

ARTICLE

# Understanding Undergraduate Students' Views of Careers in Archaeology

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## Abstract

There is a current and projected dearth of individuals with the required skills and education to become professional archaeologists. Because of this, the discipline should consider underlying causes leading students to have a lack of interest in pursuing archaeological careers. Social cognitive career theory posits that self-efficacy, expected outcomes, and goal mechanisms mediate a student's career-relevant interest and aspirations. To understand undergraduate students' perceptions of archaeological careers, we surveyed and interviewed students enrolled in an introductory course in biological anthropology and archaeology at a regional comprehensive university in the United States. Students completed surveys at the beginning and end of the course, and some students volunteered for an interview. Survey results revealed no significant changes in career interest from the beginning to the end of the course. Interview data indicated that taking the course gave students a better appreciation for archaeology, and none interviewed felt less likely to pursue a career in the discipline. We identify persistent perceptions that students held about the discipline that may dissuade them from considering archaeology as a viable career option, and we provide recommendations that may help attract more students to careers in archaeology.

## Resumen

Actualmente y en el futuro, se prevé una escasez de personas con las habilidades y la educación necesarias para convertirse en arqueólogos profesionales. Por lo tanto, la disciplina debe considerar las causas subyacentes que llevan a los estudiantes a tener una falta de interés en seguir una carrera en arqueología. La teoría cognitiva social de las decisiones carrera postula que la autoeficacia, los resultados esperados y los objetivos median el interés relevante para la carrera y las aspiraciones profesionales de un estudiante. Para comprender las percepciones de los estudiantes universitarios sobre las carreras arqueológicas, encuestamos e entrevistamos a estudiantes inscritos en un curso introductorio de antropología biológica y arqueología en una universidad regional en los Estados Unidos. Los estudiantes completaron encuestas al principio y al final del curso, y algunos estudiantes se ofrecieron como voluntarios para una entrevista. Los resultados de la encuesta no revelaron cambios significativos en el interés profesional desde el principio hasta el final del curso. Los datos de las entrevistas indicaron que tomar el curso les dio a los estudiantes una mejor apreciación de la arqueología y ninguno de los entrevistados se sintió menos propenso a seguir una carrera en la disciplina. Identificamos percepciones persistentes sobre la arqueología que pueden disuadir a los estudiantes de considerarla como una opción de carrera viable, y proporcionamos recomendaciones que pueden ayudar a atraer a más estudiantes a carreras en arqueología.

**Keywords:** archaeological career interest; social cognitive career theory; archaeological education; misconceptions of archaeology; mixed-methods analysis

**Palabras clave:** interés profesional en arqueología; teoría social cognitiva de las decisiones carrera; educación arqueológica; conceptos erróneos de la arqueología; análisis de métodos mixtos

Scholars have interest in understanding factors that lead students to develop their career interest, decide a program of study that aligns with that interest, and pursue their eventual profession (Kier

et al. 2014; Lent et al. 2002). Much of this research has been conducted among students majoring and pursuing careers in high-demand industries, particularly science, technology, engineering, mathematics, and medical fields (Coyan et al. 2020; Godwin et al. 2016; Jiang et al. 2020). Recently, sectors that employ individuals with the skills, training, and education to conduct archaeology have noted a lack of applicants, and the number of archaeological job openings is projected to grow into the next decade (Altschul and Klein 2022). With this current and projected disparity in the number of individuals trained as archaeologists and the number of job openings, there is a need to understand what may lead students away or toward a career in archaeology. We investigate two exploratory and fundamental questions: (1) What factors dissuade students from considering archaeology as a viable career?, and (2) How can the discipline attract more students to pursue degrees in anthropology and careers in archaeology?

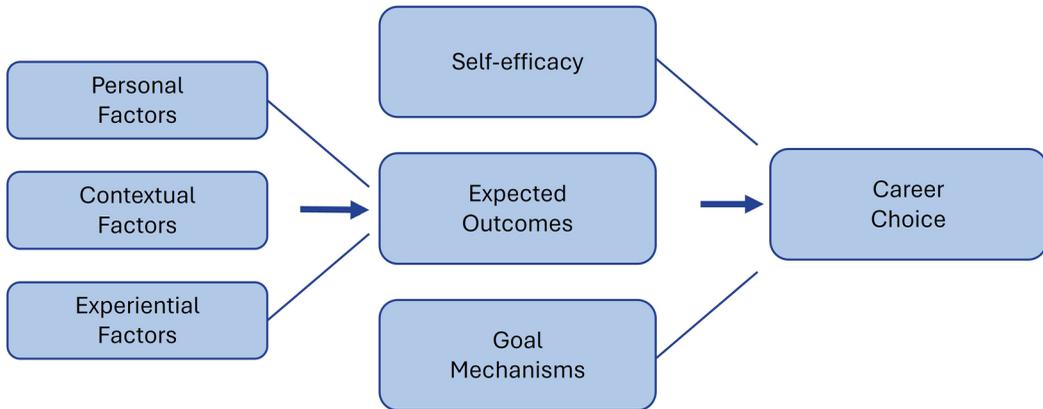
As a first step to address these questions, we implemented a mixed-methods study among undergraduate students—both anthropology and nonanthropology majors—enrolled in an introductory course in biological anthropology and archaeology at a regional comprehensive university in the mid-western United States. This study incorporated a validated career interest survey (Kier et al. 2014) to quantitatively assess students' changes in perception of careers in archaeology toward the course's completion, along with semistructured interviews among a subset of students to gain deeper and contextualized insights. We interpret the results using social cognitive career theory (Brown and Lent 2019; Lent and Brown 1996, 2019; Lent et al. 1994; Wang 2013; Wang et al. 2022) and provide initial recommendations for the field of archaeology, archaeological educators, and departments offering anthropology degrees. These recommendations are intended to help archaeological educators attract, retain, or graduate students who have the skills to support the demands of the archaeological labor market (Altschul and Klein 2022; Larkin and Slaughter 2021; Morgan 2023).

### Social Cognitive Career Theory

We apply the social cognitive career theory (SCCT)—a well-researched and established conceptual model used to interpret an individual's career choice and performance. SCCT considers factors that steer a student toward or away from a particular career choice (Brown and Lent 2019; Lent and Brown 1996, 2019; Lent et al. 1994; Wang 2013; Wang et al. 2022). Although scholars have applied the SCCT model to multiple points along an individual's career trajectory (Brown and Lent 2019; Lent and Brown 2019), we specifically use the aspect of the model focused on the processes through which (1) an individual begins to form academic and career interests; (2) an individual's interest, combined with other factors, begins to steer that individual toward career-relevant choices; and (3) an individual achieves varying levels of performance and persistence in their educational and career pursuits (Lent and Brown 1996). Consequently, we are applying the model when students begin to explore career options and the associated academic preparation to secure employment in that career. Social cognitive career theory posits that three linked factors lead to a student's career-relevant interest and career aspiration. These factors are (1) self-efficacy, (2) expected outcomes, and (3) goal mechanisms (Figure 1). These three factors are undergirded by a person's personal factors (e.g., identity), contextual determinates (e.g., family support structure), and learning factors.

Self-efficacy involves an individual's judgment of their own abilities to successfully perform and accomplish a specific task, reach a certain goal, or overcome a particular challenge (Bandura 1989; Kirsch 1986; Zimmerman 2000). One's self-efficacy interacts with personal, behavioral, emotional, and contextual experiences and factors (Lent et al. 1994). Self-efficacy beliefs do not equate to one's actual ability to accomplish a task; however, successful task performance generally requires both competence of ability and a strong sense of self-efficacy (Bandura 1991). Scholars have found that strong self-efficacy within a certain domain predicts higher academic and career choice performance indexes (Lent and Hackett 1987).

The second factor considered in the SCCT model is outcome expectations (Lent et al. 1994). Outcome expectations are an individual's belief in a potential result given their choices, actions, or efforts. Where self-efficacy centers on one's belief in one's abilities, outcome expectation relates to an individual's perceived and anticipated output if they perform a particular behavior. Within the



**Figure 1.** Visualization of the social cognitive career theory model as an individual is at career choice.

SCCT framework, an individual considers not only how well they think they can do something (self-efficacy) but also what the end outcome will be from their performance of that task (outcome expectations). The interaction between self-efficacy and outcome expectations within the model depends on the nature of the activity and the presumed certainty of the outcome. For example, a person may perceive that they will gain a great deal of value from performing a particular task, but they avoid that task given their lack of self-efficacy in that task.

Goal mechanisms represent the third factor in the SCCT framework (Lent et al. 1994). When considering career options, goals—whether implicit or explicit—become a component of an individual’s consideration and, ultimately, their choice of a career. Goal mechanisms motivate behavior and offer individuals a degree of specificity and clarity around intentionality. Career-choice goals can be either immediate or long term, and they can range from acquiring specific competencies to achieving advancements, success, and a comfortable standard of living.

Personal factors, contextual determinants, and learning factors undergird the three main components of the SCCT model (Byars and Hackett 1998; Lent et al. 2018). Personal factors may include those unique influences that people bring with them to educational experiences, such as influences of identities, effects of minoritization and othering in learning settings, and an individual’s personality traits (Byars and Hackett 1998). Contextual determinates reference supports and barriers that students may experience, such as institutional academic support structures, financial barriers or aid, and family influences and objections (Wang 2013). Learning factors include influences students carry forward from past learning experiences, such as task-related and learning accomplishments, learning from the experiences of others, socioemotional experiences while learning, and external praise (Byars and Hackett 1998). Importantly, the SCCT model posits that factors within the model are continuously defined and redefined as students experience and interact with learning.

### *Special Considerations for Careers in Archaeology within the SCCT Framework*

Given the SCCT framework, we suggest that there are factors specific to archaeological career choice that require additional consideration. These factors are (1) the lack of K–12 archaeological education in public schools in the United States, (2) the popularized perception of archaeology, (3) undergraduate archaeology courses rooted in colonial narratives, and (4) the perceptions of archaeological fieldwork.

For many K–12 students attending public schools in the United States, anthropological and archaeological knowledge, concepts, and practices are not components of their curriculum (Davis 2000; Ellick 2016; Haeberle 2020; King 2016; Popson and Selig 2019). Research has shown that prior knowledge, observations, and experiences in a discipline or skill support a student’s self-efficacy in that discipline (Prieto and Altmaier 1994; Van Dinther et al. 2011). Consequently, most students do not form self-efficacy in archaeology until college, when they take an anthropology or archaeology course. This is unlike many college majors in which students enter college with prior experience, thereby supporting

students to have self-efficacy in these subjects. For example, first-year college students have already established mathematics self-efficacy, allowing them to assess which collegiate mathematics courses to take and whether mathematics would be a suitable major.

Students entering college may have archaeological self-efficacy. They may feel confident in their social studies skills, having had coursework in history, which translates to archaeology. Furthermore, students may have participated in archaeological learning if their teacher incorporated an archaeological curriculum in the classroom (Moe 2016), or if they engaged with archaeology content during museum visits, summer camps, or other extracurricular activities. However, we suggest that without coursework and practice in archaeology, students may steer away from anthropology and archaeology courses, because they lack the experience to know if archaeology would be an interesting and achievable subject for them.

Another factor that may contribute to an undergraduate student's consideration of careers related to archaeology is media depictions of the field. In popular media, archaeological representation tends to be analogous to adventure. This notion is embodied by pop culture "archaeologists," such as Indiana Jones and Lara Croft, whose careers feature the search for lost treasure in exotic locations (Pyburn 2008; Rassalle 2021). The imagery associated with popular archaeological portrayals paints a picture of a discipline and occupation inaccessible to many people. Physical fitness and wealth are required to travel to exotic places and to perform adventurous—and often dangerous—work. Such perceptions may misalign with a student's motivation for choosing their specific major and expected career. Conversely, these adventurous depictions and the possibility of travel to new and exotic places may attract students to the discipline.

Popularized depictions of archaeology are coupled with forms of teaching archaeology that remain rooted in colonial narratives. Researchers have noted that the ways in which instructors conventionally teach introductory anthropology courses elevates Westernized ways of knowing and interpreting the past and marginalizes other epistemologies and paradigms (Hutchings and La Salle 2014; Oland 2020; Quave et al. 2021). As Quave and colleagues (2021:88) note, such practices center colonial narratives of anthropology—"the myth of human societies as a teleological march from 'savagery' toward 'civilization'"—and may lead students who have been historically marginalized in anthropology and higher education to see the discipline as a field with a colonialist past and trajectory.

Correlates of these depictions in popular culture of exoticness and physicality are also in the brochures for archaeology field schools, albeit to a lesser extent. College students may be dissuaded not only by these promotional materials but by the requirement to have course credit in a field school for graduating, finding employment, or securing future educational opportunities (Baxter 2009; Brookes 2008; Colaninno et al. 2021; Douglass et al. 2024; Heath-Stout and Hannigan 2020; Lightfoot 2009; Mytum 2011; Walker and Saitta 2002). Such materials highlight images intended to entice prospective students with picturesque and adventurous landscapes. Given the lack of diversity they feature, these images may further distort the perception of who can do archaeology (Hall et al. 2004). This lack of diversity is also represented in the demographics of those who do and teach fieldwork (Colaninno et al. 2024; Ginsberg 2017; Hall et al. 2004; National Science Foundation, National Center for Science and Engineering Statistics 2019). This issue may be furthered by the financial burdens and opportunity costs that students experience when departments require an archaeological field school for degree completion (Douglass et al. 2024; Heath-Stout and Hannigan 2020).

These factors may signal that archaeology is not an attainable career. This may mean that students have preconceived notions that finding employment as an archaeologist is challenging, that their identities exclude them from the field, and that to have a job in archaeology means a career far from home. Consequently, the discipline may be facing unique barriers when trying to attract students.

## Methods

### Research Design

Our mixed-methods approach used a concurrent triangulation research design (Creswell et al. 2003:229). We used a validated and modified quantitative survey instrument (Kier et al. 2014), coupled

with qualitative, semistructured interviews with a subset of students who took the survey. With a concurrent triangulation research design, both quantitative and qualitative instruments are developed at the same time. Additionally, we interpreted these two data types simultaneously, and during our initial interpretation, we gave equal weight to the quantitative and qualitative data (Creswell et al. 2003:229). This approach allowed us to confirm and cross-validate our data while offsetting the inherent weaknesses of each data type (Tashakkori et al. 2021:8–10). After initial triangulation, we prioritized the qualitative data, given their rich context informing the intersection of students' perceptions of archaeology, a career in archaeology, and the SCCT framework.

We derived the quantitative data from an 11-item career interest survey (Kier et al. 2014) that we modified to align with archaeological career interests (see Supplemental Text 1). This survey is on a 5-point Likert scale with 5 indicating a response of "Strongly Agree" and a 1 indicating "Strongly Disagree."

We designed the interview protocol based on Brinkmann and Kvale's (2015:131) concept of thematizing the interview study. When designing the protocol, we clarified the study's purpose and then developed the interview questions based on our research questions in the context of the SCCT model, with an emphasis on how undergraduate students perceive archaeology and the potential for an archaeological career. We designed the interview to be semistructured to allow for the exploration of the interviewee's thoughts and feelings around our research topic that we did not anticipate. The resulting interview protocol included 14 questions (see Supplemental Text 2).

We conducted this research among undergraduate students taking an introductory course that covers topics in biological anthropology and archaeology, in collaboration with course instructors. Given that multiple instructors teach this course, the range of topics discussed varies across instructors; however, instructors feature and review content that meets the course objectives. The course surveys introductory topics in biological anthropology, from evolution to hominins, while bringing in archaeological topics from early humans and foragers to the rise of civilization. It is the instructor's discretion to incorporate the topics of archaeological careers or locally relevant archaeology. Neither author instructed this course during our study.

The pre-course survey was open for one month at the beginning of the spring and summer semesters in 2021 and reopened for a month at both semesters' end. The pre- and post-survey instruments used identical language. We were unable to track each student's identity with their responses given our Institutional Review Board protocol (Southern Illinois University Edwardsville IRB #988). Because of this, we do not know if students who responded to the pre-survey also responded to the post-survey. The survey also collected students' demographic information, including self-reported gender identity, racial/ethnic identity, class standing, major, and highest level of education of parent(s)/guardian(s). We collected all data anonymously.

After students completed the survey, they were directed to a link to volunteer for an interview. We conducted the interviews at the end of the semester, by which time the students had completed most of the course. Our research design did not include student interviews at the start of the course.

A total of 187 responses were recorded for the 11-item survey. For the pre-survey, we collected data from 101 respondents, and for the post-survey, we collected data from 86 respondents. Prior to distribution, a 5%–30% (30–180 respondents) response rate was anticipated and thought likely sufficient to derive significant trends from the data (Baruch and Holtom 2008). The survey cohort represents anthropology majors and nonmajors.

Eleven students, one anthropology major and 10 nonmajors, volunteered for the post-course interview. Interviews were conducted via Zoom, and the audio recording of the interview was used to generate a transcript of the conversation that served as the basis for the qualitative analysis.

### Survey Data Analysis

The survey data were separated into pre- and post-course responses. Using five separate two-way independent-measures ANOVAs, each including the pre-post comparison and one of the five demographic variables, we tested for statistically significant changes from pre-course to post-course implementation, as well as any overall significant response differences among each unique demographic variable. We

also examined whether any pre-post differences were dependent on the response categories for each demographic variable.

The gender category was divided into those who identified as female and male, and we grouped those identifying as nonbinary or offering a nonbinary free response ( $n = 7$ ) into a single “other” category. We chose to separate reported racial identities into three categories—White, Non-White, and other—instead of comparing all individually reported racial/ethnic identities. For the responses to the “Major” category, we kept anthropology as a separate factor, because this variable is pertinent to the study. Otherwise, the students’ majors were organized into general categories: Arts and Humanities; Business; Education; Health; Social, Behavioral, and Economics (sociology, economics, psychology, etc.); STEM (science, technology, engineering, and mathematics); and undeclared. Parent education included seven categories: less than high school diploma, high school diploma, some college, two-year degree, four-year degree, professional degree, and doctorate.

As designed by Kier and colleagues (2014), the 11 survey items fall into six categories based on the SCCT model: self-efficacy, outcome expectations, goals, interests in a career in archaeology, contextual supports, and personal disposition. Kier and colleagues (2014) determined that these groupings were unreliable as separate factors. For this reason, we did not conduct analysis on the survey’s separate categories; we only conducted analyses on responses as a whole. The Cronbach’s Alpha (a measure of internal reliability) was  $\alpha = 0.803$  for the 11 items, which is consistent with Kier and colleagues’ (2014) reported internal reliability.

### *Interview Data Analysis*

The interview transcripts were coded—meaning we assigned a “short-hand designation to various aspects of [the] data [to] easily retrieve specific pieces of the data” (Merriam and Tisdell 2015:199) to examine trends in students’ perceptions of archaeology, archaeologists, and careers in archaeology. We initially open coded three transcripts to establish a coding structure of primary codes based on themes we observed in the interviewees’ responses and the a priori themes of the SCCT model (Merriam and Tisdell 2015; Saldaña 2021:92–93). The remaining interviews then were analyzed using this coding structure, to which adjustments could be made based on further discoveries. During open coding, we highlighted statements and phrases that answered the specific interview questions, as well as themes that pertained to our research questions (Merriam and Tisdell 2015).

After all interviews were coded, we reviewed coded excerpts for trends in the responses and interviewees’ general opinions about archaeology (Merriam and Tisdell 2015). In addition, we looked at how certain codes applied to the interviewees’ answers, determined which codes co-occurred, and tracked if the coding revealed interesting correlations. Our final qualitative analysis resulted in the consolidation of the coding frame’s 11 primary codes into two primary themes: (1) notions of archaeology and (2) evidence of the SCCT components. These two primary themes were further divided to inform our model of how undergraduate students perceive archaeology and careers in archaeology (Figure 2). All names used for the interviewees are pseudonyms.

## **Results and Findings**

### *Survey Respondent Demographics*

The pre-course implementation resulted in responses from 101 students, whereas the post-course implementation included 86 responses. The identified gender of the cohort sample (female = 54%) reflects the recent national proportion (female = 58%) of students enrolled in institutions of higher education,  $z = 0.17$ ,  $p = 0.434$  (one-proportion z-test; National Center for Education Statistics 2023; Table 1). Racial/ethnic identity of the pre-course survey reflects a majority White student body (White = 70%), which characterizes the student population of the historically and primarily White-serving institution where we conducted the research. Most respondents for the post-course survey also self-identified as White, but the percentage of White respondents declined by 18.1% from the pre- to the post-survey. The cohort included in this research has a larger percentage of White students compared to the 2021 national average, which was 51%,  $z = 6.34$ ,  $p < 0.001$  (one-proportion z-test; National Center for Education Statistics 2023; Table 1).

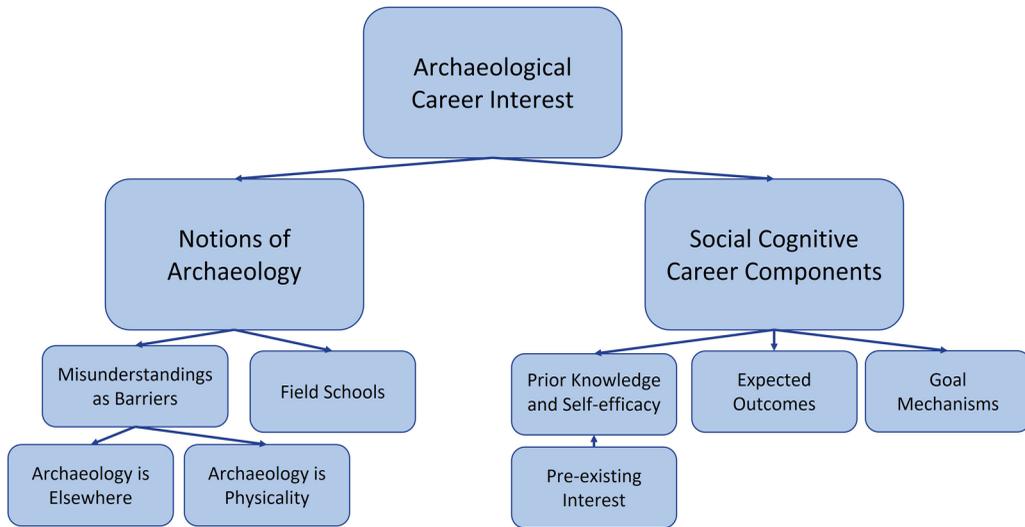


Figure 2. Consolidated themes with operationalized codes.

Because we surveyed an introductory course, the cohort’s class standing skewed toward freshmen and sophomores, with all undergraduate-level class standings represented (Table 2). A wide range of majors enrolled in this course and responded to the survey; business majors were the most represented among pre-course survey respondents, whereas social, behavioral, and economic majors (excluding anthropology) were the most represented in the post-course cohort (Table 2). Within the pre-survey, most students’ parent/guardian education level was a four-year degree, whereas for the post-survey the most common parent/guardian degree reported was a professional degree (Table 3). This research is human subjects research and is dependent on voluntary participation. We did not investigate any demographic shifts in pre- to post-survey respondents. Demographic shifts in who decided to participate in the research is likely due to chance.

**Career Interest Survey Responses**

Across all analyses, there was no significant change in archaeological career interest between pre- and post-introductory course responses ( $p = 0.518-0.932$ ; Table 4). The mean for the pre-course cohort was 3.07 (SD = 0.49), and the mean for the post-course cohort was 3.03 (SD = 0.51; Table 5). With regard to the demographic variables, the only statistically significant main effect was parent/guardian education level ( $p = 0.035$ ; Table 4). Using Tukey’s post-hoc tests, we found that the main effect was due to a significant difference between those with a parent/guardian who has a doctorate and a

Table 1. Cohort Demographics by Aggregated Self-Identified Gender and Race.

Demographic	Pre-Course Percentage	Post-Course Percentage
<b>Gender identity</b>		
Female	57.4	55.8
Male	39.6	39.5
Other	3.0	4.7
<b>Racial/ethnic identity</b>		
White	69.3	51.2
Non-White	19.8	31.4
Prefer not to answer	10.9	17.4

**Table 2.** Cohort Demographics by Class Stand and Major.

	Pre-Course Percentage	Post-Course Percentage
<b>Class standing</b>		
Freshman	36.6	34.9
Sophomore	31.7	31.4
Junior	18.8	20.9
Senior	12.9	12.8
<b>Major</b>		
Other	7.9	5.8
Anthropology	4.0	1.2
Arts and humanities	4.0	7.0
Business	24.8	23.3
Education	9.9	10.5
Health	5.9	8.1
Social, behavioral, and economics	22.8	34.9
STEM	20.8	9.3

**Table 3.** Cohort Demographics by Parent Education.

	Pre-Course Percentage	Post-Course Percentage
Less than high school	3.0	3.5
High school diploma	10.9	12.8
Some college	18.8	20.9
2-year degree	8.9	9.3
4-year degree	33.7	18.6
Professional degree	20.8	29.1
Doctorate	4.0	5.8

four-year degree ( $p = 0.045$ ). Due to the small sample size in some response categories, we conducted a modified analysis on parent/guardian education level, combining the seven separate categories into two broader groups: those students whose parents/guardians hold a bachelor's degree or higher and those with less education than a bachelor's degree. Unlike the previous analysis, this modified version did not result in a main effect of parent/guardian education level ( $p = 0.202$ ; Table 4). We also conducted a modified gender analysis with only those who identified as female or male, due to the small sample size of the "other" category. As with the previous gender results ( $p = 0.668$ ), there was no significant main effect of gender ( $p = 0.413$ ). In each two-way ANOVA, we examined the interaction between pre- and post-responses and one of the five demographic variables (Table 4). These analyses produced no significant interaction effects ( $p = 0.087$ – $0.951$ ). The lack of an interaction effect includes the modified parental/guardian education level ( $p = 0.122$ ) and gender ( $p = 0.496$ ) analyses (Table 4). Pre- and post-survey mean responses and standard deviations for each item are in Supplemental Table 1.

### *Interview Findings: Notions of Archaeology*

One theme we saw emerging from the qualitative analysis is that students have preexisting notions of archaeology prior to course enrollment. These notions persisted throughout the course to influence their conceptualization about what a career in archaeology would be like. Within the notions of

**Table 4.** *P*-Values and Partial Eta-Squared Values for All ANOVA Analyses.

	Main Effect Pre/Post	Partial Eta Squared	Main Effect of Demographic	Partial Eta Squared	Interaction between Demographic and Pre/Post	Partial Eta Squared
Gender identity	0.857	0.000	0.668	0.004	0.785	0.003
Modified gender identity	0.666	0.001	0.413	0.004	0.496	0.003
Racial/ethnic identity	0.609	0.001	0.208	0.017	0.942	0.001
Major	0.518	0.002	0.098	0.067	0.951	0.012
Class standing	0.932	0.000	0.665	0.009	0.495	0.013
Parent education	0.776	0.000	0.035 <sup>a</sup>	0.074	0.087	0.061
Modified parent education	0.666	0.001	0.202	0.009	0.122	0.013

<sup>a</sup> Significant *p*-value.

archaeology theme, we identified two subthemes: (1) misunderstandings as barriers and (2) field schools. We further identified two tertiary themes subsumed within the “misunderstanding as barriers” subtheme, including (1) archaeology is elsewhere and (2) archaeology is physicality (Figure 2).

The students we interviewed mentioned their notions about archaeology. When students evoked terms to describe where archaeologists conduct research, they did not speak of nearby locations. Instead, they noted that archaeology is conducted elsewhere. For example, when Rowan was asked by the interviewer to describe what archaeologists do, his response typified this idea: “[An archaeologist is] someone who goes and travels the world and looks for historical sites, things that could have any sort of history or event of past humans or even early apes.” When referencing where archaeologists conduct research, students used terms such as “the jungle,” “the desert” (students were at an institution in the US Midwest, far from desert environments), “Africa,” and “traveling the world.” When we asked the interviewees to describe the physical characteristics of an archaeologist, several respondents noted the importance of the clothing choices archaeologists make to accommodate environments where they work. Interviewees evoked imagery of khakis and a hat. Rowan further explained how he would describe the attire of an archaeologist: “a fit person that just has tan clothing, [a] bucket hat and just always, just traveling around.” These excerpts led us to the finding that these students perceived archaeology as an activity occurring elsewhere.

We noted three ways that students described the physical appearance of archaeologists. These included characterizations of archaeologists as older individuals, people who are physically fit, and “ordinary people.” Some interviewees perceived archaeologists as scientists who are older. This is exemplified by a comment from Jordan: “I’d describe an archaeologist as probably someone who’s maybe a little bit older or well known in their field. I don’t think it’d be something that a newly joined scientific person would do. I think there’s someone with a little bit more background in the subject.” The perception of archaeologists as physically fit was regularly stated by the interviewees, such as Terry: “Somebody who’s fit because they’re, you know, they’re moving around and digging all the time.” Other interviewees noted that their perception of who does archaeology had changed since they took the course. This is exemplified by the following excerpt from Morgan:

In the past, I usually [thought] of them as old White people wearing hats and survival kits. [They] go out and find stuff. But as of today, I think that the views [are] more diverse than ever. So, I

**Table 5.** Descriptive Statistics of Overall Survey and Demographic Variables.

	N		Mean		Standard Deviation	
	Pre	Post	Pre	Post	Pre	Post
<b>Overall</b>	101	86	3.07	3.03	0.49	0.51
<b>Gender identity</b>						
Female	58	48	3.12	3.03	0.51	0.51
Male	40	34	3.00	3.02	0.48	0.53
Other	3	4	3.12	3.11	0.21	0.26
<b>Racial/ethnic identity</b>						
White	70	44	3.04	2.97	0.49	0.53
Non-White	20	27	3.10	3.04	0.44	0.41
Prefer not to answer	11	15	3.20	3.20	0.65	0.59
<b>Major</b>						
Undeclared	8	5	3.20	3.05	0.43	0.53
Anthropology <sup>a</sup>	4	1	3.91	—	0.69	—
Arts and humanities	4	6	3.00	3.11	0.27	0.17
Business	25	20	2.90	2.84	0.48	0.64
Education	10	9	2.99	3.12	0.63	0.54
Health	6	7	3.17	3.06	0.50	0.43
Social sciences	23	30	3.00	3.08	0.35	0.44
STEM	21	8	3.17	3.09	0.47	0.61
<b>Class standing</b>						
Freshmen	37	30	3.15	3.07	0.40	0.48
Sophomores	32	27	3.06	3.03	0.58	0.59
Juniors	19	18	3.07	2.91	0.57	0.48
Seniors	13	11	2.89	3.12	0.41	0.42
<b>Parent education</b>						
Less than 4-year degree	42	40	3.06	3.14	0.41	0.49
4-year degree or more	59	46	3.08	2.93	0.55	0.51

<sup>a</sup> We do not report the results from the one anthropology major who responded to the survey given aggregation restrictions with our IRB protocol.

don't have really any other physical appearance that can describe them. I think they, I think it's just basically they look as normal as ordinary people.

The interview protocol asked interviewees about their perception regarding the requirement for students to participate in a field school to earn a degree in anthropology with a specialization in archaeology. Interviewed nonanthropology majors had little knowledge of field schools, but many noted enthusiasm to enroll in a field school if they planned to pursue a career in archaeology. The hands-on, experiential learning aspect of the field school appealed to interviewees, who noted that archaeological methods require students to gain practical skills before joining the workforce. Terry, who is an anthropology major and intends to have a career in archaeology, shared her thoughts on the importance of the field school: “[Archaeology] is a science. And I think to really understand the methods you have to participate in [a field school].”

### *Interview Findings: Components of the Social Cognitive Career Theory*

Student responses to the interview questions yielded strong evidence that self-efficacy, expected outcomes, and goal mechanisms—the three main factors of the SCCT model—guided students in their career-related decisions and influenced how they envisioned a career in archaeology.

Interviewed students, particularly nonanthropology majors, mentioned that they enrolled in this course because it fulfilled a requirement of either a humanities elective, a STEM elective, or both. Students further elaborated that they took the course because it sounded interesting or they had heard it was interesting. This is exemplified by a comment from Chris, a student who took the course as a nonanthropology major: “It seemed interesting. It sounded like fun. And something that would be enjoyable.”

Students frequently cited their aptitude to perform skills needed for their chosen major as a factor that led them to select that major. Fran, a student pursuing an engineering degree, noted why she chose engineering: “I considered choosing my major based off of my favorite courses, and that was math.” Similarly, the importance of self-efficacy is apparent when Jordan speaks about his decision to major in history: “So I’m a history major. I found that I enjoyed [history] in high school, so I thought I’d do something I enjoy in college.” The lack of students’ preexisting knowledge of archaeology and absence of archaeological self-efficacy was also identified among the responses. Brianna, when asked by the interviewer if she had ever considered archaeology as a career, responded, “Honestly, no, I didn’t, because I really didn’t understand what the term was at first.”

Our findings also included outcome expectations and goal mechanisms, predicted by the SCCT model, as contributing factors to students’ reasoning for choosing their major. In speaking about her strong self-efficacy for math, Fran commented on selecting a major and career that would challenge her, or her goal mechanism. She decided to major in engineering because her expected outcome from this decision would be a career in engineering, which would continuously challenge her. Students mentioned multiple goals that influenced their decisions to pursue their major. These included finding a career where students could (1) find joy and passion; (2) do the job for the long term, avoiding physical or mental exhaustion; (3) have a comfortable wage; (4) help other people; (5) advance professionally; and (6) find job security. The students saw their career goals aligning with the expected outcomes of their chosen profession. This is represented in an excerpt from Morgan’s interview:

I want to have a good job in the future. And [a job] that pays well, and also comfortable to work with. I don’t have to work too hard or spend overtime with anything. That’s why I chose business, because I love anything related to economics. And there’s a lot of jobs in the business field that pay well.

### **Discussion**

The quantitative research findings indicated that these students did not demonstrate growth in their interest in an archaeological career after taking an introductory course in biological anthropology and archaeology—a course that did not include a specific intervention designed to trigger career interest. The findings from our interviews with students help us contextualize students’ perceptions of archaeology and what an archaeological career might entail. We interpret findings from the interviews within the context of preexisting notions that students have about the discipline, as well as how these perceptions interact with career-related self-efficacy, expected outcomes, and goal mechanisms.

### *Misunderstanding as Barriers*

The interview included questions that elicited students’ concept of what archaeology is and what archaeologists do and how they visualize what an archaeologist looks like. Prior research indicates that perceptions of the physical demands of field-based scientific research may dissuade students from considering these disciplines as a viable career option (Alwin et al. 2021; Hall et al. 2004; Perry 2004; Stokes et al. 2019). Given this prior research, as well as pop culture imagery of archaeology and collegiate advertisements for field schools, we anticipated that students could have notions of archaeology that present as barriers to entering the field.

When we asked interviewed students to describe what comes to mind when they think about archaeology, they commonly used phrases and terms that evoked a sense of far-off places, exotic locations, and adventure. Although these students were attending a university near several significant archaeological sites—some of which are on the university's campus—students perceived archaeology as research that is not conducted where they are but somewhere else.

Given this sense of archaeology being elsewhere, students may discount archaeology as a career. They may perceive a career in archaeology as one requiring extensive travel, which could equate with monetary expenses and time away from home. Time away from home could limit their ability to be with their family or start a family. This is expressed in an excerpt from Chris, a nontraditional college student with children: "I feel like to do an adequate job of archaeology or anything in that field, you would need to spend more time than just a week away from your family. You'd have to spend months at a time at a site. . . . I don't have that kind of time." Because Chris perceives archaeology as a career that occurs elsewhere, and he believes that being elsewhere would limit his ability to be with his family, he has discounted archaeology as a career. The perceived requirement of having to be elsewhere is misaligned with his career goal mechanisms, which include having a career that allows him to be with family.

Students may have formed this notion of archaeology being elsewhere due to the content covered in this course. Instructors may have featured nonlocal archaeological sites, leading students to view archaeology as something that does not occur locally. Course content that highlights local archaeological sites may lead students to think of archaeology as something that happens where they are. This finding underscores the importance of reviewing local archaeological sites, local archaeologists, and jobs at local cultural resource management companies (and other agencies) that excavated those sites.

In the interview protocol, we did not ask students directly about their perceptions of the physical requirements of archaeology. Given the semistructured interview format, students frequently commented on their perception of the physicality of archaeology, which arose when students mentioned what archaeologists do and what archaeologists look like. Students commented that archaeologists spend their days digging and walking around. Terry, the anthropology major, when asked about the appearance of an archaeologist, mentioned that they are fit due to the physical nature of their work. Terry is excited to participate in a field school and to have an archaeological career, and the physical nature of fieldwork did not temper her enthusiasm. We infer from these comments that this student does not see the physical requirements of archaeology as a barrier, and this physical requirement may align with her career goals.

Several students commented on selecting a career in which they could find longevity—one that they could stay in and do for their entire working life. If students view archaeology as a career demanding a high level of physicality, they may envision that an archaeological career would be short-lived. Students could draw connections between days occupied by intensive digging and the physical deterioration of their bodies. This perception that archaeology is physical and that intense physicality may cause body deterioration runs counter to students' goal mechanisms of career longevity.

Furthermore, these perceptions of archaeology as requiring physicality follows the perception of field-related careers observed by other scholars, and this is rooted in ableism (Carabajal and Atchison 2020; Carabajal et al. 2017; Hall et al. 2004; Heath-Stout 2023; Wilkie 2023). As a result, students with disabilities, or students who believe that their physical abilities are limited, may think that a career in archaeology is not feasible. Although the data collected from student interviews did not definitively indicate that students would disregard a career in archaeology due to the perceived physical requirements, we suggest that the participants may perceive the physicality of a fieldwork-involved career as a barrier to inclusion. Hall and colleagues (2004:265) note that "there is evidence that some of the spaces of fieldwork self-select out, through physical and social barriers, those who perceive their bodies as not up to the physical challenge of negotiating these spaces." The predominant perception of archaeology as physically demanding could unintentionally dissuade students with disabilities and/or perceived physical limitations from considering archaeological careers.

For many students, their incipient concept of archaeology likely arose from depictions of archaeologists in popular media—most notably, Indiana Jones. Jordan, when asked what an archaeologist looks like, commented, "I'm gonna be real with you. I kind of thought of Indiana Jones." This popular movie franchise, the colonialist theme that runs through the franchise, and the colonial past of anthropological

and archaeological research undergird many of the students' perceptions of the discipline and what a career in archaeology would be like (Moshenska 2017; Prorokova 2020; Silliman 2020). Although students did not explicitly use terms such as "colonial" or "colonialism," traveling to far-off places, engaging in adventures that require physical abilities, and discovering and studying long-lost artifacts are concepts embedded in the interviews. We suggest that the colonial background of archaeology lingers in the way these students think about archaeology, and this could affect how students think about the discipline—positively or negatively. Students may be attracted to the adventure depicted in pop archaeology imagery or turned away by its colonial past. As other researchers have noted, these views of archaeology as a discipline rooted in colonialism may also be a component of how introductory courses are taught (Oland 2020; Quave et al. 2021).

With archaeology situated atop a backdrop of popularized colonial imagery, and with its own legacy serving as a force of colonialist endeavors, we argue that students who do not identify or align their perceptions with visualizations of the "colonizers" may struggle to envision themselves as an archaeologist. Following the work of Moshenska (2017), we define colonizers as White people—primarily men—from families of middle to high socioeconomic status, with the means and ability to travel. Not all those who enter the field of archaeology share these identities, but popularized notions of the field may dissuade students who do not identify with "colonizer" characteristics from considering career possibilities in the field.

### *The Field School*

An initial consideration with this research was whether students viewed field schools as a barrier to a career in archaeology. We based this on recent scholarship indicating that participation in a field school may be a burden for students (Colaninno et al. 2024; Douglass et al. 2024; Heath-Stout and Hannigan 2020; Lambert and Colaninno 2023). We did not identify these concerns among those interviewed. Interviewees almost universally accepted the concept of a field school or a field-based course requirement for students pursuing an archaeological career. Furthermore, they expressed excitement about the potential to take a course that is extensively hands-on. Students saw the value of gaining practical experience before entering the job market. These data suggest that field schools are a strength of archaeological undergraduate education.

Given the incongruity between the results of this research and recent research highlighting issues with field schools (Colaninno et al. 2020, 2024; Douglass et al. 2024; Heath-Stout and Hannigan 2020), we speculate that interviewed students looked favorably on the field school's basis in experiential learning—a high-impact educational practice. However, these students were not confronted with the realities of the financial burden of field school (Douglass et al. 2024; Heath-Stout and Hannigan 2020) or other field-based dangers (Clancy et al. 2014; Colaninno et al. 2020; Meyers et al. 2018; Nelson et al. 2017; VanDerwarker et al. 2018; Voss 2021). Only one student, Pat, suggested that it should not be required if someone can get practical experience through an internship.

Of the students who expressed interest in a field school, several were from demographics that have been historically marginalized in archaeology (i.e., female, Non-White). This is counter to prior research that suggests Non-White students may have a sense of discomfort with fieldwork due to differential access to opportunities to gain familiarity with field experiences (Giles et al. 2020; Greene et al. 2020; O'Brien et al. 2020; Stokes et al. 2015). Researchers have demonstrated that field-based courses enable students to learn employable skills while establishing students' sense of belonging in the field and their identity as those who do field research (Beltran et al. 2020; Zavaleta et al. 2020). If the discipline hopes to diversify who contributes to archaeological knowledge, we must ensure that historically marginalized individuals feel invited and welcomed in spaces where archaeology is taught and practiced. Additional research into students' views of field school—which include those of nonmajors, majors, and undergraduate and graduate students—is warranted.

### *Social Cognitive Career Theory*

The interviewed students commented on factors that contribute to their choice of major and expected career. These factors align with the SCCT model. We expand on these factors to identify how students

think about their career choice and how their choices align with their perceptions of a career in archaeology.

Some of the interviewed students expressed prior interest in anthropology or archaeology before enrolling in the course. We suggest that, broadly, undergraduate students tend to have a preexisting interest in archaeology and/or that the specific students who enroll in this introductory course had a preexisting interest in the topic. In other words, we cannot determine if undergraduate students generally find archaeology interesting, if those students who enroll in an introductory archaeology course do so because they have prior interest in the topic, or both. This finding could be related to self-selection bias or to those students who chose to participate in a voluntary interview about archaeology (Robinson 2014).

Research suggests that the US public has an elevated interest in archaeology compared to the mean scoring output of a survey used to assess archaeological interest (Ramos and Duganne 2000). Undergraduate students may follow this general trend, having an elevated interest in archaeology sparked by the popular depictions of archaeology through film and media. Scholars have also determined that preexisting interest is among the factors students consider when selecting college courses (Chaturapruek et al. 2021).

Interest is a component in the SCCT model that influences learners prior to career choice. As students engage in learning, accomplish tasks, and acquire new skills, they gain self-efficacy, and through this process, they continue to develop an interest in subject matters in which they have positive self-efficacy (Lent et al. 1994). Although we found that interviewed students expressed preexisting interest in archaeology and cited this preexisting interest as a reason they enrolled in the course, we suggest that students did not have an existing level of archaeological interest that would lead them to a career in the field (Lent et al. 1994). All the students we interviewed, except for one majoring in anthropology, lacked prior experience doing archaeology and therefore lacked archaeological self-efficacy. We suggest that the expressed interest was not strong enough or reinforced through activities to influence their career choice. With students' preexisting interest, we identified triggered situational interest as described by Hidi and Renninger (2006). Triggered situational interest is interest that is "sparked by environmental or text features such as incongruous, surprising information; character identification; or personal relevance and intensity" (Hidi and Renninger 2006:114). Hidi and Renninger (2006) go on to suggest that triggered situational interest serves as a precursor to reengaging in a subject matter. We argue that the popularized depictions of archaeology may be a means for students to develop triggered situational interest in archaeology, but the lack of opportunities for students to gain experiences and self-efficacy in archaeology limits their ability to sustain their interest.

Students frequently mentioned that their beliefs in their abilities to complete a task or understand a subject matter was among the factors leading them to their major. Jordan's comment on his choice to major in history and Fran's decision to pursue engineering exemplify how students considered self-efficacy: Jordan noted his fondness for history in high school, and Fran noted her mathematical aptitude and abilities.

Students in the United States seldom have opportunities to engage in archaeological learning prior to college (Davis 2000; Haeberle 2020; Popson and Selig 2019). We suggest that this lack of exposure to pre-collegiate archaeological learning limits students' ability to form archaeological self-efficacy; consequently, students are less likely to consider anthropology or archaeology as a career. The only student we interviewed who was majoring in anthropology and who aspired to an archaeological career was Terry. She was also the only student interviewed who had engaged in archaeological learning as a child. She said, "I discovered a book about Pompeii in third grade, and I took an archaeology—'course' isn't quite the right [word]—activity session during summer camp one year, and I love learning about culture." The book on Pompeii sparked Terry's interest in archaeology, and she subsequently gained some experience in archaeology through a summer camp, where she presumably accomplished tasks and gained skills an archaeologist might use. The combination of these interactions may have helped her gain an understanding of archaeology, supported her interest development, and helped her see that she could do archaeology.

Some students who lacked prior archaeological experiences and self-efficacy, and held misconceptions about archaeology, noted that they were more likely to consider a career in archaeology after learning more about the discipline. Chris's perception of archaeology prior to taking the course and after he completed the course exemplifies this point. When the interviewer asked Chris if his view of archaeology changed after taking this course, he commented, "Immensely. I was one of the ignorant people that thought of dinosaur bones. And then I learned so much more through this class." When asked if he would consider a career in archaeology, he went on to say, "It was interesting, the way [the instructor] brought . . . the way the information that was there, the studies that were shown, the different lives that . . . it was just interesting all throughout. I loved it."

Students commented on what they expected to gain from pursuing their chosen career and what motivated them in their career choice. These motivating factors included having a career that students would be able (1) to enjoy and find their passion; (2) to do for the long term, avoiding physical or mental exhaustion; (3) to find a comfortable wage; (4) to help other people; (5) to advance professionally; and (6) to find job security. We suggest that students' expected outcomes and goal mechanism for their career misalign with their perceptions of what a career in archaeology would be like. Clearly, students may be able to find joy and passion with a career in archaeology, but there is the potential for students to see misalignment with other motivators. In particular, we noted that many students did not see archaeology as a needed discipline or as a discipline in which they could find job security. When the interviewer asked Morgan if he would ever consider a career in archaeology, he commented, "The world needs businessmen, they need lawyers, and all doctors and all that, to help [people] with daily life." With this statement, Morgan is expressing that he does not see archaeology as a career needed to support peoples' daily lives, and for this reason, it is not a career for him. Whitney had a similar view and stated, "I just don't see it. . . . I've never heard of, like, 'Archaeologists needed here.' So, I was really going for [a career] where they need people. For job security." Both of these students believe they will not find what they want out of a career in the field of archaeology.

### *Integrated Perspective: Quantitative and Qualitative Data*

We did not find a significant change in the quantitative measure of archaeological career interest as measured through Kier and colleagues' (2014) career interest survey from pre-course implementation to post-course. Our findings from student interviews support this assertion. We suggest that although these students found archaeology interesting, they have prior concepts about what archaeologists do and what a career in archaeology would entail that prevent many from envisioning archaeology as a viable and sustainable career. These prior concepts also misalign with the goal mechanisms and expected outcomes that they have for their careers and adulthood.

As two archaeologists who have been in the field for decades, we note that some of the students' perceptions of an archaeological career align with challenges we have experienced. At times, work has been difficult to find, given that labor demands wax and wane with government policy and infrastructure growth (Altschul and Klein 2022; Cushman and Howe 2012). With past and future boom-and-bust cycles in the sectors that employ archaeologists, students may perceive that an archaeological career does not come with the same job security as other professions. These job security concerns are likely associated with perceived financial concerns. Students' concerns of financial insecurity with a career in archaeology may be further exacerbated by weak early and mid-career earnings forecasts with an anthropology degree (Federal Reserve Bank of New York 2023). We have also questioned the sustainability of our career decision given that injuries and chronic health issues have, at times, made fieldwork difficult, or because we decided to forego medical care to accommodate employer demands associated with the urgency of the field season. These experiences as professionals working in the field align with students' perceptions that career longevity may not be obtainable in archaeology. Many of the career concerns that students hope to avoid are issues archaeologists experience.

### *Limitations*

This study included data collected from undergraduate students at one university taking an introductory course in the subfields of biological anthropology and archaeology. These data are a limited proxy

for undergraduate students broadly. This study's cohort represents students who chose to take the survey and volunteered to be interviewed. There are undiscoverable biases based on students who volunteer to participate in research, and we cannot circumvent self-selection bias given the voluntary nature of research participation (Robinson 2014).

Furthermore, given the exploratory nature and implementation of this research at one university, our results may have limited generalizability with respect to other student bodies. Each student is unique with regard to their career interest. Each student body is unique regarding members' collective sense of what attracted them to the institution at which they decided to pursue a degree. Additional research at other institutions with different demographic characteristics may have different perceptions of archaeological careers.

The anonymity required for this research creates limitations. Because we maintained student anonymity, we cannot connect pre- and post-survey responses to specific individuals or specify demographic information about students providing interviews. This limits the breadth of interpretations that could have been made about perceptions that students from historically marginalized populations or students with disabilities have about archaeology. Capturing the intersection of student identities and perceptions of archaeology more comprehensively is a much-needed area of research. We encourage others to leverage these results and define specified research questions related to the identities of students—particularly those who have been racially and ethnically minoritized and/or have disabilities—and their perceptions of archaeology and archaeological careers.

The research design did not include an intervention where instructors intentionally discussed careers in anthropology or archaeology. Intentional changes to an instructor's course design might strengthen a student's understanding of careers in archaeology and help the college-educated public understand the value of archaeology and related topics such as historic preservation. Future research should explore interventions that strengthen a student's interest in archaeological careers, particularly those that align with students' expected outcomes and goal mechanisms.

### Recommendations and Conclusions

This research represents an exploratory study to understand if students experience a change in their career interest when introduced to archaeology in an introductory course in college. It also documents more fully how and why students hold views about the field and its potential career opportunities. We stress the exploratory nature of this research as a first step to understand more comprehensively what may attract students to or dissuade them from archaeological careers. Complementary research should be conducted among other student populations and at other institutions to understand the range of attitudes students have toward archaeology. In addition, there should be interventions that may draw students to the discipline and promote more realistic understandings of the various archaeological career opportunities it offers. If the field of archaeology hopes to recruit more students, we must consider novel ways to combat persistent caricatures and misperceptions of archaeology while refocusing the prevailing narrative to ones that represent anti-colonialist forms of thinking. We close with five recommendations that may encourage students to reconceptualize archaeology as a potential career option. Although our research was conducted with undergraduate students, these recommendations may be applicable to archaeologists interacting with both students at multiple educational levels and the public.

- (1) **Emphasize archaeology that occurs locally.** With increased spending directed toward cultural resources, archaeological education should emphasize archaeology that occurs locally. This recommendation applies to instructors of undergraduate anthropology courses, as well as those interacting with K–12 students and teachers, and with the public. Our research indicates that interviewed undergraduate students perceive archaeology as a science that is not conducted in nearby places. Changing this perception among those learning archaeological content may help the public—including K–12 and college students—understand that archaeology occurs locally and that there are local jobs in archaeology.
- (2) **Highlight archaeological careers that are not exclusively based on field methods or excavations.** Students frequently spoke of archaeological excavations when we asked them what

archaeologists do. This suggests that students view archaeology as field methods, but they may not have a clear understanding of the range of career opportunities beyond fieldwork. As students expressed concerns about the need to find a career that they could do throughout their lives, understanding that not all careers in archaeology require fieldwork may be appealing. Further, these career options may attract students who have or perceive that they have physical limitations that could make fieldwork difficult to access. As archaeologists teach and speak about archaeology, we should convey the range of career possibilities, particularly those that do not require fieldwork.

- (3) **Consider ways to reposition archaeological education so that the colonial legacy of archaeology is explicitly called to task and anti-colonizing practices are emphasized.** Quave and colleagues (2021) highlighted the limitations of current postsecondary introductory courses in archaeology, noting that these courses typically follow trends in human history over a progressive timeline. Such pedagogical approaches privilege selected epistemologies over others and perpetuate the “savage to civilization” narrative. This narrative obscures the diversity of human experiences, as well as the contributions that Non-White, non-Western scholars have made to the field. We add our voices to those who call on archaeological educators, particularly those teaching undergraduate and graduate courses, to reconsider teaching and learning practices and to emphasize anti-colonizing pedagogies. Archaeological educators have suggested ways to incorporate diverse and inclusive content (Re-Centering Southeastern Archaeology 2020). We encourage archaeologists to integrate this content into their courses.
- (4) **Continue to explore educational options in K–12 spaces that create opportunities for students to develop archaeological interest and establish self-efficacy in archaeological skills and tasks.** Archaeological educators have long expressed the need to incorporate archaeology into K–12 education. We suggest that doing so could attract more undergraduate students to archaeology. If students are introduced to the concepts of archaeology early in their education and that education is sustained, they may develop archaeological self-efficacy. This could help students both see themselves as archaeologists early in their educational career and develop plans to major in anthropology as undergraduate students. Archaeological educators should also focus on K–12 programming that increases students’ archaeological self-efficacy. There is also a need for more informal archaeological education opportunities.
- (5) **Develop course materials that explicitly address how a career in archaeology can align with students’ career goal mechanisms and expected outcomes, and discuss archaeological career options.** The course for which we conducted this research was not intended to attract students to a career in archaeology. If archaeology faces a labor shortage, departments and instructors of collegiate-level courses should consider reconfiguring courses to incorporate content that explicitly addresses archaeological misconceptions and helps students understand how their career-related expected outcomes and goal mechanisms align with a career in archaeology. Additionally, anthropology departments may consider more intentional coursework on careers in archaeology, given that these courses are likely the first opportunity students have to learn about archaeological career options. Archaeological outreach programs may also consider discussions of the range of archaeological jobs within the context of the SCCT framework.

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**Supplemental Material.** For supplemental material accompanying this article, visit <https://doi.org/10.1017/aap.2024.27>.

Supplemental Text 1. Modified Career Interest Survey based on Kier et alia (2014).

Supplemental Text 2. Interview protocol.

Supplemental Table 1. Pre- and post-survey means and standard deviations for each item of the modified Kier et alia (2014) Career Interest Survey.

## References Cited

- Altschul, Jeffrey H., and Terry H. Klein. 2022. Forecast for the US CRM Industry and Job Market, 2022–2031. *Advances in Archaeological Practice* 10(4):355–370.
- Alwin, Ajisha, Yostina Geleta, and Teresa Mourad. 2021. Toward Conceptualizing Student Outcomes in Undergraduate Field Programs and Employer Expectations for Field Positions. *Bulletin of the Ecological Society of America* 102(2):e01820. <https://doi.org/10.1002/bes.1.1820>.
- Bandura, Albert. 1989. Human Agency in Social Cognitive Theory. *American Psychologist* 44(9):1175–1184.
- Bandura, Albert. 1991. Human Agency: The Rhetoric and the Reality. *American Psychologist* 46(2):157–162.
- Baruch, Yehuda, and Brooks C. Holtom. 2008. Survey Response Rate Levels and Trends in Organizational Research. *Human Relations* 61(8):1139–1160.
- Baxter, Jane Eva. 2009. *Archaeological Field Schools: A Guide for Teaching in the Field*. Routledge, New York.
- Beltran, Roxanne S., Erin Marnocha, Alexandra Race, Donald A. Croll, Gage H. Dayton, and Erika S. Zavaleta. 2020. Field Courses Narrow Demographic Achievement Gaps in Ecology and Evolutionary Biology. *Ecology and Evolution* 10(12):5184–5196.
- Brinkmann, Svend, and Steinar Kvale. 2015. *InterViews: Learning the Craft of Qualitative Research Interviewing*. 3rd ed. Sage, Thousand Oaks, California.
- Brookes, Stuart. 2008. Archaeology in the Field: Enhancing the Role of Fieldwork Training and Teaching. *Research in Archaeological Education* 1(1):31–45.
- Brown, Steven D., and Robert W. Lent. 2019. Social Cognitive Career Theory at 25: Progress in Studying the Domain Satisfaction and Career Self-management Models. *Journal of Career Assessment* 27(4):563–578.
- Byars, Angela M., and Gail Hackett. 1998. Applications of Social Cognitive Theory to the Career Development of Women of Color. *Applied and Preventive Psychology* 7(4):255–267.
- Carabajal, Ivan G., and Christopher L. Atchison. 2020. An Investigation of Accessible and Inclusive Instructional Field Practices in US Geoscience Departments. *Advances in Geoscience* 53:53–63.
- Carabajal, Ivan G., Anita M. Marshall, and Christopher L. Atchison. 2017. A Synthesis of Instructional Strategies in Geoscience Education Literature That Address Barriers to Inclusion for Students with Disabilities. *Journal of Geoscience Education* 65(4): 531–541.
- Chaturapruek, Sorathan, Tobias Dalberg, Marissa E. Thompson, Sonia Giebel, Monique H. Harrison, Ramesh Johari, Mitchell L. Stevens, and Rene F. Kizilcec. 2021. Studying Undergraduate Course Consideration at Scale. *AERA Open* 7(1):1–16. <https://doi.org/10.1177/2332858421991148>.
- Clancy, Kathryn B. H., Robin G. Nelson, Julianne N. Rutherford, and Katie Hinde. 2014. Survey of Academic Field Experiences (SAFE): Trainees Report Harassment and Assault. *PLoS ONE* 9(7):e102172.
- Colaninno, Carol E., Emily L. Beahm, Carl G. Drexler, Shawn P. Lambert, and Clark H. Sturdevant. 2021. The Field School Syllabus: Examining the Intersection of Best Practices and Practices That Support Student Safety and Inclusivity. *Advances in Archaeological Practice* 9(4):366–378.
- Colaninno, Carol E., Shawn P. Lambert, Emily L. Beahm, and Carl G. Drexler. 2020. Creating and Supporting a Harassment-and Assault-Free Field School. *Advances in Archaeological Practice* 8(2):111–122.
- Colaninno, Carol E., Shawn P. Lambert, Emily L. Beahm, Morgan D. Tallman, Carl G. Drexler, and Clark H. Sturdevant. 2024. Cultivating Inclusivity: Strategies Field School Directors Use to Promote Safe and Supportive Field Schools. *Southeastern Archaeology* 43(1):30–46.
- Coyan, Garrett N., Arman Kilic, Thomas G. Gleason, Matthew J. Schuchert, James D. Luketich, Olugbenga Okusanya, Angela Kinnunen, and Ibrahim Sultan. 2020. Medical Student Perceptions of a Career in Cardiothoracic Surgery: Results of an Institutional Survey. *Journal of Thoracic and Cardiovascular Surgery* 159(5):1906–1912.
- Creswell, John H., Vicki L. Plano Clark, Michelle L. Gutmann, and William E. Hanson. 2003. Advanced Mixed Methods Research Designs. In *Handbook of Mixed Methods in Social and Behavioral Research*, edited by Abbas Tashakkori and Charles B. Teddlie, pp. 209–240. Sage, Thousand Oaks, California.
- Cushman, David, and Tony Howe. 2012. National-Scale Cultural Resource Legislation. In *Archaeology in Society: Its Relevance in the Modern World*, edited by Marcy Rockman and Joe Flatman, pp. 45–56. Springer, New York.
- Davis, M. Elaine. 2000. Archaeology Education and the Political Landscape of American Schools. *Antiquity* 74(283):194–198.
- Douglass, Kristina, Justin Dunnivant, Laurel Bestock, Christine A. Hastorf, Danilyn Rutherford, and Adam T. Smith. 2024. Disciplinary Diversity and the Cost of Field Schools: Survey Results from the Archaeology Centers Coalition. *SAA Archaeological Record* 24(1):25–27.

- Ellick, Carol J. 2016. A Cultural History of Archaeological Education. *Advances in Archaeological Practice* 4(4):425–440.
- Federal Reserve Bank of New York. 2023. The Labor Market for Recent College Graduates: Labor Market Outcomes of College Graduates by Major. Electronic document, <https://www.newyorkfed.org/research/college-labor-market#--:explore=outcomes-by-major>, accessed February 2, 2024.
- Giles, Sam, Chris Jackson, and Natasha Stephen. 2020. Barriers to Fieldwork in Undergraduate Geoscience Degrees. *Nature Reviews Earth & Environment* 1(2):77–78.
- Ginsberg, Daniel. 2017. *Trends in Anthropology Bachelor's Degrees: A Review of Federal Data*. American Anthropological Association, Arlington, Virginia.
- Godwin, Allison, Geoff Potvin, Zahra Hazari, and Robynne Lock. 2016. Identity, Critical Agency, and Engineering: An Affective Model for Predicting Engineering as a Career Choice. *Journal of Engineering Education* 105(2):312–340.
- Greene, Sarah, Kate Ashley, Emma Dunne, Kirsty Edgar, Sam Giles, and Emma Hanson. 2020. Toilet Stops in the Field: An Educational Primer and Recommended Best Practices for Field-Based Teaching. *OSF Preprints*, January 9. <https://doi.org/10.31219/osf.io/gnhj2>.
- Haeberle, Lily. 2020. Anthropology in High School: A Mission to Equip Young Students with the Tools and Knowledge to Navigate Social Justice Initiatives. *Student Anthropologist* 7(1):80–83.
- Hall, Tim, Mick Healey, and Margaret Harrison. 2004. Fieldwork and Disabled Students: Discourses of Exclusion and Inclusion. *Journal of Geography in Higher Education* 28(2):255–280.
- Heath-Stout, Laura E. 2023. The Invisibly Disabled Archaeologist. *International Journal of Historical Archaeology* 27(1):17–32.
- Heath-Stout, Laura E., and Elizabeth M. Hannigan. 2020. Affording Archaeology: How Field School Costs Promote Exclusivity. *Advances in Archaeological Practice* 8(2):123–133.
- Hidi, Suzanne, and K. Ann Renninger. 2006. The Four-Phase Model of Interest Development. *Educational Psychologist* 41(2):111–127.
- Hutchings, Rich, and Marina La Salle. 2014. Teaching Anti-Colonial Archaeology. *Archaeologies* 10(1):27–69.
- Jiang, Su, Sandra D. Simpkins, and Jacquelynn S. Eccles. 2020. Individuals' Math and Science Motivation and Their Subsequent STEM Choices and Achievement in High School and College: A Longitudinal Study of Gender and College Generation Status Differences. *Developmental Psychology* 56(11):2137–2151.
- Kier, Meredith W., Margaret R. Blanchard, Jason W. Osborne, and Jennifer L. Albert. 2014. The Development of the STEM Career Interest Survey (STEM-CIS). *Research in Science Education* 44(3):461–481.
- King, Eleanor M. 2016. Systematizing Public Education in Archaeology. *Advances in Archaeological Practice* 4(4):415–424.
- Kirsch, Irving. 1986. Early Research on Self-efficacy: What We Already Know without Knowing We Knew. *Journal of Social and Clinical Psychology* 4(3):339–358.
- Lambert, Shawn P., and Carol E. Colaninno. 2023. Bending the Trajectory of Field School Teaching and Learning through Active and Advocacy Archaeology. *Humans* 3(1):10–23.
- Larkin, Karin, and Michelle Slaughter. 2021. Preparing Undergraduate Students for Compliance Work? *Journal of Archaeology and Education* 5(2):1–32.
- Lent, Robert W., and Steven D. Brown. 1996. Social Cognitive Approach to Career Development: An Overview. *Career Development Quarterly* 44(4):310–321.
- Lent, Robert W., and Steven D. Brown. 2019. Social Cognitive Career Theory at 25: Empirical Status of the Interest, Choice, and Performance Models. *Journal of Vocational Behavior* 115:103316. <https://doi.org/10.1016/j.jvb.2019.06.004>.
- Lent, Robert W., Steven D. Brown, and Gail Hackett. 1994. Toward a Unifying Social Cognitive Theory of Career and Academic Interest, Choice, and Performance. *Journal of Vocational Behavior* 45(1):79–122.
- Lent, Robert W., Steven D. Brown, Regine Talleyrand, Eileen B. McPartland, Timothy Davis, Sapna Batra Chopra, Michael S. Alexander, V. Suthakaran, and Chia-May Chai. 2002. Career Choice Barriers, Supports, and Coping Strategies: College Students' Experiences. *Journal of Vocational Behavior* 60(1):61–72.
- Lent, Robert W., and Gail Hackett. 1987. Career Self-Efficacy: Empirical Status and Future Directions. *Journal of Vocational Behavior* 30(3):347–382.
- Lent, Robert W., Hung-Bin Sheu, Matthew J. Miller, Megan E. Cusick, Lee T. Penn, and Nancy N. Truong. 2018. Predictors of Science, Technology, Engineering, and Mathematics Choice Options: A Meta-Analytic Path Analysis of the Social-Cognitive Choice Model by Gender and Race/Ethnicity. *Journal of Counseling Psychology* 65(1):17–35.
- Lightfoot, Kent G. 2009. Anthropology Field Schools for the 21st Century. *General Anthropology* 16(1):1–4.
- Merriam, Sharan B., and Elizabeth J. Tisdell. 2015. *Qualitative Research: A Guide to Design and Implementation*. 4th ed. John Wiley & Sons, San Francisco.
- Meyers, Maureen S., Elizabeth T. Horton, Edmond A. Boudreaux, Stephen B. Carmody, Alice P. Wright, and Victoria G. Dekle. 2018. The Context and Consequences of Sexual Harassment in Southeastern Archaeology. *Advances in Archaeological Practice* 6(4):275–287.
- Moe, Jeanne M. 2016. Archaeology Education for Children: Assessing Effective Learning. *Advances in Archaeological Practice* 4(4):441–453.
- Morgan, Rachel. 2023. Ready or Not: An Archaeological Knowledge, Skills, and Abilities Needs Assessment. *Advances in Archaeological Practice* 11(4):371–387.
- Moshenska, Gabriel. 2017. Archaeologists in Popular Culture. In *Key Concepts in Public Archaeology*, edited by Gabriel Moshenska, pp. 151–165. UCL Press, London.
- Mytum, Harold (editor). 2011. *Global Perspectives on Archaeological Field Schools: Constructions of Knowledge and Experience*. Springer Science & Business Media, New York.

- National Center for Education Statistics. 2023. Postbaccalaureate Enrollment. *Condition of Education*. US Department of Education, Institute of Education Sciences. Electronic document, <https://nces.ed.gov/programs/coe/indicator/cha/undergrad-enrollment>, accessed May 25, 2024.
- National Science Foundation, National Center for Science and Engineering Statistics. 2019. *Women, Minorities, and Persons with Disabilities in Science and Engineering*. Electronic document, <https://nces.nsf.gov/pubs/nsf19304/>, accessed May 25, 2024.
- Nelson, Robin G., Julienne N. Rutherford, Katie Hinde, and Kathryn B. H. Clancy. 2017. Signaling Safety: Characterizing Fieldwork Experiences and Their Implications for Career Trajectories. *American Anthropologist* 119(4):710–722.
- O'Brien, Laurie T., Henry L. Bart, and Donna M. Garcia. 2020. Why Are There So Few Ethnic Minorities in Ecology and Evolutionary Biology? Challenges to Inclusion and the Role of Sense of Belonging. *Social Psychology of Education* 23(2): 449–477.
- Oland, Maxine H. 2020. Teaching Archaeology with Inclusive Pedagogy. *Journal of Archaeology and Education* 4(1):1–25.
- Perry, Jennifer E. 2004. Authentic Learning in Field Schools: Preparing Future Members of the Archaeological Community. *World Archaeology* 36(2):236–260.
- Popson, Colleen P., and Ruth O. Selig. 2019. Putting Archaeology and Anthropology into Schools: A 2019 Update. *Journal of Archaeology and Education* 3(3):1–26.
- Prieto, Loreto R., and Elizabeth M. Altmaier. 1994. The Relationship of Prior Training and Previous Teaching Experience to Self-Efficacy among Graduate Teaching Assistants. *Research in Higher Education* 35(4):481–497.
- Prorokova, Tatiana. 2020. Translocations, Cultural Geography, and Anthropological Imperialism in Raiders of the Lost Ark. In *Excavating Indiana Jones: Essays on the Films and Franchise*, edited by Randy Laist, pp. 51–63. McFarland, Jefferson, North Carolina.
- Pyburn, K. Anne. 2008. Public Archaeology, Indiana Jones, and Honesty. *Archaeologies* 4(2):201–204.
- Quave, Kylie E., Shannon M. Fie, AmySue Qing Qing Greiff, and Drew Alis Agnew. 2021. Centering the Margins: Knowledge Production in the Introductory Archaeology Course. *Advances in Archaeological Practice* 9(2):87–100
- Ramos, Maria, and David Duganne. 2000. *Exploring Public Perceptions and Attitudes about Archaeology*. Harris Interactive, Rochester, New York.
- Rassalle, Tine. 2021. Archaeogaming: When Archaeology and Video Games Come Together. *Near Eastern Archaeology* 84(1):4–11.
- Re-Centering Southeastern Archaeology. 2020. Resources. Electronic document, <https://resec.hcommons.org/resources/>, accessed May 26, 2024.
- Robinson, Oliver C. 2014. Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide. *Qualitative Research in Psychology* 11(1):25–41.
- Saldaña, Johnny. 2021. *The Coding Manual for Qualitative Researchers*. 4th ed. Sage, Los Angeles.
- Silliman, Stephen W. 2020. Colonialism in Historical Archaeology: A Review of Issues and Perspectives. In *The Routledge Handbook of Global Historical Archaeology*, edited by Charles E. Orser Jr., Andrés Zarankin, Pedro Paulo A. Funari, Susan Lawrence, and James Symonds, pp. 41–60. Routledge, New York.
- Stokes, Philip J., Roger Levine, and Karl W. Flessa. 2015. Choosing the Geoscience Major: Important Factors, Race/Ethnicity, and Gender. *Journal of Geoscience Education* 63(3):250–263.
- Stokes, Alison, Anthony D. Feig, Christopher L. Atchison, and Brett Gilley. 2019. Making Geoscience Fieldwork Inclusive and Accessible for Students with Disabilities. *Geosphere* 15(6):1809–1825.
- Tashakkori, Abbas, R. Burke Johnson, and Charles Teddlie. 2021. *Foundations of Mixed Methods Research*. 2nd ed. Sage, Thousand Oaks, California.
- VanDerwarker, Amber M., Kaitlin M. Brown, Toni Gonzalez, and Hugh Radde. 2018. The UCSB Gender Equity Project: Taking Stock of Mentorship, Equity, and Harassment in California Archaeology through Qualitative Survey Data. *California Archaeology* 10(2):131–158.
- Van Dinter, Mart, Filip Dochy, and Mien Segers. 2011. Factors Affecting Students' Self-Efficacy in Higher Education. *Educational Research Review* 6(2):95–108.
- Voss, Barbara L. 2021. Documenting Cultures of Harassment in Archaeology: A Review and Analysis of Quantitative and Qualitative Research Studies. *American Antiquity* 82(6):244–260.
- Walker, Mark, and Dean J. Saitta. 2002. Teaching the Craft of Archaeology: Theory, Practice, and the Field School. *International Journal of Historical Archaeology* 6(3):199–207.
- Wang, Danqi, Xiping Liu, and Haiyan Deng. 2022. The Perspectives of Social Cognitive Career Theory Approach in Current Times. *Frontiers in Psychology* 13. <https://doi.org/10.3389/fpsyg.2022.1023994>.
- Wang, Xueli. 2013. Why Students Choose STEM Majors: Motivation, High School Learning, and Postsecondary Context of Support. *American Educational Research Journal* 50(5):1081–1121.
- Wilkie, Laurie A. 2023. Imagining Archaeologies without Ableism. *International Journal of Historical Archaeology* 27(1):241–266.
- Zavaleta, Erika S., Roxanne S. Beltran, and Abraham L. Borker. 2020. How Field Courses Propel Inclusion and Collective Excellence. *Trends in Ecology & Evolution* 35(11):953–956.
- Zimmerman, Barry J. 2000. Self-Efficacy: An Essential Motive to Learn. *Contemporary Educational Psychology* 25(1):82–91.