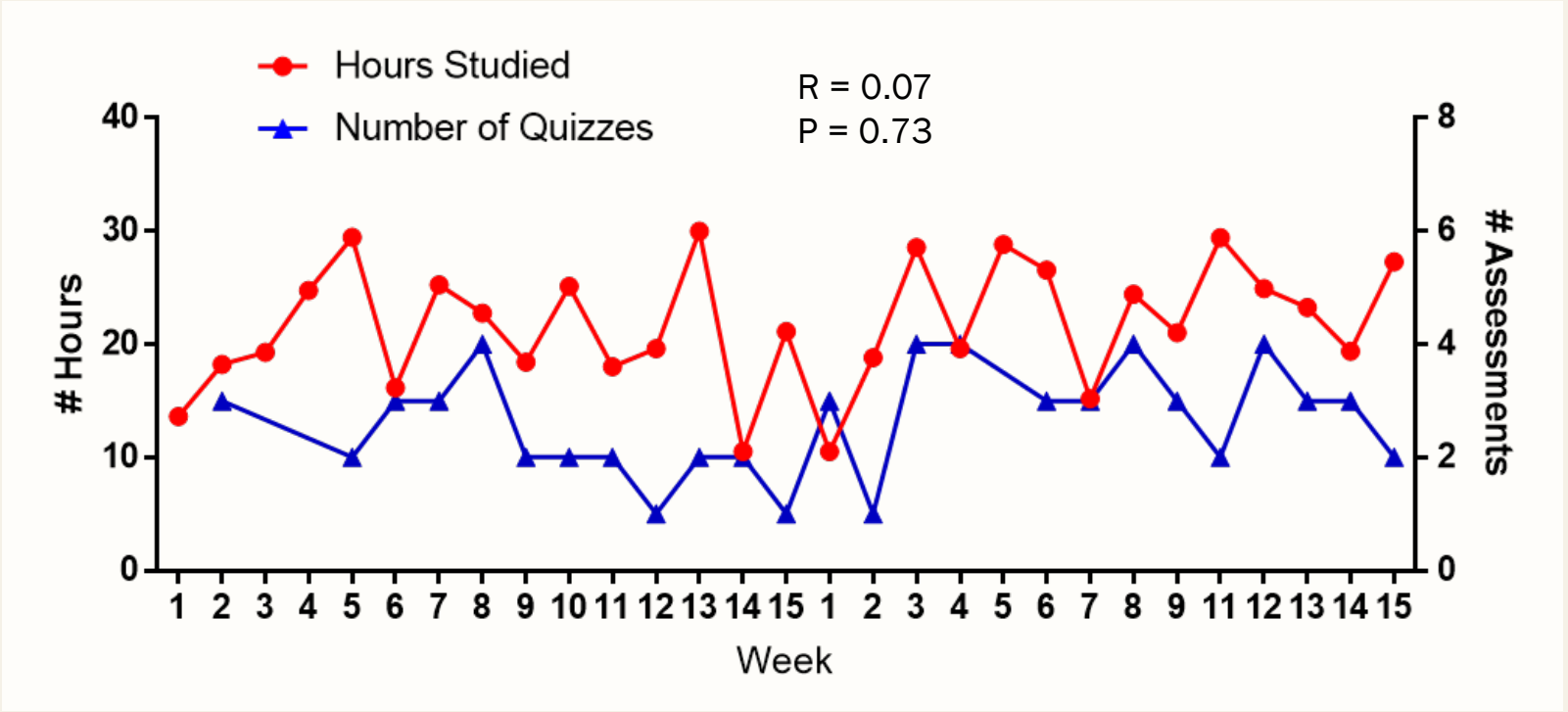
Study time for physiology determined by exams



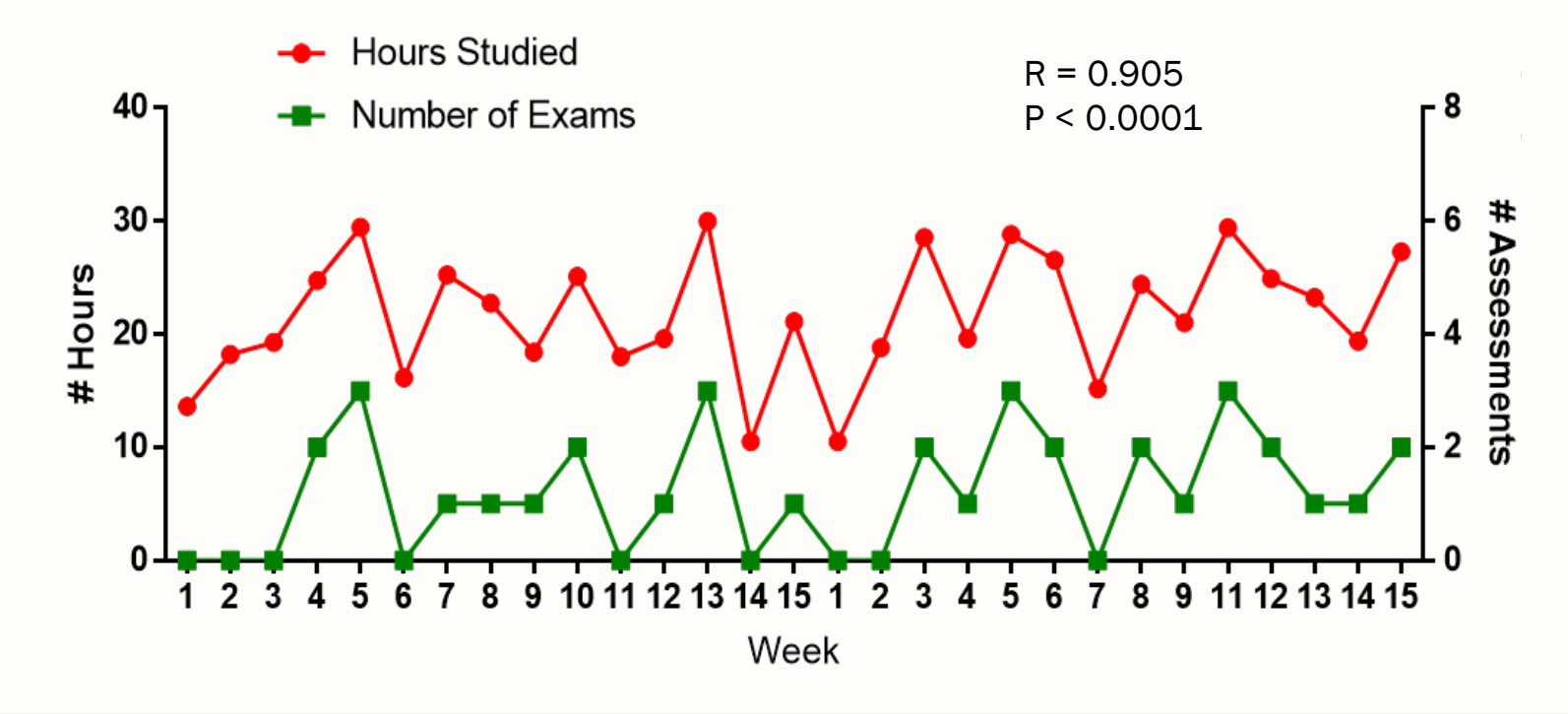
Study time for physiology determined by exams



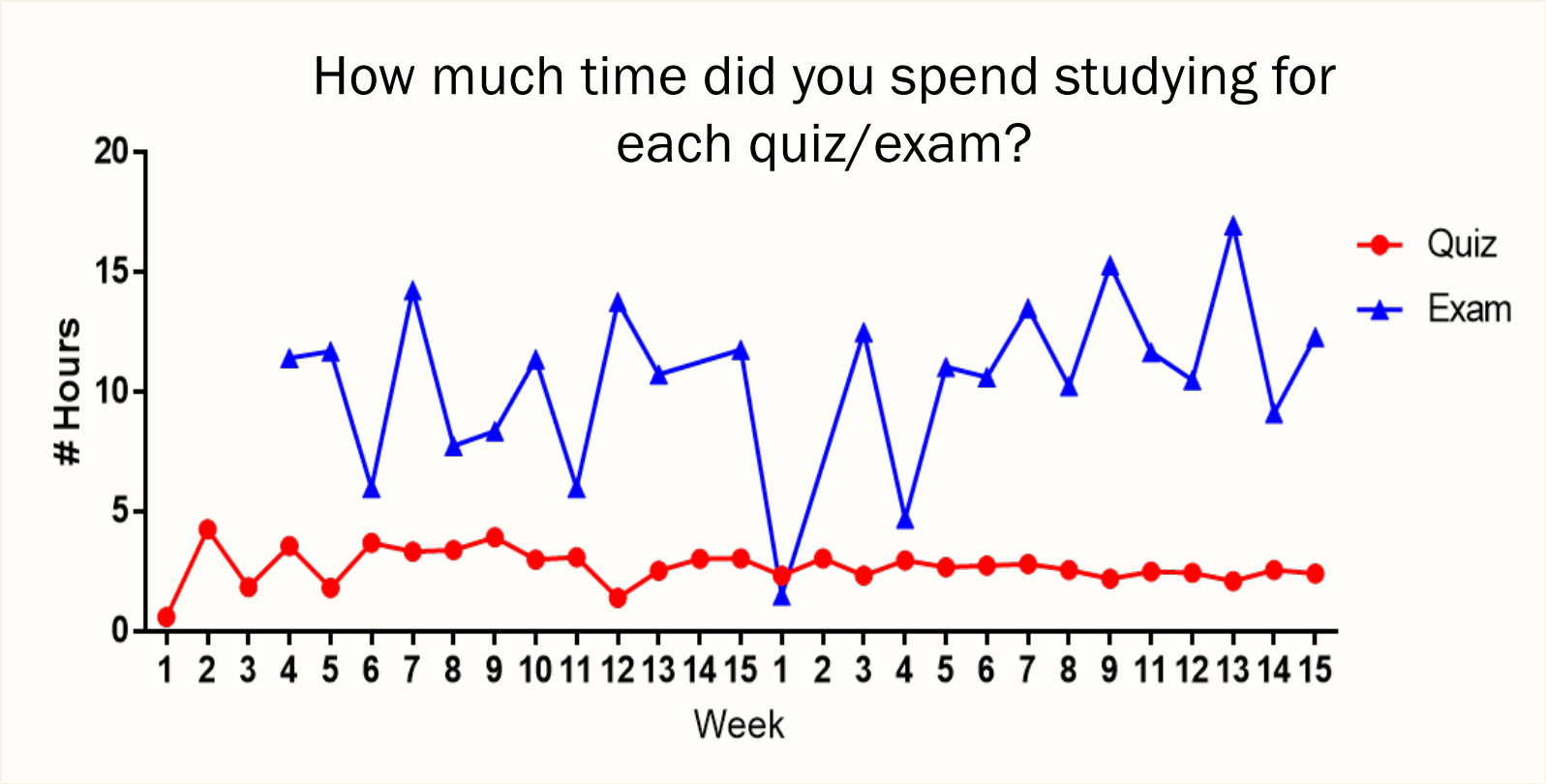
Overall study time determined by exams



Overall study time determined by exams



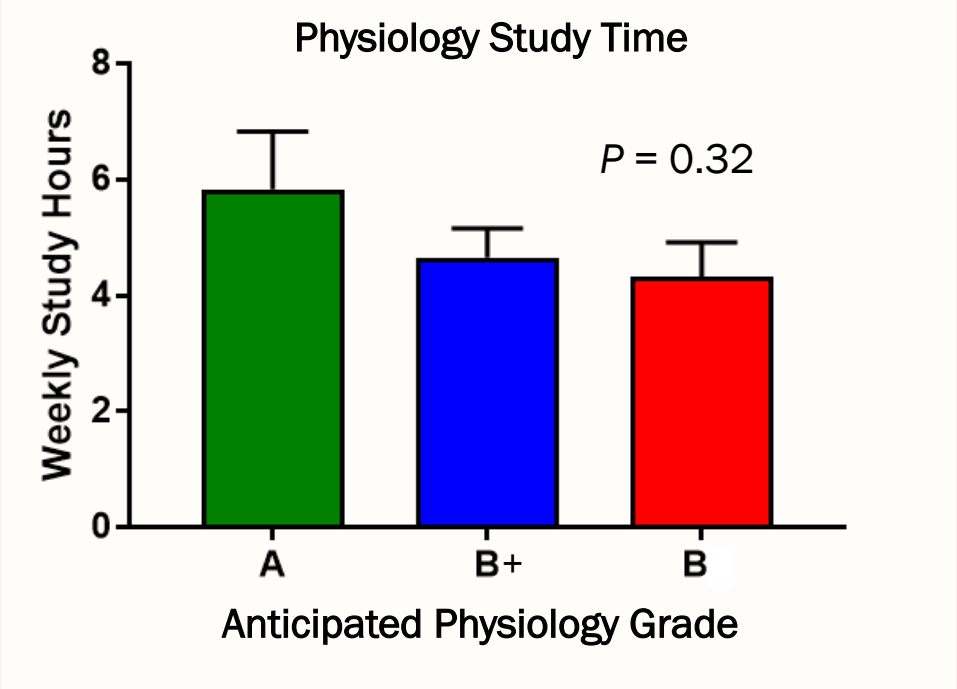
Quiz study time consistent, exam study time varied

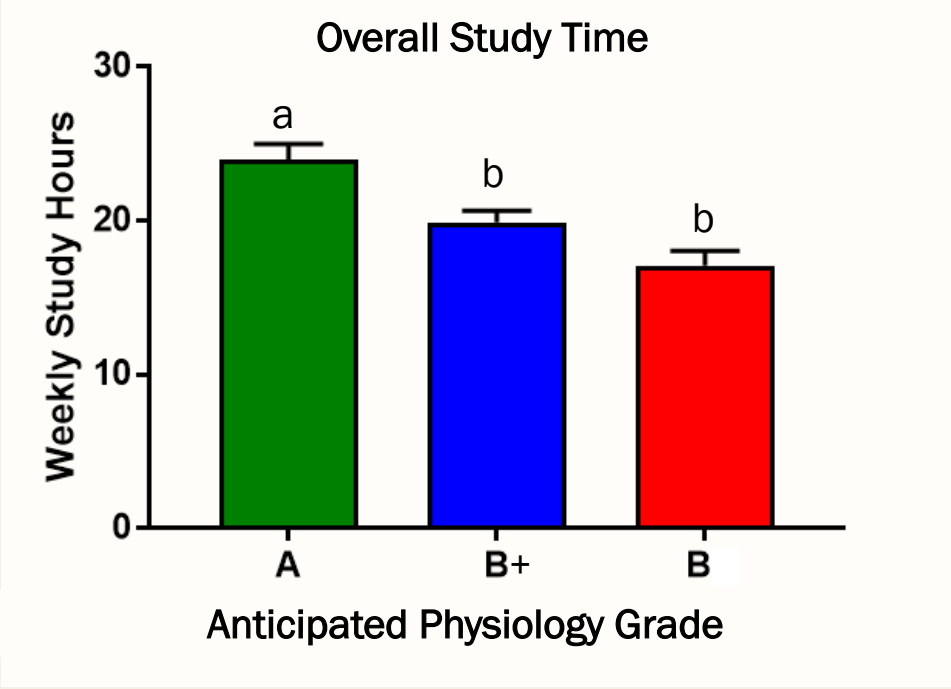


Course Grades v. Study Time

- Physiology grades predictive of GPA (R = 0.86)
- Self-reported expected grades
  - A (90-100): 8 students
  - B+ (85-90): 9 students
  - B (80-84): 8 students

Study time overall, but not physiology, different between grade groups





Different letters represent significance, $P < 0.05$

Other Considerations

- Some classes harder than others
  - Neuroanatomy vs Foundations
- Assessment timing
  - “It is taxing to have a quiz every single week especially if it is a busy week for other course work.”
  - “[physiology quizzes] often lined up with our quizzes or exams with pathology or neuroanatomy so they didn't get the attention they deserved."

Limitations

- Quality vs quantity of studying
- Use of in-class assignments
- Motivation to study
  - Intrinsic v extrinsic

Conclusions

- Use of quizzes did not prevent “cramming”
- Study time determined by exam number, not quizzes
- Time spent studying not predictive of course grade

Questions?

References

- Hafen M, Reisbig AMJ, White MB, Rush BR. The First-Year Veterinary Student and Mental Health: The Role of Common Stressors. J Vet Med Educ 2008; 35:102–109.
- National Institute for Mental Health. “Major Depression”. Updated February 2019, Accessed May 19, 2019
- McDaniel MA, Anderson JL, Derbish MH, Morrisette N. Testing the testing effect in the classroom. Eur J Cogn Psychol 2007; 19:494–513.
- Azorlosa JL. The Effect of Announced Quizzes on Exam Performance: II. J Instr Psychol 2011; 38:3–7.