

PRACTICE MANAGEMENT

Establishing a University-Based Biofeedback Clinic for Practice, Education, and Research

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The demand for biofeedback clinics is increasing. As new clinics are established to address this growing need, understanding the requirements for setting up and maintaining an efficient and effective clinic becomes crucial. The stages of development, implementation, and evaluation of a university-based biofeedback clinic are presented along with the rationale behind key decisions and lessons learned throughout the process. Establishing a biofeedback clinic requires careful consideration of legal and ethical issues, which are presented in this paper.

As the number of board-certified biofeedback (BF) clinicians from the Biofeedback Certification International Alliance (BCIA) increases to more than 1,500 (BCIA, n.d.), the demand for BF clinics is also increasing. To meet this demand, it is essential to understand the requirements for setting up a clinic. Establishing a BF clinic requires significant planning to address challenges such as securing physical space, managing costs, and hiring qualified personnel (McDonald et al., 2023; Palme' et al., 2023). A university-based clinic offers a unique opportunity to overcome these obstacles while also providing additional benefits such as multidisciplinary collaborations, advancing research, and supporting student education.

Universities have existing infrastructure to address space constraints, which also saves money. Additionally, universities attract a diverse group of qualified clinicians whether they are university-affiliated employees (e.g., professors of psychology, nursing, recreational therapy, physical therapy) or external clinicians interested in contract or part-time employment. A multidisciplinary approach utilizing a university-based clinic is not only cost-saving but also promotes holistic care by providing expertise from a variety of qualified clinicians.

This paper aims to provide guidelines for establishing a university-based BF clinic for practice, education, and research based on the successful model developed at East Carolina University. We highlight the key considerations for planning, implementing, and evaluating a university-based clinic and provide examples of what has helped our clinic succeed. We focus on how we integrate practice, education, and research to meet the demands for BF services while addressing the financial and logistical challenges.

Background

BF is a form of therapy that provides information about an individual's physiology to increase mindfulness of the present moment and the ability to choose a helpful response (Association for Applied Psychophysiology and Biofeedback, 2020). Sensors are placed on the individual's skin to monitor the body, and feedback is provided through visual and auditory displays. Like a personal trainer who would help an individual build muscle in the gym, a BF clinician helps the individual train their body to develop new skills they can practice daily.

Clients prefer BF over other traditional forms of treatment, such as cognitive behavioral therapy and medications, because it is noninvasive and nonpharmacological and helps individuals gain health autonomy and treat negative impacts on autonomic balance (Kopka, 2023; Mayo Clinic, 2019). In a meta-analysis, Lehrer et al. (2020) found that BF modalities can help with emotional regulation (i.e., anger, anxiety, depression, stress), cravings and substance use, posttraumatic stress disorder, physical symptoms (i.e., pain, cardiovascular, respiratory, gastrointestinal), athletic and artistic performance, executive functioning, and sleep.

BF therapy can be offered in various health care settings, including private practice offices, multispecialty settings, integrative health care clinics, or educational health science academic settings. Among these, university-based

clinics have become increasingly popular because of their unique ability to integrate services to students and faculty through the current state of science research and practice as people continue to expand and seek out new approaches to health care (Frank et al., 2010; Prestes Vargas, 2024). These clinics function as instructional environments, providing clinical and field experience in a setting that parallels real-world clinical environments (Lauka & McCarthy, 2013). Additionally, these clinics serve as training laboratories in which students can gain experience working with clients under supervision. A university-based clinic is one type of training clinic that helps bridge the gap between lecture-based instruction and clinical practice (Lauka et al., 2014). The benefits of having this type of clinic include allowing students to gain practical experience in both clinical and administrative roles while serving the university and the community (Black et al., 2013).

Various university programs offer on-campus training clinics for health-related majors (Branco, 2017; Hittner & Fawcett, 2012; Lauka & McCarthy, 2013). These university-based clinics provide initial training to prepare students for future practicums, internships, and research assistantships. At the doctoral level, students can refine their clinical skills and supervise practicum students and interns. Additionally, these university-based clinics benefit from their respective programs by offering clinical services to clients in need, including students and community members, at affordable rates.

Training clinics can be supported by various university departments (e.g., psychology, nursing, counseling, recreational therapy), counseling centers, student affairs, wellness, and health centers (Hittner & Fawcett, 2012). This diverse support network allows students to gain multidisciplinary experiences and clinical supervision, which broadens their training opportunities (Juhnke et al., 2002).

Incorporating prevention, intervention, and psychoeducation, including general wellness, specific mental health issues, and substance abuse, into clinic sessions provides students with a comprehensive understanding of patient care (Juhnke et al., 2002). By integrating various BF approaches, clinicians interact with their clients to enhance self-awareness about their physiological responses to develop resiliency and self-regulation to achieve long-term well-being (De Witte et al., 2019; Yu et al., 2018).

At our university, a faculty member in the department of nursing science (DNS) collaborated with the department of addictions and rehabilitation studies (DARS) to establish an interdisciplinary BF clinic. The proposed interdisciplinary clinic was advantageous to both departments. The

benefits include financial and human resources. By integrating resources from DNS and DARS, expenditures were minimized by having a combined budget. Additionally, because of facility limitations, space allocation was utilized more efficiently. Student trainees gained valuable interdisciplinary exposure to health team members, which is an added benefit in preparing them for their collaborative work in the future with other health care disciplines. Patients likewise benefit from the collaboration of this team approach, which enhances the quality of care through coordinated expertise and shared decision making. The faculty from both departments utilized the clinic for research and educational purposes while integrating BF into the existing counseling clinic to provide interventions and patient care. This paper describes developing, implementing, and evaluating a university-based BF clinic. It also discusses the rationale behind key decisions and lessons learned.

Clinic Development: Getting Ready

The location of a potential clinic must be carefully considered. Our location proved to be ideal because of the proximity between the DNS and DARS. The proposed space was easily accessible to the BF clinicians as well as the patients and students requesting services. This newly identified space was next to the DARS Navigate Clinic, a free counseling service that includes assessment and treatment planning; individual, group, couples, and family counseling; and specialized services. The DARS Navigate Clinic provides specialized services, including personal growth and development, career/employment counseling, addictions and clinical counseling, complementary and alternative interventions (mindfulness and meditation, mind-body, and BF), and rehabilitation counseling for disability/barriers to quality of life.

Although these separate entities were located next to one another, the clinics worked closely in collaboration to provide comprehensive and effective care for patients. One of the benefits of offering BF in conjunction with counseling services is the referral system between the clinics. Clients receiving counseling services could be referred to the BF clinic to address physiological responses associated with stress, anxiety, and emotional regulation. At the same time, the BF patients could be referred to the counseling clinic for additional support. This approach improves client outcomes and increases the scope of services available to patients.

As the clinic developed, there began to be an interdisciplinary collaboration between the counseling and BF

clinics. Counselors and BF providers began to work together to integrate interventions with BF equipment, such as heart rate variability, skin conductance, skin temperature, and surface electromyography. For example, clients working on coping skills with their counselor would come to the BF clinic and be monitored with BF equipment while practicing coping skills with their counselor to receive real-time physiological feedback to reinforce their progress. The BF equipment, specifically heart rate variability, skin conductance, and skin temperature, allowed the patients to visually see how their emotional reactions to specific topics during their counseling sessions affected their physiology. This provided patients with increased self-awareness and enhanced therapeutic outcomes. This collaborative approach underscores the benefits of BF when integrated with other forms of therapy, such as counseling.

In addition to offering BF sessions, the clinic is also a research lab, integrating evidence-based practice with innovative research. Before the departments collaborated to develop the clinic, the researchers were conducting a study that was subsequently transferred to the clinic. The research study focused on providing psychoeducation and prevention strategies for individuals with a family history of cardiovascular disease. This study not only laid the groundwork for future research in the clinic but also provided critical financial resources such as funding for equipment and software. Additionally, it facilitated the recruitment of specialized staff, including two PhD students in addictions and rehabilitation counseling. Building on this foundation established the clinic's collaborations and research, which then shifted the focus to implementing the clinic.

Clinic Implementation: Getting Started

To develop a successful clinic, we began by creating a comprehensive business plan that outlined the essential details needed before opening the clinic. The business plan included an executive summary, purpose statement, project details, operational plan, and supporting documents. The executive summary provided a brief overview of the clinic's business strategy, including its purpose, operational model, and management structure. It also introduced BF and the services offered.

The business plan included the purpose statement for the clinic that defined the clinic's mission and the therapeutic goals we aimed to achieve with our clients through BF training. We also detailed the specific services, technology, and treatments that our clinic would provide. The

following example may be modified to meet your proposed clinic's needs.

Clients attending the BF clinic would, at minimum, receive the following:

- An initial assessment identifying areas of need(s)
- Identification of baseline stress responses for each client
- Tailored training protocols based on the individual's stress response
- Mutual goal setting for training regimens
- Individualized BF training sessions
- Home training exercises/protocols to complement BF sessions
- Evaluation of progress to close sessions or modify plan of care

We also included an operational plan outlining the clinic's operations, staffing, and management. The clinic was planned to be implemented in three phases. Phase 1 is discussed in this section, whereas Phases 2 and 3 are in the next section.

Phase 1: Start-up

This phase focused on client recruitment, service marketing, patient flow patterns, charting, and determining research capacity. During Phase 1, we limited the number of days of operation, established collaborations with other departments and researchers, developed a marketing plan and advertised, began seeing clients and providing services, and trained clinicians.

Funding. During Phase 1, clinics should consider funding opportunities that may be available. Internal funding may be available through the university, organization, or hospital system. As part of the negotiations, clinicians may also consider asking for start-up funding when joining a university or organization. When establishing a clinic, independent of a university or organization, clinicians should consider looking into the private sector for seed money and grants. Many types of grants are available, including those from professional organizations; hardware/software companies; foundations; the Small Business Administration; and county, state, and federal grants. In our experience, we operated from grant funding and did not charge for our services. However, depending on the structure and mission of the clinic, all the financial aspects must be considered.

Creating a team. Establishing a strong team to ensure the clinic runs successfully is also imperative. The team may

consist of BF clinicians, administrators and/or clinic assistants, and other clinic personnel. The BF clinicians oversee sessions, chart and maintain confidentiality, and monitor personnel. Administrators and/or clinic assistants are responsible for scheduling appointments, maintaining records, and filing and billing. Other clinic personnel are also responsible for cleaning equipment and space, maintaining warranties, and following safety guidelines. The following is an example of questions to consider asking potential BF clinicians:

- Are you licensed, certified, or registered?
- What is your training and experience?
- Do you have experience teaching biofeedback or working with students?
- Can you give me a list of references?

Secure space. When securing space for the clinic, you also want to consider your population, the environment around your clinic space, and parking. When considering your population, you may want to consider whether the space is Americans with Disabilities Act compliant, the inside ambient temperature and noise, the physical space (e.g., are there windows?), and the psychological environment (e.g., is the space distracting? spacious? clean?).

Establish policies and protocols. Protocols should be in place, so the clients, clinicians, and administrators know what to expect from the clinic (Deakin, 2013). Additionally, standardized protocols in BF clinics are essential for maintaining high-quality care, ensuring patient safety, facilitating research, and promoting the overall effectiveness of BF interventions. They provide a structured framework that benefits patients and clinicians in BF therapy.

The benefits of standardized protocols include the following:

- **Consistency and reproducibility:** Standardized protocols ensure that BF sessions are conducted consistently, reducing variations in the treatment process. This consistency helps ensure that patients receive a similar level of care and allows for comparing results over time. It also enhances the reproducibility of research findings, making it easier to validate the effectiveness of BF interventions.
- **Quality assurance:** Standardized protocols establish a baseline for the quality of care provided in BF clinics. These protocols help clinicians follow established best

practices and adhere to ethical guidelines, thereby minimizing the risk of errors or suboptimal treatments.

- **Safety:** Standardized protocols include safety measures and guidelines that protect patients from potential harm during BF sessions. These protocols may specify appropriate equipment usage, limits on treatment intensity, and precautions for specific medical conditions, reducing the likelihood of adverse events.
- **Effective treatment:** Standardized protocols are often developed using evidence-based research and clinical expertise. By using these protocols, BF clinicians can provide more effective treatments that are more likely to yield positive patient outcomes.
- **Data collection and analysis:** Standardized protocols facilitate the collection of consistent and comparable data across different patients and clinics. This standardized data can be valuable for research purposes, allowing for data aggregation from multiple sources to draw more robust conclusions about the efficacy of BF interventions.
- **Patient confidence:** Patients are more likely to have confidence in BF treatments when they know that standardized protocols are being followed. This can lead to better patient engagement and adherence to treatment plans.
- **Continuity of care:** Standardized protocols promote continuity of care by ensuring that different health care clinicians within the same clinic or across different clinics can offer consistent treatment approaches. This is particularly important when multiple clinicians are involved in a patient's care.
- **Research advancement:** Using standardized protocols in BF clinics advances scientific knowledge. It allows for accumulating standardized data that can be used for meta-analyses, systematic reviews, and the development of evidence-based guidelines.

The established policies and procedures allow your clinic to run efficiently and to abide by laws and regulations. Items to consider when establishing the policies and procedures include patient confidentiality and privacy, patient intake and assessment, treatment protocols, patient safety and emergency procedures, staff training and competency, equipment maintenance, data handling and record keeping, billing and insurance, compliance and legal issues, and quality assurance.

Recruit/publicize clinic. Last, you may want to consider how you will recruit participants or patients to your clinic.

Community engagement, digital marketing, and speaking at educational workshops and seminars may help market your clinic. You may also want to consider collaborating with other professionals with similar backgrounds who may be able to help you market your clinic.

Clinic Evaluation: Maintaining and Expanding

As the demand for health care services increases, maintaining and expanding a clinic ensures that more patients can be served. Following the original business plan is essential, and planning for possible expansion could be examined. The day-to-day operations are important, and regular maintenance of clinic operations and equipment is essential. Phase 1 discussed aspects of the start-up. Once space has been secured, personnel and equipment in place, protocols and operating procedures established, and the scheduling of clients has begun, the clinic is ready to transition to the next phase. This section discusses Phases 2 and 3: maintenance and future planning.

Phase 2: Maintenance

Maintaining the day-to-day operation is essential once the clinic is established and operating smoothly.

Environment. Our clinic has a primary person assigned for scheduling and organizing appointments. Our appointments are scheduled to allow time for patient intake and room preparation before each session. We have a designated waiting room that is free of distractions. The clinic room is also simple and conducive to patient sessions with minimal visual, auditory, and sensory distractions.

Business aspects. Business aspects of a clinic must also be considered. Access to a business manager or consultant with financial expertise would be beneficial. Although our clinic is a university-based clinic with grant funding that provides research opportunities, it is still a business endeavor that provides patient services. Therefore, having access to a business manager or consultant to seek their expertise in the financial aspects is crucial to financial success.

Equipment. To ensure that current equipment provides the best patient services, we always recommend warranties to protect your investment. Manufacturers provide updates to ensure their product meets quality standards. The clinic should maintain and update the standard operating procedures, safety guidelines, and computer training. Ordering and maintaining equipment requires exploring various

vendors. See Appendix A for a sample of the basic equipment our clinic used.

Phase 3: Future Plans

Broadening the scope of services should be based on the demands and desires of the existing clinic. Future plans, whether to maintain the current clinic or expand, are based on the clinic's overall mission and philosophy. This expansion could incorporate longer clinic hours, new research partners, and new marketing strategies. Should expansion be considered, some questions to ponder upon are as follow:

- Is there a need for more space for patients to be seen?
- Is there a need for educational experiences for students?
- Are there new clinical or scientific inquiries that require the development of new research protocols?
- Is expansion needed? Is it because of new patients? New providers?
- Realistically, do you have the money?
- Is there the space needed to expand?
- Do you have the administrative support to expand?

Legal/Ethical Considerations

Maintaining a patient clinic for clinical, educational, and research purposes involves several ethical and legal considerations to ensure the safety and rights of patients. Ethically, clinics must prioritize patient confidentiality and informed consent. Confidentiality ensures that personal and medical information is protected and only shared with authorized individuals. Informed consent requires that patients are fully aware of and agree to the procedures and research activities they will be involved in and that it is voluntary. This includes understanding potential risks, benefits, and the purpose of their participation. Maintaining high ethical standards ensures that patient care is not compromised for educational or research purposes and that patients' well-being is always prioritized.

Clinics must comply with regulations such as the Health Insurance Portability and Accountability Act in the United States, which mandates the protection of patient information and privacy. Compliance with institutional review boards or ethics committees is also crucial for research activities to ensure that studies are conducted ethically and with appropriate oversight. Moreover, proper documentation and adherence to legal standards regarding patient records, consent forms, and data handling are essential. By addressing these ethical and legal considerations, clinics can maintain trust and ensure that their clinical, educational, and research activities are conducted responsibly

and legally. Clinic operations and clinicians should review and abide by state laws and regulations regarding their accrediting licensure board/agency. This also encompasses oversight of students and other nonlicensed clinical staff in any capacity.

Conclusion

Development, implementation, and evaluation concepts have been discussed. Establishing a BF clinic requires careful consideration of legal and ethical issues. Essential elements include standardized protocols, quality assurance measures, and addressing patient care issues such as safety, effective treatment, and continuity of care. Additionally, research considerations involve rigorous data collection, analysis, and advancements in the field.

In our clinic, we follow the current state of the science to conduct studies and provide services that meet the needs of our community. For example, access to care in our rural health area was a challenge to vulnerable populations affected by the pandemic in terms of both physical and mental health. In recent years, there has been a push to incorporate telehealth counseling in training clinics to provide services to low-income and uninsured individuals (McCord et al., 2015), particularly highlighted by the COVID-19 pandemic. Since opening our BF lab, we have initiated additional research studies, including examining telehealth in the context of COVID-19 and a PhD dissertation on BF's effectiveness in reducing anxiety among college students. These studies were made possible through the BF lab and the collaboration between various departments at East Carolina University. Whereas studies on university-based BF clinics were prevalent in the 1970s and early 1980s, current research is limited. Establishing additional interdisciplinary BF clinics will provide more opportunities for clinical practice, education, and research. Our university-based model clinic has demonstrated its effectiveness in these areas.

Appendix A: Sample Business Plan

- Business Name:** XXX Biofeedback Clinic
- Providers:** Names & Credentials
- Address:**
- Contact numbers:** Names, Phone Number & Email
- Collaborators:**
 - Name & Credentials & Contact Information
 - Department
 - University

Executive Summary

This business plan is in support of opening a Biofeedback Clinic (name of clinic) at XXX University on the XXX campus (optional if you have multiple campuses; could also include building location of clinic). The purpose for development of the Biofeedback Clinic (name of clinic) is: 1) XXX 2) XXX and 3) XXX. The practitioners who will operate the clinic are XXX (job title, department, university). These faculty are XXX (profession) who completed a post-doctoral biofeedback credentialing program in XXX (date) and are board certified in biofeedback (BCB) (optional: include recertification date). Practitioner #1 (name) is a XXX (profession) with XXX years of experience (can include specifics about experience) and Practitioner #2 (name) is a XXX (profession) with XXX years of experience (can include specifics about experience).

Biofeedback (BF) is XXX (your definition). BF therapy is XXX (your definition). (Include a sentence here about the benefits of biofeedback with current reference.) Currently at XXX University, there are XXX (Are there any clinics currently on campus? What services do they provide? Highlight how your clinic different). A BF clinic on the XXX campus would allow an alternative and/or adjunctive therapy to the traditional approaches of health care. How will clients be referred for services? (self-refer, or local providers could refer) Initially the BF clinic would be a free service (indicate if there will be a cost for services). (Include a sentence about the rationale for services, either paid or free.)

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Purpose Statement

The purpose for development of the Biofeedback Clinic (name of clinic) is: 1) XXX, 2) XXX, and 3) XXX. The BF clinic's primary commitment is to XXX. A particular emphasis would be made to provide services for XXX (specific populations you are focusing on). As a noninvasive psychophysiological intervention, evidence of its efficacy includes (include benefits of biofeedback with up-to-date references here). See Appendices for a description of BF modalities.

The clinic and BF providers would serve to XXX (what services are you providing? Ex. supplement medical therapies provided by primary care providers). It is anticipated that

initial services would be offered in XXX (city) on the XXX campus but would accommodate referrals with XXX University and the surrounding communities. As demand grows, consideration would be given to eventually expanding BF clinics to XXX (location/geographical area) where volume would support the endeavor. In addition to providing services to clients, the BF clinic will also serve as a XXX (What is the purpose of your clinic? Will you provide interdisciplinary practice and research? Will you have undergraduate and graduate students?). This two-armed approach is in line with XXX University's mission XXX (include university mission).

Project Details

XXX University XXX Department/College is committed to XXX (include mission statement of department/college). This BF clinic is an innovative initiative that XXX (include benefits here to the University, College, and Department. Think about benefits to faculty, students, and community).

Clients attending the BF clinic would at minimum receive: (Example below. Modify to meet your clinic's needs)

- 1) An initial assessment identifying areas of need(s)
- 2) Identification of baseline stress responses for each individual
- 3) Tailored training protocols based on the individual's stress response
- 4) Mutual goal setting for training regimens
- 5) Individualized BF training sessions
- 6) Home training exercise/protocols to complement BF sessions
- 7) Evaluation of progress to close sessions or modify plan of care

Appendix B: Operational Plan

Phase 1 – Start Up: MM/YYYY – MM/YYYY (Dates)

FOCUS: (What is your focus? May include client recruitment, service marketing, patient flow patterns, charting; determine research capacity)

- How often will the clinic operate?
- Location
- Marketing Plan & Website Development
- Ordering Equipment
- Receiving Training on Equipment
- Locating Physical Space
- Setting up Equipment in Space
- Establishing IT Support

- List of Frequently Used Phone Numbers
- Housing Client Records
- Developing Protocols
- Policies and Procedures
- Ensuring Safety Measures in Place

Phase 2 – Maintenance and/or Expansion of Free Clinic: MM/YYYY – MM/YYYY (Dates)

FOCUS: (What is your focus? May include expansion and if warranted, billing for clinic services)

- Consider expanding appointment availability (Weekends? After Hours?)
- Evaluation – Create Questionnaires to Clients
- Hiring Professionals
- Consider Hiring Marketing Consultant – Local Radio, Informational TV Spots, Stories of Interest, Blog
- Interprofessional/Alternative Therapy Collaboration – e.g. support group, massage (can help with rent and provide clients with additional services)
- Consider recruiting staff – students, volunteers, part time, interns
- Meet with financial consultant/tax person – anticipate future needs

Future Plan for Billing Clinic: MM/YYYY – MM/YYYY (Dates)

- Open clinic to full capacity for paying clients
- Secure location for paying clients – possibly XXX Clinic
- Explore options for continuing and/or expanding research arm of clinic

Modalities of Biofeedback

(Include a table here with information about the various biofeedback modalities.)

References

- Association for Applied Psychophysiology and Biofeedback (2020). *What is biofeedback*. https://aapb.org/About_BioFeedback
- Biofeedback Certification International Alliance (n.d.). https://www.bcia.org/index.php?option=com_mcdirectorysearch&view=search&id=2003192#/
- Black, J. D., Palombaro, K. M., & Dole, R. L. (2013). Student experiences in creating and launching a student-led physical therapy pro bono clinic: A qualitative investigation. *Physical Therapy*, 93(5), 637–648. <https://doi.org/10.2522/ptj.201110430>

- Branco, S. F. (2017). *Revitalizing a counseling training clinic: Meeting community and student needs*. https://www.counseling.org/docs/default-source/vistas/article_359dce2bf16116603abcacff0000bee5e7.pdf?sfvrsn=3d84b2c_4
- Deakin, B. (2013). Opening a clinic: Establishing administration systems to maximise time efficiency. *Journal of Aesthetic Nursing*, 2(9), 463. <https://doi.org/10.12968/joan.2013.2.9.463>
- De Witte, N. A., Buyck, I., & Van Daele, T. (2019). Combining biofeedback with stress management interventions: A systematic review of physiological and psychological effects. *Applied Psychophysiology and Biofeedback*, 44(2), 71–82. <https://doi.org/10.1007/s10484-018-09427-7>
- Frank, D. L., Khorshid, L., Kiffer, J. F., Moravec, C. S., & McKee, M. G. (2010). Biofeedback in medicine: Who, when, why and how? *Mental Health in Family Medicine*, 7(2), 85. <https://pmc.ncbi.nlm.nih.gov/articles/PMC2939454/>
- Hittner, J., & Fawcett, M. (2012). Developing a counselor education clinic: The first year. http://www.counseling.org/docs/vistas/vistas_2012_article_22.pdf?sfvrsn=3
- Juhnke, G. A., Huffman, S. B., Nilsen, K. A., Adams, J. R., Dew, B. J., Jordan, J. P., Charkow, W. B., Curtis, R. C., Gmutza, B. M., Long, J. A., Booth, C. S., Hagedorn, W. B., Rubio, P., & Schroat, D. A. (2002). Establishing an alcohol and other drug assessment and intervention program within an on-site counselor education research and training clinic. *Journal of Addictions and Offender Counseling*, 22, 83–90. <https://doi.org/10.1002/j.2161-1874.2002.tb00164.x>
- Kopka, M. (2023). Heart rate variability biofeedback in the treatment of depression. *Biofeedback*, 51(1), 1–6. <https://doi.org/10.5298/1081-5937-51.01.01>
- Lauka, J. D., & McCarthy, A. K. (2013). Proposed guidelines for operating counselor education and supervision training clinics. *Counselor Education & Supervision*, 52, 109–121. <https://doi.org/10.1002/j.1556-6978.2013.00032.x>
- Lauka, J. D., McCarthy, A. K., & Carter, D. A. (2014). A national survey on counseling training clinics in CACREP-accredited programs. *Journal of Counseling in Illinois*, 3(1), 5–16.
- Lehrer, P., Kaur, K., Sharma, A., Shah, K., Huseby, R., Bhavsar, J., & Zhang, Y. (2020). Heart rate variability biofeedback improves emotional and physical health and performance: A systematic review and meta-analysis. *Applied Psychophysiology and Biofeedback*, 45(3), 109–129. <https://doi.org/10.1007/s10484-020-09466-z>
- Mayo Clinic (2019). Biofeedback. <https://www.mayoclinic.org/tests-procedures/biofeedback/about/pac-20384664>
- McCord, C. E., Saenz, J. J., Armstrong, T. W., & Elliott, T. R. (2015). Training the next generation of counseling psychologists in the practice of telepsychology. *Counselling Psychology Quarterly*, 28(3), 324–344. <https://doi.org/10.1080/09515070.2015.1053433>
- McDonald, T., Debbarma, A., Whaley, C., Reid, R., & Dowd, B. (2023). Barriers primary care clinic leaders face to improving value in a consumer choice health plan design. *Health Affairs Scholar*, 1(6), qxad065. <https://doi.org/10.1093/haschl/qxad065>
- Palme', H., Skinner, D., Bode, S., & Irwin, M. K. (2023). An imperfect space: Logistical considerations in school-based health centers. *Journal of School Health*, 93(10), 900–909. <https://doi.org/10.1111/josh.13361>
- Prestes Vargas, J., Smith, M., Chipchase, L., & Morris, M. E. (2024). Impact of interprofessional student led health clinics for patients, students and educators: a scoping review. *Advances in Health Sciences Education*, 1–25. <https://doi.org/10.1007/s10459-024-10342-2>
- Yu, B., Funk, M., Hu, J., Wang, Q., & Feijs, L. (2018). Biofeedback for everyday stress management: A systematic review. *Frontiers in ICT*, 5, 23. <https://doi.org/10.3389/fict.2018.00023>



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