

## *Methods*

The first section of the survey consisted of a terms index used by Barone et al. (2014) in their study of evolution acceptance among visitors to the Milwaukee Public Museum. The index consists of 28 terms that may be found in an introductory evolution or physical anthropology course. The terms range from common (fossil, evolution, DNA) to more specific (endocast, Cenozoic Era, catastrophism). There is a slight anthropological bias (4 of the terms are fossil homonins and 2 more are most relevant in a discussion of human evolution). The entire index was used to allow comparisons between museum and collegiate samples. Participants were asked to indicate familiarity with the terms by checking a space next to the term listed. In line with the original implementation of the instrument, familiarity was not defined for participants.

The second section of the survey was the Measure of the Acceptance of the Theory of Evolution (MATE) developed and tested by Rutledge and Warden (1999, 2000). The MATE is the most common instrument used to assess evolutionary acceptance. It was originally developed with a high school teacher population, but has been validated and widely used in a variety of different populations since (Barone et al., 2014; Carter & Wiles, 2014; Donnelly, Kazempour, & Amirshokoochi, 2009; Rutledge & Sadler, 2007). The MATE consists of 20 5-point Likert items (1=disagree strongly, 5= agree strongly, 3=neither agree nor disagree) and includes questions on the age of the earth, evidentiary support for evolution, and the scientific consensus on evolution.

The third section of the survey consisted of the short form of the Evolutionary Attitudes and Literacy Survey (EALS-SF). The EALS-SF was administered in its entirety, but with the order of the questions randomized to avoid repetitiveness and conscious matching between answers. The EALS-SF was designed by Short and Hawley (2012) from a longer instrument developed by them and their colleagues (Hawley, Short, McCune, Osman, & Little, 2011). It

consists of 62 items scored on the same 5-point Likert scale used in the MATE. For this study, only three of the questions exploring “religious activity” were used. The questions as presented in Short and Hawley’s article (2012; table 3) cannot be answered by a traditional Likert scale, though that is how they are described as appearing on the survey. Thus, the questions were minimally reworded to allow for Likert scoring. Specifically, “To what degree are you religious?” became “I am a religious person”, “To what degree does religion impact your daily life?” became “My religion impacts my daily life”, and “To what degree does your religion influence your decisions?” became “My religion influences my decisions”. It is assumed these rewordings do not significantly change the intent or validity of the questions, but in this study such concerns are not relevant as the results are not concatenated.

The next section of the survey consisted of the Big Five Inventory (BFI; John, Naumann, & Soto, 2008), a psychological instrument developed to test for five aspects of personality (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism). The instrument consists of 44 general statements about personality (e.g., “is full of energy”, “has an active imagination”) preceded by the statement “I see myself as someone who...”. The participant then indicates their agreement using the same 5-point Likert scale as described above. The Big Five Inventory is widely used in the psychological community and has strong validation, although each trait seems quite broad and not always easily defined.

The fifth portion consisted of Johnson and Peeples’ (1987) Understanding of Science instrument which was designed to assess knowledge of the nature of science. There are many measurements used to assess students’ understanding of the nature of science (Lederman, Wade, & Bell, 2002). This one was chosen because it has been used since its creation in association with acceptance of evolution, both in college student (Johnson & Peeples, 1987) and high school

teacher (Glaze, Goldston, & Dantzler, 2015; Rutledge & Warden, 2000; Trani, 2004)

populations.

## References

- Barone, L. M., Petto, A. J., & Campbell, B. C. (2014). Predictors of evolution acceptance in a museum population. *Evolution: Education and Outreach*, 7(1), 23.
- Carter, B. E., & Wiles, J. R. (2014). Scientific consensus and social controversy: Exploring relationships between students' conceptions of the nature of science, biological evolution, and global climate change. *Evolution: Education and Outreach*, 7, 6.
- Donnelly, L. A., Kazempour, M., & Amirshokoohi, A. (2009). High School Students' Perceptions of Evolution Instruction: Acceptance and Evolution Learning Experiences. *Research in Science Education*, 39(5), 643–660. doi: 10.1007/s11165-008-9097-6
- Glaze, A. L., Goldston, M. J., & Dantzler, J. (2015). Evolution in the southeastern USA: Factors influencing acceptance and rejection in pre-service science teachers. *International Journal of Science and Mathematics Education*, 13(6), 1189–1209.
- Hawley, P. H., Short, S. D., McCune, L. A., Osman, M. R., & Little, T. D. (2011). What's the Matter with Kansas?: The Development and Confirmation of the Evolutionary Attitudes and Literacy Survey (EALS). *Evolution: Education and Outreach*, 4(1), 117–132. doi: 10.1007/s12052-010-0294-1
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm Shift to the Integrative Big-Five Trait Taxonomy: History, Measurement, and Conceptual issues. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of Personality Theory and Research* (3rd ed., pp. 114–158). New York: Guilford Press.
- Johnson, R. L., & Peeples, E. E. (1987). The Role of Scientific Understanding in College: Student Acceptance of Evolution. *The American Biology Teacher*, 49(2), 93–98. doi: 10.2307/4448445
- Lederman, N. G., Wade, P., & Bell, R. L. (2002). Assessing understanding of the nature of science: A historical perspective. In W. F. McComas (Ed.), *The nature of science in science education* (p. 365). New York: Kluwer Academic Publishers.
- Rutledge, M. L., & Sadler, K. C. (2007). Reliability of the Measure of Acceptance of the Theory of Evolution (MATE) instrument with university students. *The American Biology Teacher*, 69(6), 332–335.
- Rutledge, M. L., & Warden, M. A. (1999). The development and validation of the measure of acceptance of the theory of evolution instrument. *School Science and Mathematics*, 99(1), 13–18.
- Rutledge, M. L., & Warden, M. A. (2000). Evolutionary Theory, the Nature of Science & High School Biology Teachers: Critical Relationships. *The American Biology Teacher*, 62(1), 23–31. doi: 10.2307/4450822
- Short, S. D., & Hawley, P. H. (2012). Evolutionary Attitudes and Literacy Survey (EALS): Development and Validation of a Short Form. *Evolution: Education and Outreach*, 5(3), 419–428. doi: 10.1007/s12052-012-0429-7
- Trani, R. (2004). I Won't Teach Evolution; It's against My Religion. And Now for the Rest of the Story... *The American Biology Teacher*, 66(6), 419–427. doi: 10.2307/4451708

Table S1. Details of questionnaire structure and coding.

Variable	Response	Final Coding
Terms	Check mark for familiarity with each term	Number of terms checked summed for final variable
MATE	Five-item Likert Response	Some items reverse scored; sum of responses for final variable
EALS-SF	Five-item Likert Response	Only three questions used individually as categorical variables
Big Five Inventory	Five-item Likert Response	Some items reverse scored; Questions pertaining to each factor summed, creating five variables (Openness to Experience, Conscientiousness, Extraversion, Agreeableness,

		Neuroticism)
Understanding of Science	Five-item Likert Response	Some items reverse scored; sum of responses for final variable
Age	Free Response	As given
Sex	Free Response	Male/ Female (no other answers recorded)
Ethnicity	Free Response, Special Question for Hispanic	Individuals who answered “Yes” to Hispanic question coded as Hispanic; White, Black, and Asian/Pacific Islander formed other main categories. Individuals who identified as multiracial were lumped with Native Americans into “other”.
Denomination	Free Response	Catholics were coded as such (“C”). All individuals who identified with a mainstream Protestant group (Baptist, Lutheran, or Methodist) or generally as Protestant were coded as “P”. Those who identified as Christian, Evangelical, Pentecostal, or other Nondenominational Christian groups were coded as “X”. Areligious individuals (those who answered “none”, “atheist”, “agnostic”, etc., or just answered as generally spiritual) were coded as “N”. All other religious affiliations (Shamanism, Buddhist, Muslim, Hindu, UU, Orthodox Christian, and Jedi Master) were coded “O” for other.
How Important is church in your life?	Free Response	Responses were generally coded as follows: 5= “Very”, “Extremely”, “Quite” 4= “Pretty”, “Fairly”, “Semi” 3= “Somewhat” “So-so” “Moderately” 2= “Not very”, “Not really”, “A bit” 1= “Isn’t”, “Not”, “N/A”
How often do you go to church?	Free Response	Responses were generally coded as follows: 5= Weekly 4= “Often” or 2-3 times/ month 3= “Sometimes” or 4-16 times/ year 2= “Rarely” or 1-3 times/ year 1= Almost never
Net college GPA	0.0-0.9 (Mostly Fs) 1.0-1.9 (Mostly Ds) 2.0-2.4 (Mostly Cs) 2.5-2.9 (Mix of Cs and Bs) 3.0-3.4 (Mostly Bs) 3.5-4.0 (Mostly As, some Bs)	Coded as answered for “CB”, “B”, and “AB”. All other answers were lumped into “C” for increased sample size.
College Major or	Free Response	Answers were grouped into Nursing,

Concentration		Health (other health majors such as Kinesiology or Biomedical Science), Biology, and Other (all others).
Number of Science Classes	Free Response	As given; for ranges, lower estimate used.
Number of Biology Classes	Free Response	As given; for ranges, upper estimate used.
Interest in Science	1= Not at all interested 2=Mostly uninterested 3= Neutral 4= Somewhat interested 5= Very interested	As given for 3-5; 1s and 2s were grouped together for increased sample size.
Level of Schooling (both mother and father)	Less than high school High School Diploma or GED Some College 2-Year Degree 4-Year Degree Graduate Education	Coded as answered (LHS, HSD, SC, 2YD, 4YD, GE)
Rurality	Free response, with choices given in question (rural, suburban, or urban)	For most, coded as answered. Some individuals indicated both urban and suburban and were coded as “suburban/urban”. Unclear responses were coded as “other”.

Table S2. Additional categorical variable frequency tables.

<b>Church Frequency</b>		
	1 (low)	93
	2	86
	3	34
	4	27
	5 (high)	35
	<b>Total</b>	<b>275</b>
<b>Daily Life</b>		
	Disagree Strongly	60
	Disagree	58
	Neither Agree Nor Disagree	61
	Agree	67
	Agree Strongly	38
	<b>Total</b>	<b>284</b>
<b>Religious Person</b>		
	Disagree Strongly	75
	Disagree	53
	Neither Agree Nor Disagree	55
	Agree	72
	Agree Strongly	29
	<b>Total</b>	<b>284</b>

<b>Rurality of Childhood Home</b>		
	Urban	63
	Suburban/Urban	8
	Suburban	155
	Rural	49
	Other	9
	<b>Total</b>	<b>284</b>
<b>Mother's Highest Education</b>		
	Less than High School	21
	High School Diploma/GED	52
	Some College	58
	Two-Year Degree	36
	Four-Year Degree	57
	Graduate Education	36
	<b>Total</b>	<b>260</b>
<b>Father's Highest Education</b>		
	Less than High School	23
	High School Diploma/GED	60
	Some College	52
	Two-Year Degree	26
	Four-Year Degree	54
	Graduate Education	41
	<b>Total</b>	<b>256</b>
<b>Science Interest</b>		
	1 or 2 (low)	13
	3	35
	4	119
	5 (high)	117
	<b>Total</b>	<b>284</b>
<b>Net College GPA</b>		
	Mostly Cs or Lower	24
	Mix of Cs and Bs	82
	Mostly Bs	99
	Mostly As, some Bs	79
	<b>Total</b>	<b>284</b>

Table S3. Exploratory “full” ANCOVA model of the Measure of Acceptance of the Theory of Evolution.

Source	Type III Sums of Squares	Degrees of Freedom	Mean Squares	F-Ratio	p-value
Knowledge of the Nature of Science	2596.482	1	2596.482	35.741	$1.120 \times 10^{-8}$
“My religion influences my decisions”	2496.280	4	624.070	8.590	$2.192 \times 10^{-6}$
Openness to Experience	951.429	1	951.429	13.097	$3.807 \times 10^{-4}$

Evolutionary Terms	367.781	1	367.781	5.063	0.026
Denomination	661.444	3	220.481	3.035	0.030
Extraversion	272.549	1	272.549	3.752	0.054
Number of College Biology Courses Taken	238.990	1	238.990	3.290	0.071
Importance of Church	586.442	4	146.611	2.018	0.094
Frequency of Church Attendance	417.324	4	104.331	1.436	0.224
Sex	74.961	1	74.961	1.032	0.311
“My religion impacts my daily life”	349.456	4	87.364	1.203	0.311
“I am a religious person”	332.989	4	83.247	1.146	0.336
Interest in Science	180.689	3	60.230	0.829	0.479
Number of College Science Courses Taken	26.133	1	26.133	0.360	0.549
Age	3.478	1	3.478	0.048	0.827
Ethnicity	75.921	4	18.980	0.261	0.902
Error	13584.974	187	72.647		