

Oregon Health & Science University
School of Medicine

Scholarly Projects Final Report

Title *(Must match poster title; include key words in the title to improve electronic search capabilities.)*

Self-coaching training: The impact on medical student personal and professional development

Student Investigator's Name

Laura Chan

Date of Submission *(mm/dd/yyyy)*

02/25/2026

Graduation Year

2026

Project Course *(Indicate whether the project was conducted in the Scholarly Projects Curriculum; Physician Scientist Experience; Combined Degree Program [MD/MPH, MD/PhD]; or other course.)*

Scholarly Projects Curriculum

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Mentor's Name

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Concentration Lead's Name

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Project/Research Question

Among first and second year medical students, how does self-coaching training impact personal and professional development?

Type of Project *(Best description of your project; e.g., research study, quality improvement project, engineering project, etc.)*

Research study

Key words *(4-10 words describing key aspects of your project)*

Self-coaching, medical student education, professional identity formation, self-efficacy, self-directed learning

Meeting Presentations

If your project was presented at a meeting besides the OHSU Capstone, please provide the meeting(s) name, location, date, and presentation format below (poster vs. podium presentation or other).

UC Davis COMPADRE Conference, Sacramento, CA, August 15-16, podium presentation.

Publications *(Abstract, article, other)*

If your project was published, please provide reference(s) below in JAMA style.

N/A

Submission to Archive

Final reports will be archived in a central library to benefit other students and colleagues. Describe any restrictions below (e.g., hold until publication of article on a specific date).

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Next Steps

What are possible next steps that would build upon the results of this project? Could any data or tools resulting from the project have the potential to be used to answer new research questions by future medical students?

Next steps include embedding short, recurring reflective exercises into existing small groups, advising, or wellness sessions to boost reach and engagement, and exploring the barriers as to why students do not sign up for offerings outside of the required curriculum and how to best deliver developmental activities.

Please follow the link below and complete the archival process for your Project in addition to submitting your final report.

https://ohsu.ca1.qualtrics.com/jfe/form/SV_3ls2z8V0goKiHZP

Student's Signature/Date *(Electronic signatures on this form are acceptable.)*

This report describes work that I conducted in the Scholarly Projects Curriculum or alternative academic program at the OHSU School of Medicine. By typing my signature below, I attest to its authenticity and originality and agree to submit it to the Archive.

X

Student's full name

Mentor's Approval *(Signature/date)*

X

Mentor Name

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Report: Information in the report should be consistent with the poster, but could include additional material. Insert text in the following sections targeting 1500-3000 words overall; include key figures and tables. Use Calibri 11-point font, single spaced and 1-inch margin; follow JAMA style conventions as detailed in the full instructions.

Introduction (≥250 words)

Undergraduate medical education (UME) has evolved to a competency-based, outcome and learner-driven curriculum to better prepare students to become holistic physicians entering residency. In 2014, Oregon Health & Sciences University (OHSU) implemented a competency-based curriculum, aligning with the changing structure of UME programs nationwide. Having received the American Medical Association Accelerating Change in Medical Education grant, the new curriculum moved from a teacher-centered, time-based, large group lecture model, to one that was learner-centered, self-guided, flipped classroom¹. Nearly a decade since this change, additional evidence has focused on how OHSU's and other competency-based curricula align well with the concepts of adult learning. For example, effective UME curricula support adult learners by fostering environments that allow students to draw connections from their life experiences for the basis of learning activities, encouraging and allowing for learning that is self-directed and independent, and providing opportunities that allow for problem-based learning².

While competency-based curricula align with adult learning, many students, unaccustomed to this new way of learning, may experience burnout and maladaptive coping practices that continue throughout residency and their early careers^{3,4}. Recent evidence suggests that coaching programs in UME may encourage the development of self-monitoring, personal accountability, and a growth mindset that help set the foundation for healthy, long-lasting careers as physicians⁵. Our thought was to focus on self-coaching, defined as empowering oneself to self-assess, set personal goals, and continually refine one's skills through self-evaluation and independent learning⁶. The idea that self-coaching could be a structured way to help students build these skills early in their careers led to the development of our research question: how does self-coaching training impact first and second year medical students' personal and professional development?

Methods (≥250 words)

Initial planning of the coaching workshops was conducted by a small group from Outreach, Advising, Support, and Identity formation for Students (OASIS) at OHSU, including when to conduct the workshops to ensure maximal student participation. Our pilot was a single arm intervention study that evaluated a program of four self-coaching workshops among first and second year medical students at OHSU. Survey data was collected from participants at baseline and post-intervention (at the completion of the workshop series). The Faculty Lead for the workshops serves as an Associate Professor in the Department of Psychiatry at OHSU as well as an OASIS Life and Wellness Advisor. The Student Investigator contributed as part of the team to the development and assessment of the workshops and gathered post-workshop feedback for future improvements.

In terms of study participants, the study population included first and second year OHSU medical students who self-selected to participate in the self-coaching workshops. Each medical school class has approximately 150 students, and we anticipate the participation rate to be around 15-20% among first year medical students and around 3% for second year medical students. Recruitment entailed various email announcements sent to all first and second year medical students. Recruitment barriers were addressed by

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encouraging first and second year student government leaders to participate and motivate fellow classmate participation, as well as continued email announcements to first and second year students from OASIS. Workshop advertising included potential personal and professional benefits as well as student participants being able to include their engagement and completion of the self-coaching workshop series on their CVs and residency applications. We optimized participation by asking that participants only sign up for the self-coaching workshops if they were able to and planned to complete all four sessions. Pre and post-tests were sent via email to participants at the beginning of the first workshop and at completion of the fourth workshop. Self-coaching workshops were two hours long and conducted within a three month period.

Regarding data measurement and analysis, the intervention included the four self-coaching workshops, a nominal variable that was defined and measured by participation in all four workshops. Covariates were gathered to include participation in less than the four workshops. We included this in our data analysis as not completing all four workshops may influence the effect on personal and professional development. Another covariate we included was prior participation in a self-coaching or traditional coaching program. This was included as prior training in a coaching program may falsely increase or decrease the magnitude of effect of the self-coaching workshops⁷. Dependent variables included medical students' personal and professional development. Personal development included ordinal data evaluating self-efficacy and resilience. Professional development included ordinal data evaluating levels of self-directed learning behaviors.

Data was collected through Qualtrics by administering a pre-test prior to the start of the first self-coaching workshop, and a post-test at the conclusion of the last self-coaching workshop. The pre- and post-tests included items from three scales measuring personal and professional development.

Personal development was defined and measured by the General Self-Efficacy Scale (GSE), a 10-item scale that measures self-beliefs used to cope with various demands in life. The 10 items in the GSE are on a five-point ordinal scale ranging from 1. "I am not at all confident" to 5. "I am very confident"⁸. Personal identity was also be measured using the Connor-Davidson Resilience Scale (CD-RISC 10) which comprises 10 items, each on a five-point ordinal scale with higher scores reflecting greater resilience⁹. Professional identity was measured using the Self-Rated Scale of Self-Directed Learning (SRSSDL), which measures levels of self-directed learning behaviors including awareness, learning strategies, learning activities, evaluation, and interpersonal skills among 65 questions on a five-point ordinal scale¹⁰. We used an Intention-to-treat (ITT) analysis to account for missing and incomplete data. We also used a Paired T-Test when analyzing data from the pre and post-tests.

Results (*≥500 words*)

A total of four first-year medical students enrolled in pilot. The pilot study consisted of four sequential, two hour in-person self-coaching workshops about one month apart, each with a brief didactic, then a guided reflection exercise, and homework consisting of creating a personal development plan with reflective questions and practices to target an increase in protective factors. All four students completed the four self-coaching workshops and the baseline pre-test, the post-test at the completion of the four workshops, as well as qualitative feedback during each workshop. The baseline pre-test and post-test was administered via Qualtrics and consisted of three validated scales. These included the General Self-Efficacy Scale (GSE), a 10-item psychological assessment scale developed by Schwarzer and Jerusalem in 1995, that measures self-beliefs used to cope with various demands in life. The 10 items in the GSE are on a five-point ordinal scale ranging from 1. "I am not at all confident" to 5. "I am very confident"⁸. The Connor-Davidson Resilience Scale (CD-RISC 10), a shortened, highly validated, and widely used version (created in 2007) of the original 25-item scale developed by Connor and Davidson in 2003, measuring an individual's ability to manage

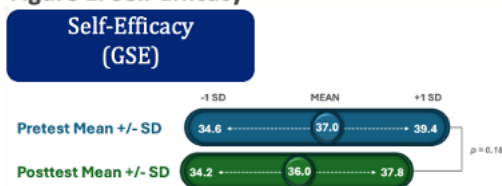
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stress and adversity⁹. This scale comprises 10 items, each on a five-point ordinal scale with higher scores reflecting greater resilience⁹. The Self-Rating Scale for Self-Directed Learning (SRSSDL), developed by Swapna Naskar Williamson in 2007 designed to measure self-directed learning skills in students, particularly in nursing and healthcare education, measures levels of self-directed learning behaviors including awareness, learning strategies, learning activities, evaluation, and interpersonal skills among 65 questions on a five-point ordinal scale¹⁰.

Using an ITT analysis and Paired T-Test to analyze data from pre and post-tests. SPSS Statistics was utilized to perform data analysis. A statistician was consulted to ensure correct data analysis. Self-Efficacy, measured using the General Self-Efficacy Scale, showed a negative change with a pre-test mean of 37 +/- 2.4 and post-test mean of 36 +/- 1.8 (p=0.18) (Figure 1). Resilience, measured using the Connor-Davidson Resilience Scale (CD-RISC 10), was unchanged with a pre (43.5 +/- 5.5 and post-test (43.5 +/- 3.7) (p=1) (Figure 2). Professional identity was measured using the Self-Rated Scale of Self-Directed Learning (SRSSDL), which measures levels of self-directed learning behaviors across five domains including awareness, learning strategies, learning activities, evaluation, and interpersonal skills among 65 questions on a five-point ordinal scale. Results of the components of this scale included: Awareness showing a negative change pre (23 +/- 3.6) and post (22.8 +/- 4.6) (p=0.713); Learning Strategies showing a negative change pre (32.8 +/- 6.2) and post (29 +/- 3.6) (p=0.018); Learning Activities showing a negative change pre (33.5 +/- 4.2) and post (29.8 +/- 5.6) (p=.109); Evaluation showing a positive change pre (24.5 +/- 5.1) and post (26 +/- 5.5) (p=.141); and Interpersonal Skills showing a positive change pre (24.8 +/- 5.5) and post (27.3 +/- 8) (p=.357) (Figure 3). Although only Learning Strategies reached statistical significance, albeit a negative change, a positive change pre/post-test was seen for evaluation and interpersonal skills. In addition to Learning Strategies, Awareness and Learning activities showed negative changes pre/post-test.

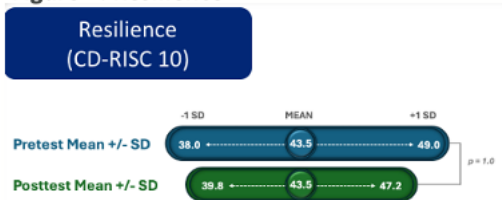
Qualitative data included regular feedback from study participants during each self-coaching workshop. Some excerpts from students' comments included: "...the workshops have given me the tools to be better equipped to handle the stresses of medical school and in my personal life", "Great application to daily life and valuable. Needs to be longer elective. Safe space for discussion and open to suggestion", "Great introduction to self coaching with extremely valuable tools to incorporate. I feel more comfortable exploring this topic and am interested in doing more workshops."

Figure 1. Self-Efficacy



No statistically significant improvement in pre and post-test mean scores.

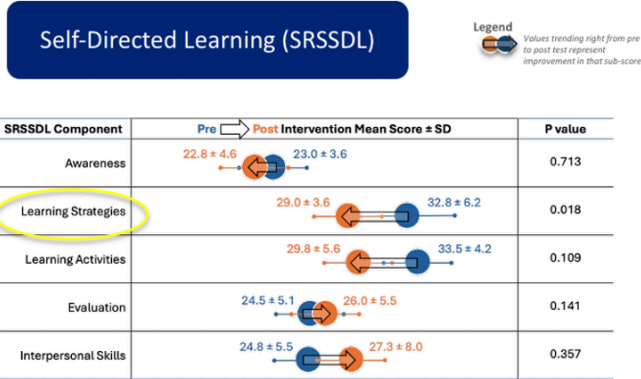
Figure 2. Resilience



No statistically significant improvement in pre and post-test mean scores.

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Figure 3. Self-Directed Learning



- Significant pre/post-test change in Learning Strategies
- Trends toward improvement in Learning Activities and Evaluation

Discussion (≥ 500 words)

One of the primary goals of this pilot study was to help us begin to evaluate medical student self-coaching education. Promising improvements were seen in two components in self-directed learning: evaluation and interpersonal skills. The only statistically significant improvement was in learning strategies - how students approach and structure their studying. Decreases pre/post-test were seen in the other three components of self-directed learning (awareness, learning strategies, learning activities). We did not see measurable change in self-efficacy or resilience; this was likely due to the short time frame and small numbers, not necessarily lack of effect.

Several factors may help explain these results. First, workshops were structured to emphasize well-being and mindfulness, and the positive increases in evaluation and interpersonal skills align with these themes that were emphasized throughout all four self-coaching workshops. Second, the negative results may actually suggest greater self-awareness, explained by the Dunning-Kruger Effect. The Dunning-Kruger Effect is a well-documented cognitive bias where individuals may overestimate their knowledge and ability in a specific area, often because a lack of self-awareness prevents them from accurately assessing their skills¹¹. This cognitive bias becomes evident especially in self-reflective practices, where in early learning students may overestimate their skills and recalibrate after introspection. We believe this explains the negative changes seen in several measures. Third, the unchanged pre-post test scores may be due to the individual qualities of the students who self-selected into the self-coaching curriculum. These students may have higher baseline skills in self-efficacy and resilience, resulting in limited change post-test.

Notably, data reliability was limited due to small enrollment data (n=4). Interestingly, similar non-mandated extracurricular activities have historically seen low enrollment among medical students at OHSU. A broader question exists as to the reason why students do not participate in such activities and the need for identification of barriers to enrollment such as time constraints, students' priorities, lack of perceived relevance, and over-saturation of extracurricular offerings. Subsequent exploration of this problem will inform medical school leadership how to best deliver offerings to medical students.

Regarding limitations, while every effort to ensure our survey tool was representative of personal and professional development skills taught in the self-coaching workshops, due to time constraints it is possible that the survey did not accurately reflect the themes in the workshops. Additionally, small enrollment for

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the self-coaching workshops limited generalizability of our data. One of the struggles during this pilot was determining the most opportune time to host the self-coaching workshops. Due to availability and scheduling, many of the workshops were held the week after final exams, where students who passed their exams can participate in enrichment activities, and students who need to remediate their exams have time to study and re-take them. We aimed to offer the workshops at a time where the most students were available but acknowledge that this was not always possible.

Our study provides ample questions for additional research. Medical students have become more diverse in their prior life experiences, and OHSU is known to value and prioritize rich life experiences and the journey to medical school when considering School of Medicine admissions. Given this heterogeneity of students, it would be prudent to investigate what external factors may influence medical student perception of self-efficacy, resilience, and self-directed learning factors. Additionally, the post-test was provided to participants at the culmination of the fourth self-coaching workshop, approximately three months after the start of the first workshop. Future studies may consider repeating post-test at deliberate time intervals (post-Step1, after completion of core rotations, at graduation) to evaluate long-term effects of self-coaching. Lastly, perhaps the greatest question stemming from this pilot is why students do not sign-up for offerings outside of the required curriculum, and what would motivate them to do so. Consider further investigation in to why medical students do not voluntarily enroll in extracurricular offerings with the goal of how to best deliver developmental activities.

Conclusions (2-3 summary sentences)

Although limited by sample size, this pilot demonstrates the feasibility of integrating self-coaching into medical student support programs. Trends suggest improvement in key areas such as interpersonal skills and self-evaluation. Future iterations will aim to assess long term impact of self-coaching and explore barriers to participation to ensure broader reach and impact.

References (JAMA style format)

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