

# Self-Authorship as a Means to Develop Athletic Training Students' Professional Identity

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**Context:** Developing a strong professional identity can improve transition to practice, retention in the profession, and patient care. Self-authorship involves defining and acting on one's beliefs, identity, and social interactions, moving from external guidance toward integrating knowledge decision-making based on one's own choices.

**Objective:** To characterize the level of self-authorship in professional-level Master's in Athletic Training students and explore influences of Master's in Athletic Training students' professional identity.

**Design:** Mixed methods.

**Setting:** Web-based survey (Qualtrics) and audio-recorded, semistructured interview (Zoom).

**Participants:** One hundred and four participants (age =  $24 \pm 3$  years, women = 78, men = 24, transgender = 2) completed the entire survey. Twelve participants completed the follow-up interview (women = 11, men = 1, age =  $24 \pm 2$  years).

**Data Collection and Analysis:** We used the previously validated self-authorship assessment (SAQv2), a 27-item assessment that ranks items on a 5-point Likert scale (1 = not like me, 5 = like me). Items on the SAQv2 are summed, and higher scores indicate a higher perceived self-authorship. We used a Kruskal-Wallis test to compare SAQv2 scores across age, gender, and race/ethnicity. The semistructured interview was audio recorded and analyzed using the consensual qualitative research approach.

**Results:** Master's in Athletic Training students perceived themselves to be self-authoring, with an average SAQv2 score of  $113.16 \pm 11$ . There were significant differences between younger students (age 18–25 years) and nontraditional-aged students (25+ years), where younger students perceived to have higher self-authorship. Three domains emerged from the semistructured interviews: developing trust, growing/maintaining confidence, and forming identity. Participants described experiences that helped them develop trust and grow their confidence in their abilities. However, participants still described a heavy reliance on external formulas for decision-making. Last, participants described attributes and learning opportunities that aided in the development of their professional identity.

**Conclusions:** Although MAT students self-perceived that they are self-authoring, lived experiences demonstrate a reliance on external formulas. Educators should explore self-authorship as a means to develop the professional identity of learners.

**Key Words:** identity formation, meaning-making, professional retention

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## KEY POINTS

- Students entering the profession have a high self-perceived level of self-authorship.
- Lived experiences still demonstrate that Master's in Athletic Training students are relying heavily on external guidance for meaning-making and their identity.
- Using the self-authorship framework may help programs build an intentional curriculum to form students' professional identity.

## INTRODUCTION

Athletic training is currently experiencing an identity crisis. An examination of the history of athletic training demonstrates that the profession was birthed in the sport industry, yet more contemporary initiatives and educational reform has sought to align athletic training with other peer allied health professions.<sup>1,2</sup> Athletic training, as it has evolved over the years, emerged in many different practice settings, leading to the 2 conflicting professional identities of sport and health care, making it difficult to clearly see the profession's identity. Professional identity formation is the process by which one internalizes the profession's skills, ideals, and knowledge, while integrating their own personal identity.<sup>3,4</sup> Structured education can aid in professional identity formation and improve the challenges the athletic training workforce is currently experiencing relative to retention in the profession.

Professional identity formation is complex, and previous literature in medical education has insisted that the process requires a structured and explicit curricular approach to allow students to refine their personal and professional identities.<sup>4</sup> Students should first be exposed to the profession's ideals, values, and knowledge, and then subsequently they can synthesize the profession's identity with their own. Yet, historically in athletic training, the development of a professional identity has relied on unstructured experiences or clinical education.<sup>5,6</sup> However, to help students develop a strong professional identity as a health care provider and athletic trainer, more structured experiences that are grounded in educational, developmental theory are required for professional identity formation for students. One such theory that can aid in the professional identity formation of students is Self-Authorship Theory.

Self-Authorship Theory is a developmental theory where individuals integrate and act on both individual and collective values, beliefs, and knowledge.<sup>7,8</sup> Self-authorship moves an individual from solely relying on authority for meaning-making to an identity that is more self-directed. In relation to professional identity, this would move a student from strictly expressing a professional identity based on authority, such as preceptors and mentors, to a true self-directed professional identity that they can act from. The process of self-authoring would allow students to move away from only following formulas and rely on authority figures for meaning-making toward integrating knowledge, decision-making, and identity based on internal foundations.

Previous investigations of self-authorship in athletic training found that students exhibit reliance on external guidance, where knowledge and meaning-making come solely from their preceptors and instructors.<sup>9</sup> Movement toward internal meaning-making describes where students are less reliant on external guidance but can make decisions and meaning for themselves based on experience and knowledge. Moreover, the data within athletic training have primarily focused on clinical experiences for students as the means for developing meaning-making.<sup>9,10</sup> Athletic training programs should be taking a more intentional approach to developing students' professional identity as a health care provider, grounding the approach in evidence-based educational theory. Although the preliminary investigations into self-authorship in athletic training have shown that students are reliant on external formulas and draw from clinical education, these studies have not explored the relationship of self-authorship and professional identity formation in athletic training students nor have the previous studies quantified the level of self-authorship of learners. The purpose of this study was to characterize the level of self-authorship in professional-level Master's in Athletic Training (MAT) students and explore the factors that influence MAT students' professional identity formation.

## METHODS

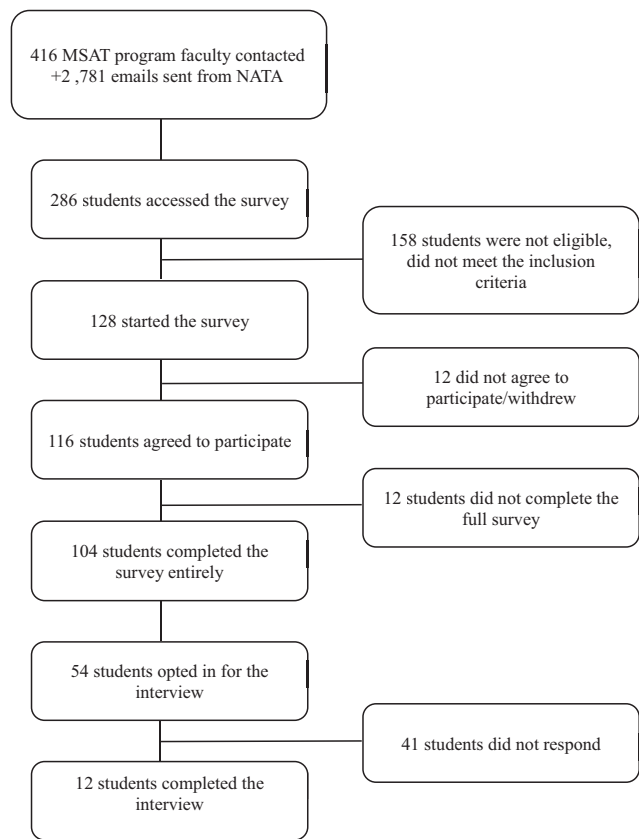
### Research Design

We used a concurrent mixed-methods design to characterize the self-authorship of professional-level MAT students in athletic training. The concurrent nature of the investigation allowed the findings from the qualitative interview to provide depth and context to the findings of the quantitative survey. This study was deemed exempt research by the Indiana State University Institutional Review Board.

### Recruitment and Participants

We recruited athletic training students enrolled in professional MAT programs and in the final year of their program. All participants had to have completed an immersive clinical rotation to be included, as the theoretical foundation for inclusion of immersive clinical experiences is to socialize students to the profession. We used a 2-pronged recruitment approach due to the potential for sampling bias with both approaches. We sent a recruitment email through a web-based platform (Qualtrics) to all program faculty of Commission on Accreditation of Athletic Training Education-accredited programs ( $N = 416$ ) in good standing at the end of 2022. We also used the National Athletic Trainers' Association (NATA) research service to contact student members directly. A random sample ( $N = 2781$ ) of those who were categorized as noncertified students in the NATA database was generated by the NATA, and recruitment emails were sent to this random list. The recruitment email to students contained the purpose of the study and a link to the initial survey. The initial survey included informed consent, demographic questions, self-authorship assessment, and an additional question for students to opt into the semistructured interview. All participants

**Figure. Recruitment of Master’s in Athletic Training students.** Abbreviations: MSAT, Master’s of Science in Athletic Training; NATA, National Athletic Trainers’ Association.



indicated consent to participate and then navigated the survey. The Figure includes a breakdown of recruitment procedures for this project.

A total of 286 participants opened the survey. There were 104 students who were eligible for the survey and who completed it entirely. The participants averaged  $24 \pm 3$  years old (range, 20–40 years), with most identifying as women ( $n = 78$ ), followed by men ( $n = 24$ ) and transgender ( $n = 2$ ). Most participants identified as White only ( $n = 84$ ), followed by Asian ( $n = 10$ ), Black ( $n = 6$ ), or mixed race ( $n = 4$ ). Table 1 includes the demographic characteristics of the participants.

After completing the survey, participants had the option to complete the semistructured interview. Twelve participants (10 women and 2 men, age =  $24 \pm 2$  years, White = 8, Asian = 3, Pacific Islander = 1) completed the follow-up interview. Table 2 includes the demographic information of participants from the interview portion. There was a total of 10 different athletic training programs represented by the 12 participants.

Instrumentation

**Survey: Self-Authorship Questionnaire (SAQ).** The quantitative survey consisted of demographic questions (5 items) and the SAQ Version 2 (SAQV2) created by Ferencevych that includes questions on each domain of self-authorship.<sup>11</sup> The SAQV2 is a 27-item, self-report questionnaire that asks participants to respond to each item with the level of agreement about themselves. Each item is rated on a 5-point Likert scale ranging from 1 (not like me)

**Table 1. Patient Demographics for Quantitative Survey**

	Frequency (N)	Percentage (%)
Gender identity (n)		
Woman	78	75.00
Man	24	23.08
Transgender	2	1.92
Cultural ethnicity (n)		
White	84	80.77
Asian	10	9.62
Black	6	5.77
Mixed race	4	3.84
Age groups (n)		
Traditional MS age (years old)	78	75.00
Nontraditional MS age (years old)	26	25.00

Abbreviation: MS, Master’s degree.

to 5 (like me).<sup>12</sup> The SAQV2 has 4 domains: situational coping (intrapersonal), interpersonal leadership (interpersonal), self-efficacy (intrapersonal), and knowledge creation (cognitive). The overall score of the SAQV2 is calculated by totaling the participants’ responses to the 27 items on a score of 1 to 5 (“not like me” to “like me”) for a score out of a potential 135, where higher scores indicate higher levels of self-authorship. Each domain is also calculated by totaling the participant responses for each question contained in each domain. The SAQV2 with the 27 items has demonstrated high internal consistency (Cronbach  $\alpha = .85$ ) across the 4 subscales.<sup>12</sup>

**Semistructured Interview.** At the end of the SAQV2, participants had the option to engage in a follow-up interview (Table 3) that focused on meaning-making to further investigate factors influencing participants’ self-authorship. The interview was constructed from previous investigations in self-authorship, exploring interviewees’ perceptions on meaning-making and crossroads experiences.<sup>13,14</sup> The interview script was sent to 3 expert qualitative researchers (age =  $37 \pm 9$ ) as external reviewers for content validation and review. The experts were asked to ensure that the questions aligned with the research question and aim of the study. Based on the feedback, we made minor grammatical changes and clarification on terminology to be appropriate for the intended audience. The interview

**Table 2. Demographic Data for Qualitative Interview**

Pseudonym	Age	Gender Identity	Cultural Ethnicity	Carnegie Classification
Orange	24	Woman	Asian	R1
Green	23	Woman	White	R1
Brown	23	Woman	White	R2
Pink	25	Woman	White	R1
Gray	25	Woman	White	R1
Blue	25	Woman	Pacific Islander	M1
Red	24	Woman	White	R1
Violet	29	Man	Asian	R1
Teal	21	Woman	White	R2
Maroon	22	Woman	Asian	R2
Purple	22	Man	White	M2
Silver	22	Woman	White	R2

**Table 3. Interview Protocol**

- (1) Tell me about your professional journey to this point.
  - a. What got you interested in athletic training and when did you decide to pursue a degree in athletic training?
  - b. If concrete affirmation response:
    - i. What, if any, experiences influenced your decision to become an athletic trainer?
    - ii. Did you have any experiences that made you question your decision? Tell me more about that.
    - iii. What, if any, other professions, options, or alternatives did you have in mind before settling on athletic training?
- (2) In your own words, what are the roles and responsibilities of an athletic trainer?
- (3) How would you describe yourself as an athletic training student in the clinical setting?
- (4) Tell me a bit about your clinical education experiences.
  - a. Tell me about a time where a preceptor gave you more responsibility.
    - i. What did that feel like?
    - ii. What was the outcome of the situation?
    - iii. How did you feel about the outcome?
    - iv. What did you learn from that?
    - v. Have you completed an immersive experience in your program to this point? If so, can you describe that experience? (length, responsibility, etc).
  - b. Tell me about a time when you disagreed with a preceptor over a clinical practice decision.
    - i. What did that feel like?
    - ii. What was the outcome of the situation?
    - iii. How did you feel about the outcome?
    - iv. What did you learn from that?
  - c. Tell me about a time when a patient presented in a manner that was not the same as what you were expecting.
    - i. How did you approach the management of this patient case?
    - ii. How, if at all, did you integrate your preceptor into your decision-making?
    - iii. What did it feel like when the patient presented differently than what you expected?
    - iv. What was the outcome of the situation?
    - v. How did you feel about the outcome?
    - vi. What did you learn from this experience?
- (5) How do you make decisions in patient care? Tell me about your thought process and what goes into your decision-making?
  - a. Are there any specific resources that you consult to make your decisions?
- (6) Describe yourself in the future, as an athletic trainer. Characterize the athletic trainer that you want to become.
  - a. What, if any, aspects of athletic training excite you?
  - b. What, if any, aspects of athletic training do you feel less excited about?
- (7) Tell me how you are feeling about transitioning to a practicing athletic trainer. Is there anything else you would like to add that is relevant to this interview?

was semistructured to allow the researcher to probe and ask follow-up questions as appropriate depending on the participants' responses. The script consists of 7 parent questions and 8 planned follow-up questions.

Researchers conducted the qualitative interviews via the video conferencing software Zoom and transcribed the audio recordings using artificial intelligence (Otter.ai). Once the interview was concluded and the transcript was produced, the primary investigator deidentified the transcript. Each participant was given a pseudonym to protect their identity, and all references to specific athletic training programs or other identifiable information were removed. The primary investigator sent the deidentified transcript to participants to ensure the accuracy of their responses. Interviews were continued until data saturation was achieved where the common themes were repeated, and no new insights were derived from additional interviews.

## Data Analysis

**Quantitative Analysis.** Data analysis was performed using SPSS (version 29; IBM). Demographic data were analyzed using measures of central tendency (mean, standard deviation, and frequencies). A separate 1-way analysis of variance was performed to compare the SAQV2 scores across participant age (18–25 or 25+), gender identity (man, woman, or gender diverse), and cultural ethnicity (White or Person of Color). To compare age groups, students were classified as traditional aged (18–25 years old) or nontraditional aged (26 years old and older). The  $\alpha$  level was set at  $\alpha = .05$  a priori.

## Qualitative Analysis

We used the consensual qualitative research approach to analyze the responses during the interviews.<sup>12</sup> A 3-person coding team was used. This approach allowed the proper representation of



**Table 4. Overall Self-Authorship Questionnaire Version 2 Scores and Construct Scores**

	Mean	SD	Range
SAQV2 Total (max = 135)	113.16	10.18	87.00–129.00
Situational Coping (max = 45)	37.33	4.85	26.00–45.00
Interpersonal Leadership (max = 40)	33.71	4.32	22.00–40.00
Self-Efficacy (max = 35)	31.44	3.10	24.00–35.00
Knowledge Creation (max = 15)	10.44	2.35	4.00–14.00

Abbreviations: SAQV2, Self-Authorship Questionnaire Version 2; SD, standard deviation.

participants' experiences and meaning-making processes. In the first phase of coding, investigators read a subset of the transcripts multiple times to gain familiarity with responses and participants. During this initial review of transcripts, investigators made notes and developed commentary of responses of interest or commonalities and reduced notes into core ideas. The coding team met to compare notes, and initial themes were identified. During this meeting, the initial codebook was constructed by building a consensus among the team, which represented the responses of the participants and core ideas identified. Next, the data analysis team applied the initial codebook to a subset of new and previous transcripts. At the end of this phase, the coding team met once more to ensure the congruency of the codebook and consistency in applying the codebook across analysts. Minor revisions to the codebook were made to consolidate similar categories. In the next phase, the primary researcher applied the codebook to all transcripts, and the other members of the data analysis team internally audited the coded transcripts and discussed disagreements. After the multiphased approach was completed, the transcripts, codebook, interview script, and purpose of the study were sent to an external reviewer with experience in qualitative research to ensure accuracy and integrity of the coding process. The frequency designations were general ( $n = 11$ – $12$ ), typical ( $n = 6$ – $10$ ), and variant ( $n = 2$ – $5$ ).<sup>15</sup>

### Researcher Reflexivity and Mitigation

The primary investigator has 8 years of research experience in quantitative, qualitative, mixed-methods, and database research. The primary investigator has explored their own meaning-making process and integrated these concepts into their regular teaching and mentoring roles. To ensure trustworthiness in the analysis, we first used member-checking, allowing participants the opportunity to ensure that their responses were accurately portrayed in the transcription process. Second, we used regular structured team-reflexive discussions during data analysis. Finally, external

reviews were performed by experts in qualitative research that were not members of the research team.

## RESULTS

### Quantitative Results

Overall, students scored high on the SAQV2, with a mean score of  $113.16 \pm 10.18$  (range, 87–129) out of a possible 135, indicating greater levels of self-authorship. The average score for each construct is presented in Table 4. There were significant differences in SAQV2 scores between age groups ( $P = .005$ ), with a mean rank SAQV2 for traditional-aged students of 55.03 and for nontraditional-aged students of 36.17 (Table 5), indicating that traditional-aged students reported higher levels of self-authorship. There were no significant differences in SAQV2 mean scores based on gender identity (man or woman,  $P = .75$ ) or cultural ethnicity (White or non-White,  $P = .37$ ).

Traditional-aged students scored significantly higher than nontraditional-aged students in the Interpersonal leadership ( $P = .016$ ), self-efficacy ( $P = .002$ ), and knowledge creation ( $P = .011$ ) constructs (Table 5). These results indicate that students of traditional master's age perceive to have higher interpersonal leadership, self-efficacy, and knowledge creation than their older counterparts, suggesting higher perceived self-authorship.

The only significant difference between White and non-White students was in the interpersonal leadership ( $P = .047$ ) construct, where White students scored significantly higher than non-White students, indicating a higher perceived interpersonal leadership ability for White students (Table 6). There were no significant differences in construct scores between gender ( $P \geq .09$ ; Table 7).

### Qualitative Results

Through consensual qualitative research analysis, 3 domains emerged with 8 categories: Developing Trust, Growing/Maintaining Confidence, and Creating Identity (Table 8).

**Table 5. Self-Authorship Questionnaire Scores by Age Group (Kruskal-Wallis Test)**

	Traditional ( $n = 78$ ) Mean Rank	Nontraditional ( $n = 26$ ) Mean Rank	Z Value
SAQV2 Total	55.03	36.17	7.730 <sup>a</sup>
Situational Coping	51.65	51.00	0.009
Interpersonal Leadership	55.40	38.83	5.807 <sup>a</sup>
Self-Efficacy	56.37	35.67	9.199 <sup>a</sup>
Knowledge Creation	55.60	38.17	6.493 <sup>a</sup>

Abbreviation: SAQV2, Self-Authorship Questionnaire Version 2.

<sup>a</sup>  $P < .05$ .

**Table 6. Self-Authorship Questionnaire Scores by Cultural Ethnicity Group (Kruskal-Wallis Test)**

	White ( $n = 82$ ) Mean Rank	Non-White ( $n = 22$ ) Mean Rank	Z Value
SAQV2 Total	52.79	46.20	0.371
Situational Coping	50.99	58.14	0.981
Interpersonal Leadership	55.36	40.50	3.955 <sup>a</sup>
Self-Efficacy	52.64	51.90	0.010
Knowledge Creation	53.52	48.20	0.513

Abbreviation: SAQV2, Self-Authorship Questionnaire Version 2.

<sup>a</sup>  $P < .05$ .

**Table 7. Self-Authorship Questionnaire Scores by Gender Group (Kruskal-Wallis Test)**

	Transgender ( <i>n</i> = 2) Mean Rank	Female ( <i>n</i> = 78) Mean Rank	Male ( <i>n</i> = 24) Mean Rank	Z Value
SAQV2 Total	50.95	54.25	39.50	0.564
Situational Coping Interpersonal	48.76	63.50	66.50	4.860
Leadership	53.83	51.58	11.50	3.905
Self-Efficacy	51.96	54.50	49.50	0.154
Knowledge Creation	54.37	45.50	63.50	1.895

Abbreviation: SAQV2, Self-Authorship Questionnaire Version 2.

**Developing Trust.** The first domain that was identified involved actions by the student or preceptor that led students to develop trust as a provider and trust in their patient care skills. The development of trust in oneself and in others is a key component of self-authorship and professional identity formation. The actions that led to the development of trust included giving the student autonomy and the use of feedback as a form of clinical teaching. We classified autonomy in 2 ways: patient care and procedural. The actions that were classified in patient care were instances where students were afforded the opportunity to make clinical decisions about direct patient care under the supervision of their preceptor. The actions under procedural relate to those actions in clinical practice that are not directly linked to patient care, such as administrative, custodial, organization of supplies, etc. All the participants in our study described the use of autonomy related to patient care to further their trust in themselves to make clinical decisions (Table 9). Others described the use of autonomy in patient care to develop trust between themselves and their preceptor. The use of autonomy with direct patient care was described as a major benefit to the intrapersonal and interpersonal development of trust, which can be linked to the intrapersonal and interpersonal domains of self-authorship.

**Procedural.** Like patient care, participants also described the preceptor's use of autonomous completion of procedural

tasks to develop trust. The procedural tasks included patient care documentation, communicating with coaches, custodial duties, field set up, and organizing the health care space. Although not all participants described opportunities to do procedural tasks autonomously as a way to develop trust, this was a general response. Other participants described feeling trusted to set up the playing surfaces for events or similar custodial tasks that allowed them to see the full scope of work.

**Feedback.** The use of feedback was typically described by the participants in this study and included feedback from their preceptor for patient care decisions and performance. Feedback is an effective tool to help students understand what they did well and where they can improve in the future. Participants described different forms of feedback, including affirmative feedback, corrective feedback, or negative feedback. However, there were instances where participants described the use of negative feedback to deter their trust.

**Growing/Maintaining Confidence.** The growth and maintenance of confidence is a crucial component to a professional identity as well as moving toward authoring one's own life. Participants described multiple situations that helped them grow or maintain their confidence as providers, including rule following, questioning authority, questioning knowledge, and debriefing (Table 10).

**Table 8. Domain, Categories, and Frequencies**

Domain, Category	Frequency	CQR Characterization <sup>a</sup>
Developing Trust		
Patient care	12	General
Procedural	10	Typical
Feedback	8	Typical
Growing/Maintaining Confidence		
Rule following	12	General
Questioning authority—direct	8	Typical
Questioning authority—indirect	9	Typical
Questioning knowledge	7	Typical
Debriefing	10	Typical
Creating Identity		
Acquired attributes—holistic	11	General
Acquired attributes—collaborative	9	Typical
Acquired attributes—professional recognition	9	Typical
Acquired attributes—burnout/compassion fatigue	10	Typical
Internal attributes—curiosity	11	General
Internal attributes—humanistic	12	General
Instructional strategies—Social Learning Theory	12	General
Instructional strategies—clinical teaching	12	General

Abbreviation: CQR, consensual qualitative research.

<sup>a</sup> General, 11 to 12 cases; typical, 6 to 10 cases; variant, 2 to 5 cases.

**Table 9. Supporting Evidence and Quotes for Developing Trust**

Domain Category	Quote
Developing Trust	
Patient-Care Autonomy	<p>I think we had an established amount of trust, which is why he [preceptor] allowed me to work more 1 on 1 with these athletes. –Purple</p> <p>My preceptor was overwhelmed with athletes to treat, so he asked, “Do you want to work with Patient X today? I know you’ve seen what we’ve done before.” He trusted me. He let me try a couple of new things today to try some different things. To me it felt really good because I felt like I was finally able to take the reins and try a couple of things on my own. So I’d say, I was able to be a little bit more independent with it, which was also very exciting. It also just feels good when you know that someone trusts you enough to do that as well as it also feels really good to be able to help someone 1 on 1. It was reassuring to know that was me that was actually able to do that. I guess it helps build a lot of confidence in myself as a student, and then I would say the outcome. I think it actually benefited the athlete, because not only did they just do the same thing every single day, but they were also able to like something different. –Blue</p> <p>It is helpful to let students be autonomous and learn on their own a little bit more. Obviously in a safe setting where you know your patient isn’t at risk. But I think that’s definitely a big takeaway. How good it can feel when you just show someone that you trust them, instead of just telling them that you trust them. –Silver</p> <p>I did not realize how much they [my preceptor] trusted us. An athlete would come in and we were expected to pick them up [sic] right where they left off. We [students] were expected to do their treatment or make their rehabilitation sheet. My preceptor gave me the green light to make the rehabilitation sheet myself and then do the rehabilitation with the athlete [patient]. –Teal</p> <p>I wrote the patient’s whole exercise plan and was able to lead them through it, from start to finish. Being able to choose the different exercises that are going to be included in a patient’s rehabilitation plan for the first time. –Silver</p>
Procedural	<p>It [procedural tasks] was something I’ve been wanting to work on. Things like packing supplies, hydration, field setup, or field clean up. That was also good, because it really allowed me to see how the typical day-by-day looks like from start to finish for athletic trainers. Then when I was with a different rotation, while I was with football we had responsibility again to set up the field and pack kits and everything. –Green</p> <p>Yes, it’s [procedural schedule] ingrained in my mind, because everything was the same. We get to the facility at 5:45 AM. We would start setting up the field with all the water sources, the pumpers, and the ice chest. We have electrolytes out there. We have ice towels and all the ice tubs. Then we go inside for treatment around like 6:15 AM during treatment. For some reason, our football head coach wants everyone on the team to have their ankles taped. So there is 45 minutes of taping with rehabilitation mixed in. Then they [patients] go to meetings, and during that time we finish setting up the practice field. They practice from 9 to 12. I’m on the field, and I personally work with the defensive line, so whatever the defensive line was on the field, I be with them with the water. One day it was almost 100°F, so the turf was 132°F with the wet bulb. So we were giving the players electrolytes and making sure like we’re looking out for like heat illnesses. But then they come back in. We do our second treatment block of the day for about a couple hours, because they like come and go in different times. Then at midday it’s refilling the water sources. Is it pulling tape out or getting our ice delivery. Is it pulling out more Body Armor or PowerAde from the shed. All that stuff. And then they have the walk through at night, and again we’re just out there with the water. –Orange</p> <p>My preceptor let me do a lot. Stuff like athlete taping, but also like setting up the practice field or setting up for game days which is a lot. –Pink</p>
Feedback	<p>The preceptor that I worked with was incredible, and he really inspired. He told me that, “Hey, this is something that you are good at, and you are interested in,” and, finding a career that doesn’t feel like work is ideal. And I also think part of a good preceptor relationship is having someone supervising me that instills that confidence in me and makes me feel very capable. My preceptor has just given me all the more drive to know I can do this. –Brown</p> <p>In the moment I felt really good about my decision, and my preceptor came up and told me I was doing all the right things. So, I was doing this during the race, but it felt really good to know I had the skills in me. In that moment I got the challenge from my preceptor to use those skills and to make the decision for myself. –Purple</p> <p>She [the preceptor] yelled at us in front of the whole team, which I disagree with. She should have waited until we were not around the [patients], and then talked to us about it instead of yelling at us right there. The [patient] was already in distress and yelling at us did not make that any better. –Pink</p> <p>My preceptor was with me and was walking through a lot of information and a lot of the questions. Then he was explaining the differential diagnosis and how to rule out things that point to rule out things. –Maroon</p>

**Table 10. Supporting Evidence and Quotes for Growing/Maintaining Confidence**

Domain Category	Quote
Growing and Maintaining Confidence Rule Following	<p>I make sure I take a thorough history and then I will go through a certain order every time I do an evaluation. So, I will look and make sure there is no deformity and then I will start palpating and measuring range of motion. Then I will do manual muscle test and special tests. I go in the same order every single evaluation I do. I realize for myself it is easier for me to remember what I did and what I found by going through it step by step. When I write out my note, I go in that order. –Pink</p> <p>My thought process is more by the book where I must do every single special test I can possibly think of and run through how the book says I have to do it. So, my evaluations were not creative or functional, just because sport demands can be different than what special tests are getting at. I think that was a limitation in my actual patient care and that I wasn't always getting a full picture of how it would affect them [the patient] when they try to return to activity. –Brown</p> <p>I will start with researching through [institution] library database, but I also have a few textbooks that I've purchased. One textbook being therapeutic exercise for muscular skeleton injuries. So, a lot of times there will be an injury where I don't know what special test to do. So, they also have a copy of that book in the Athletic Training Room. So, I'll refer to that book before I do something. –Teal</p> <p>I feel like I haven't made a lot of decisions on my own, so a lot of it comes down to what my preceptors and professors have been through. My clinical practice is based off their experiences and what we learned in class. –Maroon</p> <p>I try to think back on my classes and the stage of healing. I will sometimes go through my notes. I do not really use any other resources. I will sometimes look in the books that my preceptor has. –Silver</p> <p>Oh, a lot of it [decision-making], I have to say, is my professors. We have about 6 or 7 professors that all specialize in different things. So, it is really nice to be able to go and bounce back to one of them. But another one that I look at a lot is the NATA position statement. I get really frustrated when they don't have one. So I will then look for scholarly articles. –Purple</p>
Questioning Authority–Direct	<p>I have had preceptors do certain practices, or educate differently than what I was taught in class. In those cases I would, when the time was right, I would approach them and ask, "Oh, like, do you mind explaining why you do it this way." I just take that information that they told me, and kind of analyze it, and just then know that. I can see their reasoning for this. –Green</p> <p>I think questioning is like a grassroots moment in my practice to where I am super open minded to a lot of things. I think that when I am close to disagreement with my preceptor, I will just ask a lot of questions honestly, and have [to] be willing to have to have an open conversation about why he is doing what he is. Things like why decisions are made being made in the way that they're being made. And then I say, just like having that open discussion has been okay. So, I feel pretty, like, trusting of that of my ability to have those harder conversations. –Maroon</p>
Questioning Authority–Indirect	<p>I proved myself that I have the confidence because I had to argue with their coach and debate with their coach that I needed to send this kid to the emergency room. I told him that this kid wasn't going to get better by himself. So, really to me, that was a big moment because I was always submissive, but that felt like a big moment. But in that moment, I felt like I really grew as a person that I stood up, not only to someone older than me, but to coach, and I told him that the patient needs this. –Purple</p> <p>I didn't feel like it was my spot to challenge it [preceptor decision], and I am not that kind of person to initiate conflict or whatever. I did not say anything, but I was definitely thinking since it happened where I am talking with every other preceptor of being my own kind of athletic trainer. –Gray</p> <p>I think showing that blatant disagreement in front of a patient is not healthy. I am just learning to take what I am hearing what we're discussing and then doing further research on my own when I go home or when I have some downtime. I will just read into it and read into other people's decisions, and continue to further that evidence based stuff. –Maroon</p>



**Table 10. Continued**

Domain Category	Quote
Questioning Knowledge	I learned that it's always good to realize that you do not have to have an answer. We can try ruling out other conditions and try stretching and see if that helps and go from there. But when the patient was painful everywhere it was hard to have a diagnosis, especially when none of the tests are coming out the way that I learned. –Pink
Debriefing	I'm feeling a little nervous about transitioning to practice. I am one of those people who, in my head, I do not know enough to be on my own. But everyone says otherwise. They all say that I am doing fine, but I still ask myself, "What if I actually do not know what I am doing?" –Gray I often like to run things by my preceptor even if they say I can be autonomous. For example, I would say, "Hey, I am going to do a massage and then these exercises." Then we discuss what I did and my prescription, then they [preceptor] may suggest some different treatments. –Green I can always call on my professors and preceptors and say, "Hey, I am confused by this." So, establishing those relationships and still needing that mentorship role that I can fall back on when I need to talk. –Brown

**Rule Following.** The first stage in developing self-authorship is following external formulas, otherwise known as rule following without question.<sup>8</sup> Participants described multiple formulas or external sources of rules that they use, including textbooks, a rigid exam process, and authority figures. Generally, participants described the use of textbooks or course materials as the first source of evidence they use when making decisions clinically. However, some participants described the use of a structured approach to follow for clinical exams. When describing authority as the source of evidence, participants described when they relied on their preceptor to make decisions or dictate care. Interestingly, some participants shared when rule following would not be a viable option for their current context. In Self-Authorship Theory, the moment when students describe frustration with following rules is called the crossroads, where they encounter an experience that does not align with their current formulas. The student is forced to then rely on the ability to adapt and solve problems. Although following external formulas is necessary to learn new skills and build confidence, students must move toward questioning to self-author their approach to patient care.

**Questioning Authority.** The ability to see knowledge as contextual and not fixed or finite grows from students' abilities to question authority and current knowledge. Participants typically described the questioning of authority either directly or indirectly. Direct questioning of authority referred to instances where students verbalized their questioning to their preceptors. Indirect questioning referred to when participants internally questioned preceptor decisions but did not express the questioning to their preceptor. Many participants also described that when preceptors curated an environment that allowed them to ask questions openly, students felt more comfortable asking questions directly to their preceptor about decision-making. Some participants had difficulty describing instances when they disagreed with a preceptor directly. When participants described instances of indirect questioning of authority, it usually resulted from disagreement in clinical decisions.

**Questioning Knowledge.** The ability to question the knowledge that one possesses is an ideal pivot point to move from seeing knowledge as a fixed item to be possessed to seeing knowledge as contextual and fluid. Participants typically were

able to share how they have questioned previous knowledge and applied their new perspectives to care, ultimately building more confidence in patient care.

**Debriefing.** Debriefing has been described as a powerful clinical teaching tool to help students learn from experiences, which may grow or maintain their confidence in clinical practice. Participants in our study typically debriefed with their preceptor to grow confidence. Similarly, the ability to use debriefing to identify when participants could improve performance was described.

**Creating Identity.** The final domain we identified was how participants created an identity, which encompassed both a personal and professional identity (Table 11). This domain included acquired attributes that students described learning through their socialization and education in athletic training. The domain also included how the students described their internal attributes that have led to the development or reinforcement of their professional identity. Students described how they learned to develop their identities through social learning and clinical teaching (instructional strategies).

**Acquired Attributes.** The first acquired attribute that students described was being holistic in their patient care. Participants in our study recognized that an important identity component for being an athletic trainer is considering the whole patient in their decision-making rather than focusing on the injury alone. All but 1 participant in the study discussed the importance of being holistic in their patient care. Further, some participants shared their perspective on helping patients beyond sport-related activities and considering the long-term impact of injury on the health-related quality of life of their patients. Participants typically described being collaborative as part of their professional identity. Participants described collaborating with other health care providers, preceptors, coaches, parents, and the patient themselves. An important aspect of developing a professional identity is the ability to identify and describe the roles, responsibilities, and characteristics of the profession that they are entering. The participants described recognizing themselves within the profession of athletic training, which also meant they were able to see some of the struggles of the profession. There were instances where participants identified aspects of the athletic training profession that pose challenges. Burnout and compassion fatigue

**Table 11. Creating Identity Quotes**

Domain Category	Quote
Creating Identity	
Acquired Attributes–Holistic	I want them [patients] to feel cared about holistically. I want them to know that I am committed to making them better. I want them to buy in. Sometimes it is hard because I care more about them than just athletes. –Orange Seeing the lack of care in certain communities, I want to make sure that the type of athletic trainer I am is considering the needs of each individual based on their circumstances, not just as an athlete but as a person. So, making sure they have access, but also considering family and all the social-cultural aspects that go into the athlete being human not just a sport perspective. –Brown
Acquired Attributes–Collaborative	We did end up referring them [patient] to make sure that nothing was fractured . . . So we just decided to refer and see. I learned that not every athlete is going to like what is going on. But sometimes they [patient] feel like they need to see an orthopedic doctor and make sure it is not something serious. –Pink I would like to be a clinician who is open and responsive to criticism from others. –Teal I learned a lot about having that conversation with the athlete and what they wanted versus the pros and cons of going back into the game rather than the whole season. –Red
Professional Recognition	A lot of times I questioned if I can make it in athletic training. I was thinking I was not worthy enough. Not good enough. And just like someone saying something or treating me like I am less than what I am that has made me question if I am made out for this. But I am very committed. But the hours do not scare me. –Orange Athletic trainers also help with education and making sure our patients or potential patients, or even the community and public is able to live a healthier lifestyle. –Green The biggest things for athletic training is preventative medicine. So being there to make sure athletes and patients are being safe in whatever activity they are doing. Also, emergency medicine. So, if something were to happen, like an emergency, being prepared to handle those situations. Rehabilitation after injury. And then also education for patients on their injuries or preventative measures such as nutrition and correct ways to build strength and conditioning aspect of sport. –Red
Compassion, Fatigue, and Burnout	With the transition to the Master's program, financially I am not seeing the reflection in salaries postgraduation. The only time I have truly questioned pursuing athletic training was when I assumed all the debt as a Master's student and it's going to take me longer to pay that off. –Brown I know compassion fatigue is a real thing. And I really do not want it to stop me from doing my job. –Orange After shadowing a Division I athletic trainer and seeing how many hours they work and how little they get paid was a concern. Especially through like my internships and my clinical rotations, just the rate of burnout is probably my number one concern. Going through graduate school, the amount of burnout I see is a lot. –Blue
Internal Attributes–Curiosity	I want to continuously be learning and continuing my education. I love to work with performing arts, so maybe specializing in certain things like that. I know there are certifications that I can get about the processes of like backstage and theater stuff. –Green I have always been a very curious person and I love to teach. I tutored in my athletic training program and in the exercise physiology class. I have always loved the education aspect. –Orange At clinical rotations I try hard to learn as much as I can so I can be the best athletic trainer I can be. I have always been a hard worker and take pride in my work. So that is what I strive for, I don't care what grade I get on things, I care about doing the best I can and always trying to do better. I try to rely on my preceptor less. –Silver You don't have to have concrete answers all the time. You do not have to know what the diagnosis is, but we do have to make sure we are still delivering great care. We have to be lifelong learners and continue to ask questions, continue to think outside the box. –Brown
Internal Attributes–Humanistic	We only had 2 or 3 practitioners in the clinic sometimes. So, I was trying to make sure everybody is respected and their time is respected. So not just telling patients to go stretch their hamstrings, but make sure they know why they are going to stretch their hamstrings. –Blue

**Table 11. Continued**

Domain Category	Quote
Instructional Strategies—Social Learning Theory	I get to help people. I get to see the patients when they are healthy and work with them when they are injured and hopefully get to see them back out on the field or stage. And hopefully make a difference. —Green
	The athletic trainer I want to become is someone who will fight for what is right for the patient. Not necessarily what is right for the team aspect at that point. I care a lot about the patient's goals and aspirations for their athletics, but I also care about the longevity of the athlete. —Brown
	We had a student aid program with the sports medicine department in high school. Then I got a job working with the women's volleyball team for my undergraduate school, and I absolutely fell in love with sports medicine and being on the court to do more preventative medicine. —Red
Internal Attributes—Clinical Teaching	I was working with an athletic trainer for my rehabilitation, and I trusted them and their knowledge. I started rowing as one of my rehabilitation sports for my ACL surgery and that is how I got a college opportunity. So, I went to college at [institution] and I worked with a lot of athletic trainers. There had a lot of internship and shadowing opportunities, so I started working with them. —Maroon
	I got a lot of hands on experience and I really like it because I got a certification in cupping and Graston. —Violet
	My program requires us to do skills check off with them [preceptor]. And so, once I realized I can teach someone else these skills that means I have to be pretty competent in them if I am able to help others. —Brown

have impacted all health care, specifically because of the coronavirus disease 2019 pandemic. However, burnout has challenged athletic training for decades, and participants were able to recognize that combatting burnout and compassion fatigue would be important to their identity.

**Internal Attributes.** All but 1 participant ( $n = 11$ ) in the study described or demonstrated curiosity as an internal attribute consistent among athletic trainers. When considering the progression of self-authorship from external formulas to self-authoring, curiosity is an important aspect to move toward self-authorship. Participants also described curiosity as necessary to becoming a life-long learner and to avoid complacency. All the participants described being humanistic in their approach to patient care and that being an important part of their professional identity. Participants similarly described that putting patients' decisions and feedback as a primary driver for decision-making was critically important to their philosophies.

**Instructional Strategies.** Generally, participants described how they were introduced to the profession that was consistent with social learning theory. The social learning theory suggests that behaviors can be learned through observation and interaction with others.<sup>16</sup> All the participants in this study were introduced to the profession of athletic training through the observation or interaction with other athletic trainers. Participants also described interactions with athletic trainers when they were patients to learn about the athletic training profession. Participants described how their preceptors' active engagement in clinical teaching helped them to create or reinforce their identities. Other participants described the use of probing questions as a method their preceptor would use as a form of clinical teaching.

## DISCUSSION

Overall, students perceive that they are self-authoring as evidenced by the scores on the SAQV2; however, the lived

experiences of students demonstrate a continued, heavy reliance on formula following for knowledge and decision-making. This is the first study that has explored the construct of self-authorship in relation to professional identity formation in athletic training. Previous research in athletic training has demonstrated that students rely predominantly on external guidance for meaning-making with little to no behaviors consistent with self-authoring.<sup>9</sup> Similarly, participants in our study expressed a reliance on external guidance, where all students expressed rule following as the primary means of developing their confidence as an athletic trainer. This can negatively impact a student's professional identity formation, where they are not internalizing values, norms, and beliefs for themselves. Further, the participants in our study described less questioning of authority figures such as preceptors or athletic training faculty. By relying on external guidance and the inability to question external guidance, students see knowledge as fixed, which can hinder students' future abilities to manage complex or challenging situations where clear guidance is not sufficient. When students can move further along the self-authorship continuum, they can start to see the importance of contextual knowledge in situations and better navigate complexities they will face as future athletic trainers.<sup>17</sup>

Our study's SAQV2 data demonstrate that younger students perceive themselves to be self-authoring more consistently than older students. However, the literature on self-authorship suggests that age may play a role in the development of self-authorship, where older individuals are more likely to demonstrate self-authorship.<sup>18</sup> It is important for athletic training educators to consider age of their learners as it relates to self-authorship and professional identity. Although graduating MAT students are likely to be older than athletic training students historically due to the transition to the entry-level master's requirement, students still have a higher perception of their self-authoring considering their heavy reliance on external guidance in the interview. Athletic training programs should consider more intentional learning opportunities to promote self-authorship and professional identity in students.



From both previous literature and responses from participants in our study, it is evident that clinical education serves as a major avenue for the development of meaning-making and socialization into the profession.<sup>5,9,10,15,19</sup> However, there is opportunity to integrate a more intentional development of meaning-making and students' professional identities through a clinical education curriculum rooted in self-authorship. Through active observation, autonomy, feedback, and debriefing, athletic training programs can build on evidence-based approaches for clinical instruction while helping students move closer to an internal meaning-making process.

## Observation

One developmental experience that has demonstrated effectiveness in promoting self-authorship and a professional identity in medical education is observation.<sup>20,21</sup> By observing positive behaviors of preceptors and mentors, MAT students can begin to develop and reinforce attributes that will build into a strong professional identity. Specifically, observation of teaching faculty related to patience, empathy, respect, and teamwork led medical interns to model their behaviors in a similar pattern.<sup>20</sup> In our study, students described internal and acquired attributes of themselves that influenced their identity creation as an athletic trainer. Positive attributes, such as being humanistic, collaborative, and curious, can be modeled for students early on by preceptors and athletic training faculty to start building a positive professional identity. When students have positive modeling of professional behaviors, they can more easily see how to integrate these behaviors into their professional identity. As athletic training programs are considering clinical sites and preceptor selection, the professional identity and behaviors of the preceptor should also be factored in as these are what students observe.

Yet, passive observation alone is not sufficient to develop meaning-making as this reinforces students to rely on external guidance of observed behaviors from the preceptors. Athletic training programs should be training preceptors to integrate more active observation where students are asked to reflect and challenged on their reflections, allowing students to move past external guidance toward internal meaning-making of their own. For instance, if students are never challenged to express how their role in the health care system aides in their professional identity, and preceptors are not integrating students into these experiences at their clinical site, students will not be able to internalize their role and limit their professional identity development. Rather, preceptors should allow students to engage in these conversations with other providers and then use debriefing as a means to reinforce the positive aspects of identity formation as a collaborative provider.

Early on in a student's development of their professional identity and meaning-making exploration, they are more likely to mold their beliefs and identity to fit their surroundings. Therefore, the modeling of negative behaviors or characteristics by preceptors and mentors can equally influence students' professional identity formation.<sup>20,22</sup> In our study, all but 2 participants described some level of burnout or compassion fatigue as an acquired attribute. If preceptors are negatively modeling how to cope with burnout, students can internalize these behaviors and limit persistence in the profession. In previous medical literature, when learners are exposed to negative traits, such as unprofessional behaviors or mistreatment of others, students were able to acknowledge how they would avoid integrating such traits into their development.<sup>20</sup> However, this requires space for feedback, self-reflection, and support to reject negative behaviors and not

internalize them. Preceptor deselection should also be considered when identifying clinical experiences for students if preceptors are not modeling positive professional behaviors that would lead to a strong professional identity.

## Progressively Autonomous Experiences

All the participants indicated that when preceptors gave them autonomy in either patient-care or procedural tasks, these experiences helped develop trust in their knowledge, skills, and abilities as future athletic trainers. Similarly, previous research has shown that when medical students are given the opportunity to be involved in the management of patient cases, such as taking a history or participating in a decision-making process with a physician, it increased their sense of usefulness, confidence, hope, and interest. Preceptors who provide students with more autonomy in their clinical education have the opportunity to greatly impact students meaning-making of patient care knowledge and shape their identity as a future athletic trainer. Granted, students should be given a level of autonomy that is appropriate for their current knowledge and skills. Yet, this level of autonomy should not be stagnant but progressive in nature, and programs should take an intentional approach to helping preceptors implement these progressively autonomous experiences.<sup>23</sup>

Through understanding procedural skills such as sanitation and competition set up, students should be given as many opportunities to engage in direct patient care as possible. When students are engaged in direct patient care in authentic clinical work environments, they are introduced to new and often stressing environments.<sup>20</sup> These new and stressing situations allow students to confront their own abilities, interests, and need for growth. When students are able to experience these challenging moments with the supervision of a preceptor, they are introduced to what is known as the crossroads moment, whereby students are challenged to move from solely following external guidance to more internal foundations.<sup>24</sup> When students experience these crossroads moments as they have been given progressively autonomous experiences with real patients, they are able to move through crossroads moments and internalize their own meaning-making as they are required to manage patients. Furthermore, students can see themselves as capable of working as a future clinician, thereby strengthening their professional identity.

## Feedback and Debriefing

Once students are given progressively autonomous experiences, students should be given feedback, and debriefing should occur. Participants in our study found that the use of feedback developed trust with their preceptor, and debriefing reinforced their confidence as a future athletic trainer. Feedback, although it can take many forms, is the route through which an instructor provides a response to a student's performance in learning. Traditionally, in clinical education within athletic training, the feedback is corrective in nature on where students can improve.<sup>19</sup> Although there may be times where instant feedback is required to avoid harm to a patient, preceptors should allow students to engage in the patient encounter fully before providing feedback. No participants in our study described a preceptor intervening to avoid a negative clinical outcome for the patient, which may be related to participants not wanting to share a negative image of themselves. Importantly, as preceptors are delivering feedback, it is imperative that the feedback be candid and empowering so that the student can see the usefulness and applicability of the



feedback to improve performance in the future. Again, simulated experiences are a great way to initiate the first 2 steps in this process in providing autonomy and feedback without the possibility of danger to a real patient.

Debriefing was described by all but 2 of the participants in the interview as a means for developing confidence as a provider. After another bout of engagement by the student with the adjusted level of autonomy, a more formal debriefing should occur. Although some smaller debriefing during the feedback intervention may occur, preceptors should adopt the practice of introducing more formalized debriefings to allow students the opportunity to reflect on and discuss their performance.<sup>25</sup> A recent review demonstrated nurses' feelings on debriefing as they entered the profession and found that those who did not receive formal debriefing as a part of their transition felt that it would have helped them in decision-making and entry to the profession.<sup>26</sup> Further, this review found that nurses who did experience debriefings felt that it strengthened their learning and provided a positive environment for learning. The simplest form of debriefing is the "Diamond Debriefing" method, which allows learners to make connections between their performance and their areas for improvement. Preceptors can use Diamond Debriefing to provide structure to their debriefing methods and maximize the time and impact that debriefing can have. The last step of the Diamond Debriefing model asks the students to identify their own action steps to establish a road map ahead.<sup>25</sup> These action steps should be developed in consultation with the preceptor and include increasing degrees of autonomy.

Finally, after the debriefing session, preceptors should outline and identify specific contexts where the students can take on more independence and autonomy with patient interactions or procedural skills. This ongoing process would lead back to the initial stage and allow for continual collaboration and growth of the students as they progress throughout their clinical experience. This section has primarily focused on patient-care autonomy as this experience is more difficult to manage, with the implementation of progressively autonomous opportunities for students. However, the process for providing increasingly independent performance of procedural skills should follow a similar approach.

To provide a comprehensive clinical example, as students demonstrate competence with procedural skills, preceptors would best serve students by allowing the student to begin developing an initial care plan for a patient (eg, intervention selection, modality settings, and exercise prescription) without direct input from the preceptor. The preceptor should then review the decisions from the student and question the student on their decision-making. This instance could provide an opportunity for feedback and debriefing where the student and preceptor have a respectful and honest dialogue about disagreements and clinical philosophy, thereby demonstrating the questioning of authority in a positive manner to strengthen the student's professional identity.

### Integration of Self-Authorship to Didactic Education

Previous literature has shown that students primarily value clinical education and devalue education in the didactic setting.<sup>10</sup> Self-authorship should be integrated into didactic learning to further enhance the professional identity of students and help provide experiences that more closely reflect clinical education. First, integration of the learning partnerships model presents an opportunity for educators and learners to engage in dialogue that is both supportive and challenging.<sup>27</sup> Learning partnerships place students in collaborative environments where they are

required to articulate their own perspectives and challenge their own assumptions. Requiring students to articulate their decision-making and challenge their beliefs can foster more self-authorship and strengthen their professional identity.

Athletic training educators can use a more interactive approach to case-based learning by shifting case study assignments to grand round presentations and allowing students to develop a presentation on how they would manage a simulated case study or presenting an actual case they have helped manage with a preceptor in clinical education. Having students present their decision-making, intervention selection, and management of cases forces them to internalize their decision-making, moving them closer to authoring. Alternatively, having students question their peers and themselves allows for more crossroads moments where they are confronted with understanding their own meaning-making. Finally, the regular integration of reflective practice for students through journaling to help reflect on their beliefs, decision-making, values, and experiences can help them strengthen their professional identity. Specifically, these reflective practices should be grounded in prompts and experiences that draw on aspects of professional identity, such as the professional norms, values, and beliefs of that athletic training profession.

### Limitations and Future Directions

This study was not without limitations. First, although the SAQV2 provides valuable information on perceived self-authorship of participants, the assessment is self-perception, which can lead to inflated scores. Additionally, the Self-Authorship Theory is a continuum where individuals are constantly shifting, and a cross-sectional assessment may not fully capture the development of self-authorship. Second, the qualitative interview allowed participants to expand on their survey responses and provide rich data in experiences. However, this focused on the students' perceptions and recall of lived experiences. Future research should explore observed behaviors, decision-making, and meaning-making for MAT students. Additional research should investigate the influence of clinical education curriculum grounded in Self-Authorship Theory on the development of MAT students. Finally, future research should explore the self-authorship and professional identity of practicing athletic trainers to compare to those transitioning to the profession.

### CONCLUSIONS

Athletic training students perceive themselves as possessing high levels of self-authorship, where those who are younger perceive higher levels of self-authorship than older students. However, through qualitative analysis, students described a heavy reliance on external guidance. Clinical teaching methods, including autonomy, feedback, and debriefing, were identified as means to increase trust and grow student confidence, further developing their professional identity. Athletic training programs and preceptors should consider the use of self-authorship to develop and refine a strong professional identity in athletic training students.

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