

Evidence for a relationship between class experience handling wildlife and interest in wildlife careers

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Issue:

Individual research internships with wildlife encourage students to pursue wildlife careers, but involve considerable time and commitment outside of class.

Instructors of organismal courses such as mammalogy often encounter challenges gaining approval from Institutional Animal Care and Use Committees (IACUC) to conduct class activities including live vertebrates. Empirical evidence of the value of wildlife encounters during organismal courses may inform IACUC decisions.

Methods:

To examine the relationship between class experiences with wildlife and positive attitudes towards wildlife and wildlife careers, we developed a 52-question online survey.

36 undergraduates enrolled in a mammalogy course at California State University, Monterey Bay (CSUMB) were offered bonus points to complete a survey during the first and last week of class. 30 students completed both surveys.

Students enrolled in the mammalogy course interacted with wildlife via live trapping and handling of local small mammals (e.g., mice, kangaroo rats, and ground squirrels).

Analyses & Results:

Exploratory factor analysis on pre-class attitude items revealed 6 internally consistent scales (alpha range = 0.768 - 0.961) measuring aspects of attitude towards wildlife and wildlife careers.

Students with prior experience handling wildlife in a class had more positive attitudes toward wildlife and wildlife career when they began the mammalogy course. At the conclusion of Mammalogy, students' attitudes became more positive on 5 of the 6 scales. Tables 1 and 2 describe the 2 (pre- vs post-class) by 2 (prior experience) repeated-measure ANOVA

Table 1 & 2. Survey scores (Strongly Disagree [1] to Strongly Agree [7]) and T-test results for 6 scales measuring aspects of attitude towards wildlife and wildlife careers for students prior to taking a mammalogy course.

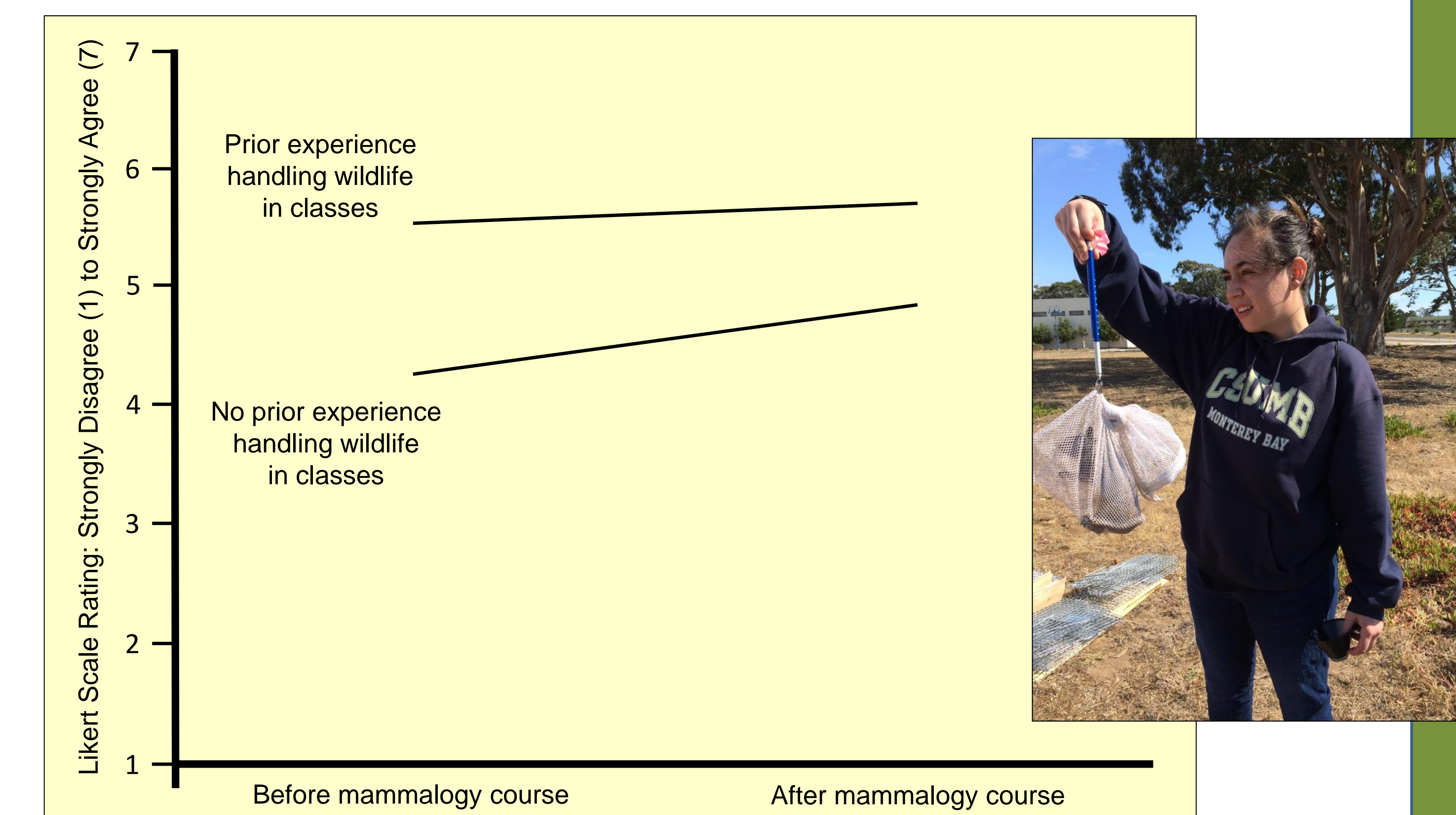
Scales	Before mammalogy		After mammalogy	
	Have not handled wildlife in a class (n = 10)	Handled wildlife in a class (n = 30)	Have not handled wildlife in a class (n = 10)	Handled wildlife in a class (n = 30)
(1) General appreciation of wildlife	5.400 (1.369)	6.125 (0.218)	5.963 (0.413)	6.200 (0.305)
(2) Positive feelings about wildlife	5.217(1.558)	5.992 (1.165)	5.817 (0.829)	6.242 (0.365)
(3) Confidence in career with wildlife	4.267 (1.223)	5.533 (1.166)	4.850 (0.954)	5.708 (0.832)
(4) Desire for career with wildlife	4.560 (1.602)	5.860 (1.028)	4.960 (1.670)	6.000 (0.844)
(5) Education about wildlife diversity	5.760 (1.624)	6.070 (1.121)	5.940 (1.104)	6.160 (0.621)
(6) Placement of human needs above wildlife	3.800 (1.006)	2.463 (1.151)	3.875 (1.287)	2.525 (1.325)

Effect	Statistic	Scales					
		(1) General appreciation of wildlife	(2) Positive feelings about wildlife	(3) Confidence in career with wildlife	(4) Desire for career with wildlife	(5) Education about wildlife diversity	(6) Placement of human needs above wildlife
Mammalogy	$F_{1,28}$	3.943	2.894	4.414	3.579	0.264	0.166
	p	0.057	0.100	0.045	0.069	0.611	0.687
Prior experience in classes	$F_{1,28}$	7.551	4.065	8.697	6.886	0.653	9.375
	p	0.010	0.053	0.006	0.014	0.426	0.005
Interaction	$F_{1,28}$	2.306	0.491	1.280	0.830	0.029	0.001
	p	0.140	0.489	0.268	0.370	0.865	0.971

Analyses - Careers:

Though the interactions did not achieve statistical significance, the trend was for greater increases in positive for students who did not have prior class experience handling wildlife (e.g., Figure 1)

Figure 1. Scale 3: Confidence in career with wildlife



Conclusions:

Class experiences handling wildlife may encourage students to pursue wildlife careers. The stronger effect on attitude for prior class experience may be due multiple experiences over formative years. Prior experiences may influence student enrollment in a mammalogy course, suggesting bi-directionality of causes.

Next, we will design more detailed questions about timing and perception of experiences. We will also survey students in control classes without experiences handling wildlife.

Citation and Abstract

Instructors of organismal courses such as mammalogy often encounter challenges gaining approval from Institutional Animal Care and Use Committees (IACUC) to conduct class activities including live vertebrates. While many instructors believe class activities allowing interaction with wildlife (e.g., livetrapping) encourage students to pursue wildlife careers in a less biased, more time- and cost-effective manner than individual research internships, evidence is lacking. We developed a 52-question survey to examine the relationship between class experiences with wildlife and interest in wildlife careers. Factor analysis of 36 responses resulted in 6 internally consistent factors (range = 0.768 - 0.961) measuring aspects of attitude towards wildlife and wildlife careers. Students with prior class experience handling wildlife had greater values for factors representing confidence in attaining a wildlife career (M = 5.460, SD = 1.125) and desire for a wildlife career (M = 6.000, SD = 0.997) than students without such experience (Confidence: M = 4.242, SD = 1.163; Desire: M = 4.473, SD = 1.5470); differences were significant (Confidence: $t(34) = 2.963$, $p = 0.006$; Desire: $t(34) = 3.010$, $p = 0.009$). Results suggest class experiences handling wildlife play a role in encouraging students to pursue wildlife careers. Refining survey questions and increasing sample size may yield further evidence for the value of class experiences handling wildlife that instructors can present when seeking IACUC approval of such activities.

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