



Development of Self-Efficacy in Clinical Communication Skills in a Student-Run Free Clinic

A Mixed Methods Analysis

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Abstract

Background: Student Run Free Clinics (SRFCs) provide early opportunities for health professions students to engage in clinical learning and develop professional skills. They also provide a supportive learning space for students to develop self-efficacy (SE). However, little is known regarding whether SRFCs provide opportunities for students to develop SE in clinical communication skills.

Methods: A survey containing 24 items about SE in clinical communication on a 10-point attitude scale and 4 open-ended items was distributed to all students at a health professions university. A Mann-Whitney test was used to compare quantitative responses of participants who volunteered in an SRFC and those who did not. A thematic qualitative analysis was conducted on the open-ended responses. Finally, the qualitative and quantitative analysis was considered together to better understand the development of SE in an SRFC.

Results: A total of 27 students across 6 professional programs participated in the survey. There was no significant difference in SE of communication skills between SRFC student volunteers and non-SRFC students ($U=77.5$, $p=0.71$). In the qualitative analysis, SRFC student volunteers seemed to differentiate the SRFC from other clinical experiences while non-SRFC students anticipated that SRFC service could lead to more clinical practice in a safe learning environment.

Conclusions: Our results demonstrate that SE in clinical communication skills of SRFC student volunteers may not differ from non-SRFC students. However, the perceived benefits from participating and learning in a SRFC was found to have a positive impact. SRFCs may provide a special and safe space for student learning while also providing opportunities to practice clinical communication. Additionally, explicit focus on developing clinical communication skills in SRFCs may further help students with developing SE.

Introduction

Student Run Free Clinics (SRFCs)

Student Run Free Clinics (SRFCs) are an integral part to providing health care in communities and opportunities for student learning. In these clinics, students are responsible for administrative and clinical tasks while clinicians donate services to see patients and teach students multiple

aspects of clinical work. A number of educational benefits have been observed in such clinics, including early exposure to clinical,^{1,2} interprofessional (IP),^{3,4} and leadership skills.⁵

Clinical Experience and the Development of Self-Efficacy

Previous research has investigated the application of preclinical knowledge to real-world

situations to understand how self-efficacy (SE) increases after simulated learning experiences, including those that utilize standardized patients.^{6,7} While simulations have led to an increase in student SE, direct clinical experiences may also allow students to develop SE through hands-on experiences in real world situations. Previous research has also found that IP clinical experiences increase students' perceived SE in IP teamwork⁸ and aiding in leadership and confidence development for healthcare students.⁹⁻¹¹ Houghton et al.⁹ found that students who had previous clinical experience in their desired field had stronger confidence levels than those who did not. Semi-structured interviews also have been used to understand how students learn through SRFCs and their SRFC experiences.¹² Students learn skills of responsibility, authenticity, and collaboration through SRFCs.¹³ SRFCs are important not only for community-based healthcare treatment, but also student learning.

Clinical communication skills are vital in a clinic. While there is no singular definition for "clinical communication," several guides and training programs have been proposed. The intent of clinical communication skills are to enhance health outcomes and have become a focus of researchers and health systems alike.^{14,15} Objective measures of communication have been used previously,¹⁶ and self-reported SE toward clinical communication has been a well-established methodology to assess the learning of these skills.^{17,18} Axboe et al.¹⁴ proposed an instrument that is intended to measure SE of clinical communication scales, the Self-Efficacy Questionnaire (SE-12).

SRFCs and the Development of Self-Efficacy

Housley et al.¹⁸ found that students working in IP teams grew confidence in their abilities during patient communication. SRFC clinical and executive board involvement has been associated with the development of confidence in specific skills.^{5,20} Involvement in pre-clinical courses associated with a SRFC has also demonstrated an increase in student SE when working with underserved populations.²¹ However, Tran et al.²² found no significant difference in SE when working with underserved populations between first and second year medical students who were SRFC

volunteers and those who were not. Although attitudes regarding working with underserved patients may not change, SRFC involvement seemed preventative against decline in attitudes towards underserved populations as medical students advanced through their program.²³ Our study aims to further understand this line of inquiry by focusing on how students perceive their SRFC involvement related to their development of SE in clinical communication skills. The following questions were posed:

1. What are the differences in self-efficacy ratings using the SE-1214 tool between healthcare learners who participate in the SRFC and those who do not?
2. What are the learners' real vs perceived experiences practicing in the SRFC impacting self-efficacy in clinical communication skills?
3. To what degree do self-reports of self-efficacy differ related to perceived and real experiences between healthcare learners who participate in the SRFC and those who do not?

Self-Efficacy Theory

Bandura's SE theory defines how competent an individual feels when tasked to complete a responsibility²⁴⁻²⁸ and can be developed through academic and practical experiences during education.^{29,30} In health professional programs, curricula consist of direct instruction through lectures and labs and practical experiences such as simulations, clinical shadowing, and/or rotations. Students usually attend a didactic portion of study prior to clinical rotations which may limit experiential learning. SRFC involvement before clinical rotations may provide opportunities to apply skills taught in didactics through vicarious, experiential, and reflective practice,^{24,25} thereby allowing opportunities to develop SE.^{29,30}

Methods

Research Design

An exploratory, convergent, mixed methods design was used.³¹ The design uses a quantitative approach to analyze differences in perceptions and a qualitative component to understand the perceived and real experiences of volunteering in

a SRFC. The mixed methods element aims to establish a more extensive understanding of SE levels of SRFC student volunteers and non-SRFC students in relation to clinical communication skills.³¹ This study was approved by the university's Institutional Review Board.

Population

The university associated with this research offers graduate level education for healthcare professions and runs a SRFC that serves uninsured individuals. Health professions students at the university were invited to complete a survey. The following health profession programs submitted survey responses: Doctor of Physical Therapy (DPT), Doctor of Podiatric Medicine (DPM), Doctor of Allopathic Medicine (MD), Doctor of Philosophy in Clinical Psychology (PhD), Physician Assistant (PA), and Doctor of Pharmacy (PharmD).

Survey Development

The survey's quantitative portion was adapted from a validated¹⁴ questionnaire, the SE-12 and used with author permission. Twelve inversely worded items were added to ensure thoughtful answers and address possible agreement bias. Items provided statements about certainty in ability to carry out communicative tasks in a healthcare setting. The scale was anchored with 1 being "very uncertain" and 10 being "very certain" for a total minimum of 24 and a maximum of 240. There was an option to select "not relevant." Qualitative questions elicited the real or perceived SRFC experiences as related to SE of clinical communication skills. For SRFC student volunteers, the prompt requested reflection on their service while non-SRFC students were asked to reflect on their external healthcare experiences. The questions elicited responses about the following:

1. Their most meaningful clinical encounter
2. Perception of their ability to use clinical communication skills
3. How past clinical experiences helped develop their confidence as healthcare professionals

Data Collection

A university administrator sent an email with a Qualtrics (2022, Provo, Utah) survey link to all eli-

gible 2086 students via university email every two weeks for two months. Recruitment signs were posted around the campus. No identifying information was collected.

Data Analysis

Analysis consisted of a three-phase mixed methods design. All survey scores were weighted as a percentage to be analyzed using descriptive statistics and a Mann-Whitney U-test in SPSS (version 28.0, Armonk, New York). Mann-Whitney is a non-parametric test for equality of distributions in the sums between two groups and was utilized due to the skewness of the data and small sample size. Critical values associated with a p-value of less than 0.05 were adopted. All participant responses were weighted so that "not relevant" responses did not impact the score. Then, they were converted to percentages. For example, raw scores were divided by 240 when participants answered all 24 questions without use of the non-response.

Qualitative responses were coded through in vivo coding by three members of the research team. Reassembly of broken data into categories via axial coding took place and the categories were structured into overarching themes. After comparing and reconciling the data between members, the quantitative and qualitative data sets were compared via convergent design to note confirmation or discrepancy between data sets.

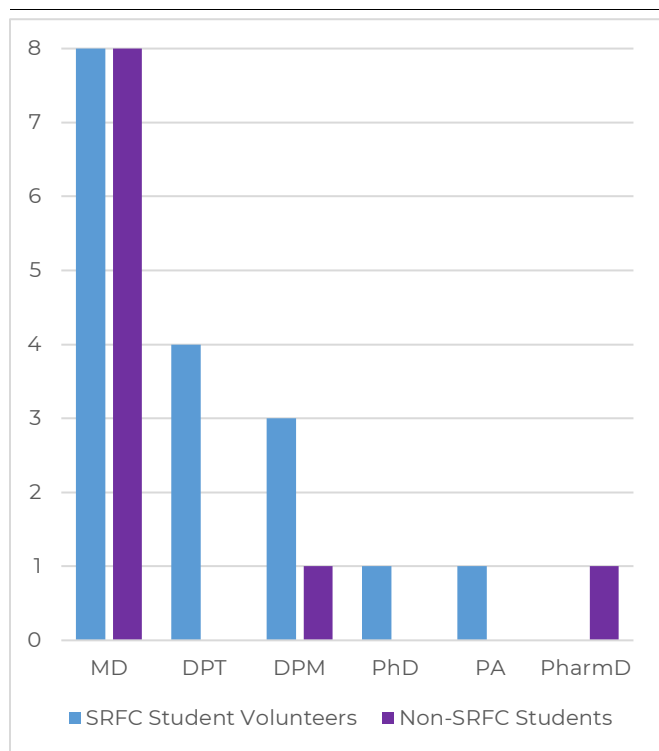
In total, 52 students consented to participate in the study and one student did not. There were 26 students who completed the survey's consent page and/or started the quantitative portion of the survey. There were 27 students who completed the entire survey (e.g., both the quantitative and qualitative portions) with 63% (n=17) being SRFC student volunteers and 37% (n=10) non-SRFC students. Participants' programs of study are represented in Figure 1.

Results

Quantitative Analysis

The analysis of quantitative data from the modified SE-12 revealed an average SE score of 75.5% (standard deviation [SD]=8.4%) and a range of 57-88%. The 17 SRFC student volunteers scored

Figure 1. SRFC student volunteers and non-SRFC student’s completed survey responses



SRFC: student-run free clinic. DM: doctor of allopathic medicine. DPT: doctor of physical therapy. DPM: doctor of podiatric medicine. PhD: psychology PhD. PA: physician assistant. PharmD: doctor of pharmacy.

(M=75.1%, SD=8.7%) compared to the 10 non-SRFC students (M=76.2%, SD=8.2%). An independent sample Mann-Whitney U-test tested whether there was a significant difference in the distribution of SE in clinical communication skills between SRFC student volunteers and non-SRFC students. The results indicate that there is not a significant difference between the two groups, U=77.5, p=0.71.

Qualitative Analysis

Table 1 contains the questions that each group of students were asked based on their involvement or lack thereof with the SRFC. The qualitative analysis of responses by 10 non-SRFC students and 17 SRFC student volunteers revealed the themes presented in Table 2.

Most Meaningful Clinical Encounter

“Patient progress” was the most common theme for SRFC student volunteers when

prompted to share about their most meaningful clinical experience. “Direct patient encounters,” followed, which detailed a meaningful experience they had while treating a patient. Non-SRFC students' themes were “meaningful conversations” followed by “previous and new experiences.”

Perception of Clinical Communication Skills

When asked to reflect about their clinical communication skills during their meaningful experience, 12 SRFC student volunteers indicated a level of confidence in communication while four indicated needing improvement. For non-SRFC students, these themes emerged four and three times respectively.

Influential Clinical Experiences on Confidence

Both groups were asked to reflect on how

Table 1. Qualitative survey questions

Questions and prompts for SRFC student volunteers	Questions and prompts for non-SRFC students
In what capacity have you participated in the SRFC? Please describe your experience. Include any leadership roles, volunteering experiences, participation in panels, etc.	-
Briefly describe the most impactful clinical encounter you have experienced in the SRFC.	Briefly describe the most impactful clinical encounter you have experienced.
How did you feel regarding your ability to use clinical communication skills?	How did you feel regarding your ability to use clinical communication skills?
Reflect on your clinical experiences in the SRFC. How, if at all, did those experiences help you develop confidence as a health professions student?	Reflect on your clinical experiences. How did those experiences help you develop confidence as a health professions student?
Please describe if any other clinical experiences outside of the SRFC helped you develop confidence as a health professions student.	In what way might participation in a student-run free clinic help you develop confidence in your clinical communication skills?

All students were asked, “Which of the following best describes your involvement with the university’s SRFC?” and “Have you participated in a SRFC prior to starting at this university and in what capacity?” before being prompted to respond to the respective questions.
SRFC: student-run free clinic.

Table 2. Qualitative themes

Item	SRFC (n=17)*		Non-SRFC (n=10)*	
	Themes	N	Themes	N
Most meaningful clinical encounter	Patient progress	6	New experiences	2
	Direct patient encounters	5	Meaningful conversations	3
			Previous experience	2
Perception of clinical communication skills use	Confidence	12	Confidence	4
	Seeking improvement	4	Seeking improvement	3
Influential clinical experiences on confidence	Improved communication skills	7	Practice develops confidence	7
	Procedural skills	3	-	-
Reflection on additional clinical experiences	Previous employment	7	-	-
	Previous volunteering	2	-	-
	Previous education	4	-	-
Potential benefits of volunteering in a SRFC	-	-	Practice makes progress	5
	-	-	Self-awareness	2

All students were asked, "Which of the following best describes your involvement with the university's SRFC?" and "Have you participated in a SRFC prior to starting at this university and in what capacity?" before being prompted to respond to the respective questions above.

*The total number of responses exceeds the total number of respondents, as participants were permitted to select multiple themes per question.

SRFC: student-run free clinic.

SRFC involvement or previous clinical experiences related to their confidence as a health professions student. SRFC student volunteers indicated that the SRFC offered opportunities to learn specific procedural and communication skills. Non-SRFC students seemed to mention broader clinical opportunities for practicing communication skills and developing independence.

Reflection on Additional Clinical Experiences

SRFC student volunteers were asked about additional experiences they felt contributed to their confidence development as a health professions student. Seven indicated previous employment, four indicated previous educational experiences, and two noted previous volunteering experiences.

Potential Benefits of Volunteering in SRFCs

Non-SRFC students were asked to reflect on potential benefits of SRFC involvement. Five responded that more practice would help their confidence grow in clinical communication skills

and two noted that they would learn more self-awareness about their healthcare roles.

Mixed Analysis

Our third research question was addressed through a mixed methods analysis. The two data sets were combined for additional explanatory power. The quantitative survey results show no difference in SE in clinical communication between SRFC student volunteers and non-SRFC students while the qualitative analysis demonstrates potential differences. This may indicate that SRFCs and other clinical experiences provide opportunities for students to practice clinical communication skills.

SRFC student volunteers seemed to differentiate the SRFC from other clinical experiences by the opportunity to practice with and observe others. Non-SRFC students imagined that SRFC service could lead to more clinical practice and a safe space to learn. Representative quotes to support these statements can be found in Appendix.

Discussion

Practice and exposure to clinical encounters help build confidence and SE.^{29,30} In this study, we sought to understand if SRFCs provide opportunities to develop SE in clinical communication. SE is developed through vicarious, experiential, and reflective practice^{24,25} opportunities which an SRFC can facilitate for student volunteers.^{29,30} The results indicate that SRFC student volunteers do not differ from non-SRFC students in SE of clinical communication. However, SRFC student volunteers identify specific clinical instances that relate to clinical communication development through their involvement with an SRFC. While non-SRFC students did express influential clinical moments throughout various opportunities, SRFC student responses shine light on the potential impact of clinical communication skills by offering another space for practice and clinical supervision. Notably, 71% (n=12) of SRFC student volunteers felt confident about their clinical communication while only 40% (n=4) of non-SRFC students did.

It is difficult to determine whether there is a significant difference between a student's perceived SE in clinical communication skills from SRFC experience and previous direct clinical encounters. While both previous clinical experiences and the SRFC provide opportunities focused on experiential, vicarious, and reflective practice through IP collaboration and direct patient-centered care, SRFCs utilize consistent supervision from healthcare professionals that can facilitate SE development in clinical communication skills. The theory of SE can be supported by these practice opportunities increasing SE of clinical communication skills, although there is no evidence that SRFCs provide better opportunities than other clinical experiences.

SRFCs might create a special place for students without previous clinical experience to supplement didactic portions of their learning. SRFC student volunteers expressed that the SRFC provided something new and different from previous clinical experiences. Non-SRFC students also expressed that SRFCs could be a safe place to learn patient care when asked to share their perception of volunteering in one. With SRFC's high levels of supervision, students

can learn patient-centered care and develop confidence in communication. Additionally, SRFCs might facilitate training on clinical communication. Fossli Jensen et al.¹⁶ found that participation in a two-day course increased physicians' communication skills and confidence in patient-centered communication. SRFCs may educate student volunteers on patient-centered communication skills in ways other clinical experiences might not be due to their focus on student learning. Reflection activities might yield further benefit since SRFC student volunteers seem to home in on specific clinical moments rather than broad experiences. Requiring reflection on specific clinical encounters has been used in other clinics¹⁷ and could extend clinical learning.

While the care provided in SRFCs is comparable to other free clinics,^{32,33} ethical concerns about SRFCs as a dual-purposed learning and patient care space have been raised because many of the patients seeking care have no other healthcare options.^{34,35} Patient-centered care should be at the forefront of SRFCs during student learning experiences.

Limitations

There are several limitations to note. The pilot study failed to yield results from a face review. Despite repeated attempts at recruitment, the response rate to the survey remained around 1.4%. With so few participants in each group, our quantitative analysis is underpowered. Nearly twice as many respondents volunteered in the SRFC than those who had not, suggesting that there may have been response bias. Our study focused on healthcare professional students and many individuals were pre-clinical. As they are in their early stages of their career, it might have been difficult for them to rate their SE of clinical communication skills. Finally, students serving in the SRFC are supervised and might receive more feedback about communication with patients and accuracy of their clinical work.

Conclusion

SRFCs provide learning opportunities for students while providing care for uninsured patients. Our results demonstrate that student volunteers in an SRFC may not differ from other

students regarding SE in clinical communication. However, the perceived benefits from participating and learning in a SRFC was found to have a positive impact. SRFCs' focus on supervision and training may facilitate the perceived benefits of SRFC participation. SRFCs may provide a safe space for student learning while also providing opportunities to practice clinical communication.

Future research on the importance of SE development of clinical communication skills in SRFCs might yield better responses from advanced healthcare professional students. Advanced healthcare professional students may evaluate SE of clinical communication skills after completion of their clinical rotations, internships, or practicums differently while reflecting on previous experience.

References

1. Ballantyne K, Porter KR, Bogdanovski K, Lessans S, Pasarica M. Cultural sensitivity and learning about healthcare equity for the underserved: Experiential learning in a student-run free clinic. *Med Sci Educ*. 2021;31(2):381-385. [LINK](#)
2. Mohammed D, Turner K, Funk K. Pharmacy student involvement in student-run free clinics in the United States. *Curr. Pharm. Teach. Learn*. 2018; 10(1):41-6. [LINK](#)
3. Lie DA, Forest CP, Kysh L, Sinclair L. Interprofessional education and practice guide No. 5: Interprofessional teaching for prequalification students in clinical settings. *J Interprof Care*. 2016;30(3):324-30. [LINK](#)
4. Sick B, Sheldon L, Ajer K, Wang Q, Zhang L. The student-run free clinic: An ideal site to teach interprofessional education? *J Interprof Care*. 2014;28(5):413-8. [LINK](#)
5. Lessans S, Bogdanovski K, Porter KR, Ballantyne K, Pasarica M. Service on student-run free clinic executive board improves leadership skills of medical students in the underserved medical system. *Leadersh Health Serv*. 2020;34(3):220-8. [LINK](#)
6. Mills B, Hansen S, Nang C, McDonald H, Lyons-Wall P, Hunt J, O'Sullivan T. A pilot evaluation of simulation-based interprofessional education for occupational therapy, speech pathology and dietetic students: Improvements in attitudes and confidence. *J Interprof Care*. 2019;34(4):472-80. [LINK](#)
7. Wamsley M, Staves J, Kroon L, Topp K, Hossaini M, Newlin B, Lindsay C, O'Brien B. The impact of an interprofessional standardized patient exercise on attitudes toward working in interprofessional teams. *J Interprof Care*. 2012;26(1):28-35. [LINK](#)
8. Nørgaard B, Draborg E, Vestergaard E, Odgaard E, Jensen DC, Sørensen J. Interprofessional clinical training improves self-efficacy of health care students. *Med Educ*. 2013;35(6):e1235-42. [LINK](#)
9. Houghton CE, Casey D, Shaw D, Murphy K. Students' experiences of implementing clinical skills in the real world of practice. *J Clin Nurs*. 2012;22(1):1961-9. [LINK](#)
10. Bowling AM, Underwood PW. Effect of simulation on knowledge, self-confidence, and skill performance in the USA: A quasi-experimental study. *Nurs Health Sci*. 2016;18(3):292-8. [LINK](#)
11. Baker B, Drane C, Chambers J, Lindqvist S. Training students as interprofessional learning facilitators: An exploratory study highlighting the need to build confidence. *J Interprof Care*. 2018;32(4):473-80. [LINK](#)
12. Sheu L, O'Brien B, O'Sullivan PS, Kwong A, Lai CJ. Systems-based practice learning opportunities in student-run clinics: A qualitative analysis of student experiences. *Acad Med*. 2013;88(6):831-6. [LINK](#)
13. Schutte T, Tichelaar J, Donker E, Richir MC, Westerman M, Van Agtmael MA. Clarifying learning experiences in student-run clinics: A qualitative study. *BMC Med Educ*. 2018;18(1):244. [LINK](#)
14. Axboe MK, Christensen KS, Kofoed PE, Ammentorp J. Development and validation of a self-efficacy questionnaire (SE-12) measuring the clinical communication skills of health care professionals. *BMC Med Educ*. 2016;16(1):2-10. [LINK](#)
15. Stein T, Frankel RM, Krupat E. Enhancing clinician communication skills in a large healthcare organization: A longitudinal case study. *Patient Educ Couns*. 2005;58(1):4-12. [LINK](#)
16. Fossli Jensen B, Gulbrandsen P, Dahl FA, Krupat E, Frankel RM, Finset A. Effectiveness of a short course in clinical communication skills for hospital doctors: Results of a crossover randomized controlled trial (ISRCTN22153332). *Patient Educ Couns*. 2011;84(2):163-9. [LINK](#)
17. Ammentorp J, Sabroe S, Kofoed PE, Mainz J. The effect of training in communication skills on medical doctors' and nurses' self-efficacy. A randomized controlled trial. *Patient Educ Couns*. 2007;66(3):270-7. [LINK](#)
18. Ammentorp J, Thomsen JL, Jarbøl DE, Holst R, Lindebo A, Øvrehus H, Kofoed PE. Comparison of the medical students' perceived self-efficacy and the evaluation of the observers and patients. *BMC Med Educ*. 2013;13(1):2-6. [LINK](#)
19. Housley CL, Neill KK, White LS, Tedder AT, Castleberry AN. An evaluation of an interprofessional practice-based learning environment using student reflections. *J Interprof Care*. 2018;32(1):108-10. [LINK](#)
20. Wlodarkiewicz C, Adams J, Kondrashova T. Educational value of ultrasonography used as a diagnostic tool by medical students at a student-run free clinic. *Mo Med*. 2020;117(5):475-9. [LINK](#)
21. Smith SD, Yoon R, Johnson ML, Natarajan L, Beck E. The effect of involvement in a student-run free clinic project on attitudes toward the underserved and interest in primary care. *J Health Care Poor Underserved*. 2014;25(2):877-89. [LINK](#)
22. Tran K, Kovalskiy A, Desai A, Imran A, Ismail R, Hernandez C. The effect of volunteering at a student-run free healthcare clinic on medical students' self-efficacy, comfortableness, attitude, and interest in working with the underserved population and interest in primary care. *Cureus*. 2017;9(2): e1051. [LINK](#)
23. Sick B, Zhang L, Anne S, Weber-Main M. Changes in health professional students' attitudes toward the underserved impact of extended participation in an

- interprofessional student-run free clinic. *J Allied Health*. 2017;46(4): 213-9. [LINK](#)
24. Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychol Rev*. 1977;84(2):191-215. [LINK](#)
 25. Bandura A. Self-efficacy mechanism in human agency. *Am Psychol*. 1982;37(2):122-47. [LINK](#)
 26. Prochaska JO, Norcross JC. *Systems of psychotherapy: A transtheoretical analysis*. 9th ed.. Pacific Grove (CA): Brooks/Cole; 2018.
 27. Druckman D, Bjork RA. (Eds.). *Learning, remembering, believing: Enhancing human performance*. Washington (DC): National Academy Press. 1994.
 28. Schunk DH, Cox PD. Strategy training and attributional feedback with learning disabled students. *J Educ Psychol*. 1986;78(3):201-9. [LINK](#)
 29. Plaza CM, Draugalis JR, Retterer J, Harrier RN. Curricular evaluation using self-efficacy measurements. *Am J Pharm Educ*. 2002;66:51-4. [LINK](#)
 30. Williams B, Beovich B, Ross L, Wright C, Illic D. Self-efficacy perceptions of interprofessional education and practice in undergraduate healthcare students. *J Interprof Care*, 2017;31:335-41. [LINK](#)
 31. Creswell JW, Creswell JD. *Research design: Qualitative, quantitative, and mixed methods approaches*. 5th ed. Thousand Oaks (CA): SAGE; 2018. [LINK](#)
 32. Vinarscik L, Wilson Y. Beyond good intentions: Student run free clinics as a reflection of a broken system. *Am J Bioeth*. 2022;22(3):27-9. [LINK](#)
 33. White Coats 4 Black Lives [Internet]. Racial justice report card 2020-2021. c2021 [cited 2022 Jul 17]. Available from: <https://whitecoats4blacklives.org/rjrc/>. [LINK](#)
 34. Lawrence D, Bryant, TK, Nobel TB, Dolansky MA, Singh MK. A comparative evaluation of patient satisfaction outcomes in an interprofessional student-run free clinic. *J Interprof Care*. 2015;29(5):445-50. [LINK](#)
 35. Stickel JW, Ngo S, Kumar AV, Rhodes LA, Zeeman JM. Evaluation of a preventative health consultation service for patients at student-run walk-in health clinics. *J Stud Run Clin*. 2021;7(1). [LINK](#)