

How Handling Turtles and Snakes While Teaching Youth with Special Needs Impacts College Students' Speaking Anxiety: A Longitudinal Study

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Lit Review: What We Know

- College students lack “essential skills,” including oral communication (Bronson, 2007; Brooks et al., 2008; Schneider, 2015)
- Public speaking anxiety is a problem, especially among young adults (Emanuel, 2005; Hunter, Westwick, & Haleta, 2014)



Lit Review: What We Know

- Animal interaction can help! (Siegel, 2004)
 - Reduces communication anxiety in college students (Fuhrman & Rubenstein, 2017; Shiloh et al., 2003)
- However, more research is needed to determine...
 - What type of anxiety is impacted through animal interaction?
 - What type of animal specifically is most beneficial?



*Super Salamander
saves the day!*



The class: **AGED 2001 - *Teaching with Animals***

- Students trained in safely handling, transporting, and teaching with live animals
- Team teaching activities using animals are videotaped
 - Part 1: Build presentation and deliver to classmates
 - Part 2: Deliver revised presentation to youth with special needs
- Animal Ambassadors:
 - Turtles, snakes, salamanders, and baby chicks



Objectives

1. Compare the self-reported physical and cognitive symptoms of anxiety among college students handling turtles and non-venomous snakes during presentations with special needs learners
2. Describe emotional outcomes of teaching those with special needs
3. Determine the impact of the course, “Teaching with Animals,” among five years of student participants





Methods

- Building the questionnaire
 - Our constructs
 - 1) Student anxiety (physical and cognitive symptoms) with handling turtles and non-venomous snakes, measured using Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988)
 - 2) Students' feelings of empathy towards the audience (people who have special needs) measured using items adapted from and inspired by Batson's Empathy Scale (Batson, 1991)
 - 3) Student public speaking anxiety before and after taking the course, measured using the Public Speaking Anxiety Scale (Bartholomay & Houlihan, 2016)
- The sample
 - 120 potential subjects; about 25 participants
 - Social Exchange Theory (Emerson, 1976)
 - Quite a few emails to previous students bounced



Objective 1: Turtle vs. Snake

	Interacting with/handling a box turtle							Se bot
	Severely bothered	Very bothered	Pretty bothered	Mildly bothered	A little bothered	Slightly bothered	Not at all bothered	
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Numbness or tingling	<input type="radio"/>							
Terrified or afraid	<input type="radio"/>							
Hot/cold sweats	<input type="radio"/>							
Shaky/unsteady	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hands trembling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unsteady	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Interacting with/handling a nonvenomous snake							
Severely bothered	Very bothered	Pretty bothered	Mildly bothered	A little bothered	Slightly bothered	Not at all bothered	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Physical anxiety: Minimum score = 14; Maximum score = 98
 Cognitive anxiety: Minimum score = 7; Maximum score = 49

Results: Objective 1: Turtle vs. Snake

Objective 1: Compare the self-reported physical and cognitive symptoms of anxiety among college students handling turtles and non-venomous snakes during presentations with special needs learners

- Examples of physical symptoms: Numbness or tingling; Heart pounding/racing; Face flushed
- Examples of cognitive symptoms: Unable to relax; Terrified or afraid; Fear of losing control

Animal used	Physical anxiety		Cognitive anxiety	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Turtle	14.26	1.05	7.65	1.61
Snake	20.39	12.46	13.43	8.31

- MANOVA was significant ($\alpha = .01, p < .001$)
- Univariate ANOVA results: Physical: Turtle vs. snake ($\alpha = .005, p = .035$)
Cognitive: Turtle vs. snake ($\alpha = .005, p = .002$)



Results: Objective 2: Empathy

Objective 2: Describe emotional outcomes of teaching those with special needs

- 68% indicated that they would continue to work with learners who have special needs
- “My mentor teacher struggled with providing lessons for their class that were appropriate and educational, but my experience with ESP during teaching with animals prepared me to be a better teacher in that situation.”
- “I have several families with special needs that go to my church and this class made me so much more comfortable in reaching out to them.”



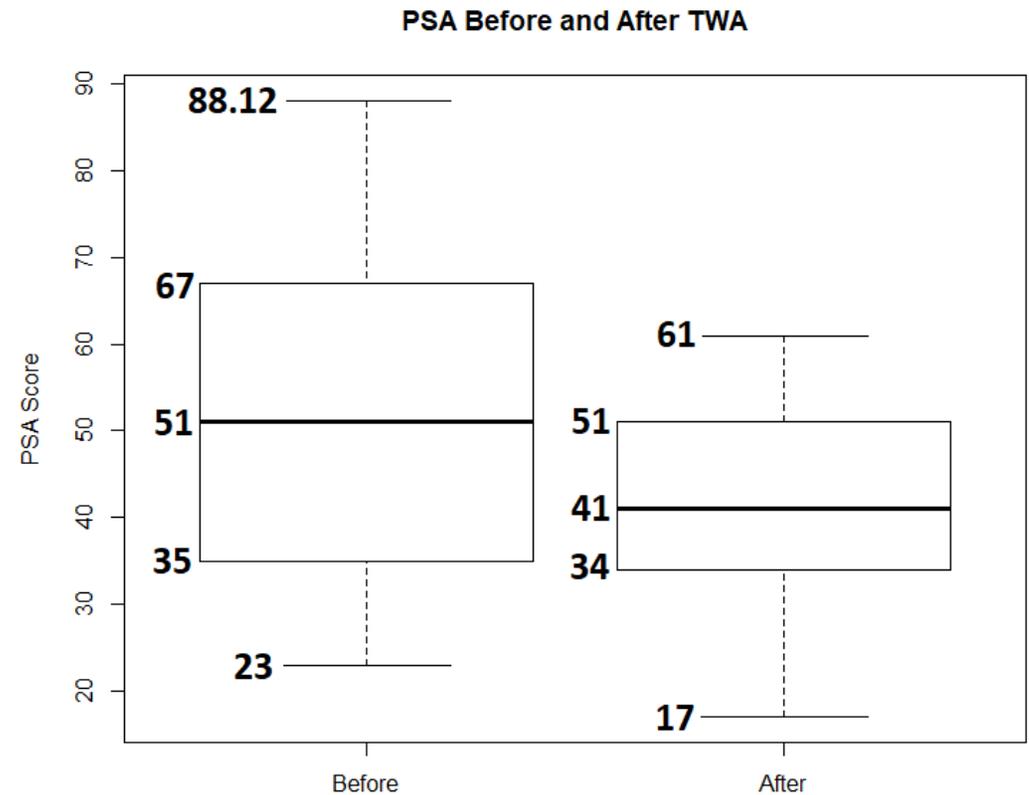
Results: Objective 3: Public Speaking Anxiety

Objective 3: Determine the impact of the course, “Teaching with Animals,” among five years of student participants

Minimum score = 17; Maximum score = 119

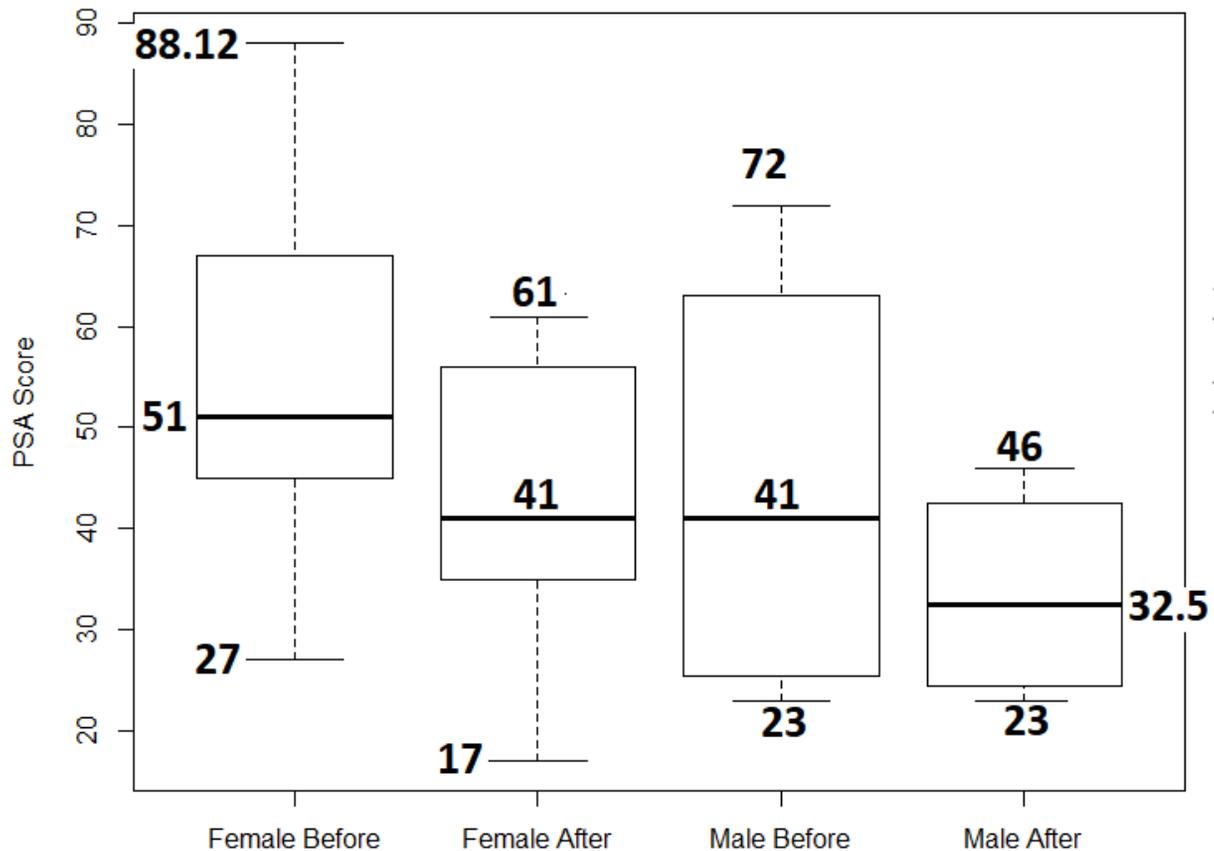
	<i>M</i>	<i>SD</i>
Before	53.01	19.67
After	40.99	13.89

$$t(20) = 4.645, p < .001$$



	Before		After	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Males	44.25	22.95	33.5	10.85
Females	55.07	19	42.75	14.2

PSA by Gender Before and After TWA



Males: $t(3) = 1.77, p = .175$

Females: $t(16) = 4.180, p = .001$





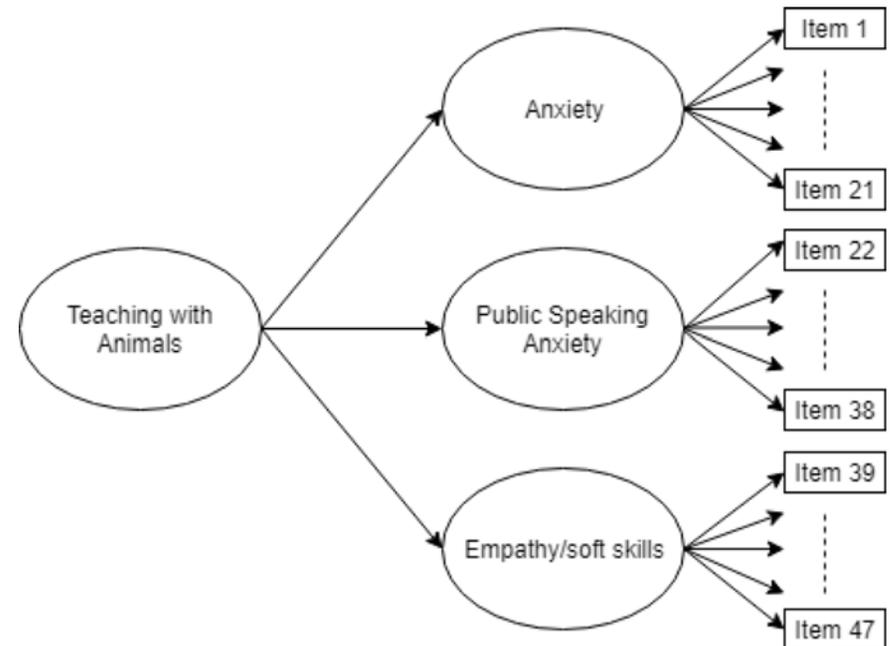
What does this mean for the classroom?

- Providing college students with opportunities to interact with people who have special needs resulted in strong feelings of empathy
 - Is empathy an essential skill for a college student?
- Learning to teach with animals decreases college students' public speaking anxiety. This result is especially significant for female students.
 - Less cognitive anxiety resulted from teaching with turtles than with snakes
- Recommendation: When you integrate animals in your classroom, collect some data from your students related to affective variable such as empathy and anxiety.



Future Research/Questions Unanswered

- Why do students feel different levels of anxiety with turtles and snakes? Which is better?
- We will continue administering the questionnaire to future Teaching with Animals students
- We would like to obtain a large enough sample to conduct a factor analysis to evaluate the theory





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Thank you

Questions?

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