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A systematic review of training programs for mental health professionals who are treating eating disorders

Shir Zion

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Pepperdine University
Graduate School of Education and Psychology

A SYSTEMATIC REVIEW OF TRAINING PROGRAMS FOR MENTAL HEALTH
PROFESSIONALS WHO ARE TREATING EATING DISORDERS

A clinical dissertation submitted in partial satisfaction
of the requirements for the degree of
Doctor of Psychology

by

Shir Zion

June, 2023

Adel Najdowski, Ph.D. - Dissertation Chairperson

This clinical dissertation, written by

Shir Zion

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF PSYCHOLOGY

Doctoral Committee:

Adel Najdowski, Ph.D., Chairperson

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TABLE OF CONTENTS

LIST OF TABLES	vii
LIST OF FIGURES	viii
DEDICATION	ix
ACKNOWLEDGEMENTS	x
VITA	xi
ABSTRACT	xvi
Chapter 1: Background and Rationale	1
The Seriousness of Eating Disorders	1
Ethics and Competence in Treating Eating Disorders for Mental Health Professionals	2
Training Resources for Primary Care Physicians and Social Workers	3
Advocacy for Psychologist Training in Eating Disorders	5
Chapter 2: Methodology	10
Systematic Review Approach	10
Eligibility Criteria	10
Inclusionary Criteria	10
Exclusionary Criteria	11
Search Strategy	12
Information Source	12
Search Terms	12
Screening and Selection of Studies	13
Data Collection and Extraction	14
Measures	15
Participant Characteristics	15
Experimental Design	15
Dependent Variables	15
Outcomes	16
Quality Appraisal	16
Availability of Technological Description of Training Procedures	17
Data Management	17
Chapter 3: Results	18
Selection Results of the Review	18
Screening Process Results	18
Excluded Studies	19
Demographic Information of Participants	19
Population of Interest, Number of Years Practicing, and Work Setting	19

Age Range and Gender	20
Race and Ethnicity	21
Study Design.....	21
Dependent Variables.....	21
Target Behaviors.....	21
Measurement of Target Behaviors.....	23
Independent Variables	23
Training Topics.....	23
Training Methods.....	24
Training Modality.....	25
Training Intensity and Length.....	25
Outcomes of the Training	26
Overall Effects	26
Effects on Knowledge, Attitudes/Beliefs, and Skills.....	27
Effects of Comparative Studies.....	27
Maintenance of Effects	28
Quality Appraisal.....	28
Availability of Technological Description of Training Procedures.....	29
Unattainable Training Materials	29
Attainable Training Materials	30
 Chapter 4: Discussion	 32
Demographic Information of Participants	32
Study Design.....	34
Dependent Variables.....	34
Independent Variables	36
Training Topics.....	36
Training Methods and Modalities.....	37
Training Intensity and Length.....	39
Outcomes of Training.....	39
Quality Appraisal.....	41
Availability of Technological Description of Training Procedures.....	41
Conclusions.....	42
 REFERENCES	 45
 TABLES	 56
 FIGURES.....	 63
 APPENDIX A: Screening and Selection Record.....	 71
 APPENDIX B: Data Collection and Extraction Form.....	 73
 APPENDIX C: Individual Study Quality Assessment (Template).....	 76

APPENDIX D: IRB Approval 79

LIST OF TABLES

Table 1: Search Documentation Record	56
Table 2: Evidence Table	57
Table 3: Training Intensity and Length	61

LIST OF FIGURES

Figure 1: PRISMA Flow Diagram.....	63
Figure 2: Population of Interest	64
Figure 3: Target Behaviors	65
Figure 4: Knowledge Measured.....	66
Figure 5: Attitudes and Beliefs Measured	67
Figure 6: Skills Measured.....	68
Figure 7: Training Topics	69
Figure 8: Training Methods	70

DEDICATION

Since as far back as I can remember, my father and mother have encouraged me to be the greatest version of myself. As a first generation American, they wanted me to have every advantage they did not. Seeing how much they sacrificed for me, worked tirelessly for me to have the opportunities that I have, and motivated me to believe in myself, was without question the reason I am who I am today and have achieved all that I have. They have also been my number one supporters and cheerleaders professionally and academically. Without their example of what hard work, perseverance, and dedication looks and feels like, I would not be here today. Thank you Emmale and Abbale for every word and action of love and support you have given me. I love you!

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I would like to start off by thanking my incredibly supportive and dedicated chairperson, Dr. Adel Najdowski. You have helped me fall in love with research all over again, and I am so grateful to have had such a wonderful partner in crime with you by my side. Special thanks to my committee member Dr. Robert deMayo, who I have shared a special connection with since my first year in the PsyD Program, and who has been my advocate and cheerleader since day one. Furthermore, I would like to thank the many classmates and professors whom I consulted with during this process, as their source of overwhelming kindness and collaboration continues to inspire me. I would also like to thank my mentor and friend, Dr. Ellie Kazemi, for introducing me to Dr. Najdowski and to the beautiful world of research. Lastly, but certainly not least, I would like to acknowledge my dear friends and family who have endured me and my reclusive state through the ups and downs of this program, and who have always been there for me when I needed a shoulder to lean on, an ear to listen, and a heart to comfort; thank you all!

VITA

Shir Zion

Education

Pepperdine University, Graduate School of Education and Psychology **2019 - 2023**
 Los Angeles, California, Anticipated *Doctor of Psychology in Clinical Psychology*
 Specialty Tracks: Cognitive Behavior Therapy and Family-Based Treatment

California State University, Northridge

Master of Arts in Clinical Psychology **2014 - 2017**
Bachelor of Science in Finance and Business Administration/Honors in Business **2009 - 2010**

Clinical Experience

Therapist – Pre-Doctoral Intern **Expected August 2022 – July 2023**

Aurora Behavioral Health Care, General Track, San Diego, California

Supervisors: *Dr. Jeff Daly (Primary) and Dr. Marie Secrist (Delegate)*

- Received extensive DBT training, including an eight-week DBT workshop series
- Facilitated DBT and CBT-focused groups and individual therapy for children, adolescents, and adults presenting with acute symptomatology
- Led a didactic training on eating disorders to practicum students, interns, and staff
- Worked with individuals presenting with substance abuse/addiction, trauma, suicidal ideations, and was referred to work with patients who presented with disordered eating and body dysmorphia
- Participated in treatment team meetings with a multidisciplinary team in a psychiatric inpatient/outpatient hospital
- Conducted and interpreted neuropsychology inventories, including the WISC-V, WAIS-IV, Delis-Kaplan Executive Functioning System Color Word Interference Test (D-KEFS), Comprehensive Trail Making Test (CTMT), and Vanderbilt Parent Assessment Scale
- Participated in weekly didactic trainings (e.g., DBT and Yalom Process Groups), testing supervision, and individual and clinical group supervision

Therapist – Practicum Trainee**June 2020 – July 2022**

Pepperdine's Community Counseling Center Encino, California

Supervisor: *Dr. Anat Cohen*

- Conducted weekly DBT and CBT sessions with adult clients who presented with trauma, disordered eating, body dysmorphia, suicidality, anxiety, depression, and borderline symptoms
- Conducted and intake sessions, diagnostic assessments, and developed diagnostic conceptualizations
- Assessed for suicidality and developed safety plans with clients

Therapist/Group Facilitator – Practicum Trainee**July 2021 – June 2022**

Hoag Hospital Health Psychology Track for Intensive Outpatient Services: YAMH Young Adult Mental Health Program and ASPIRE Adolescent Program Newport Beach and Irvine, California

Supervisor: *Dr. Lauren Bennett*

- Facilitated DBT groups for adults and adolescents who presented with trauma, addiction, disordered eating, depression, suicidality, and anxiety
- Conducted intakes, check-in sessions, and assessments with clients
- Worked within a multi-disciplinary team to create case conceptualizations and treatment plans

- Attended weekly didactic training sessions and created programming materials for the DBT skills groups

Behavior Coach – Practicum Trainee

June 2020 – June 2021

UCLA Adult OCD Intensive Outpatient Treatment Program Los Angeles, California

Supervisors: *Dr. Sarosh Motivala and Dr. Ana Ribas*

- Conducted ERP Therapy with adults who presented with OCD, trauma, disordered eating, and hoarding symptoms
- Collected OCD fear hierarchies and goals to develop appropriate exposures
- Worked within a multi-disciplinary team of therapists, psychiatrists, and other medical professionals
- Managed crisis interventions and administered the Y-BOCS assessment

Therapist – Practicum Trainee

September 2019 – June 2020

Pepperdine’s School-Based Counseling Site: Wiseburn/Da Vinci Practicum Los Angeles, California

Supervisor: *Dr. Keegan Tangeman*

- Conducted CBT with adolescents in a high school setting who presented with trauma, disordered eating, body dysmorphia, grief, suicidality, anxiety, and depression
- Conducted intake sessions and built rapport with parents and adolescents
- Assessed for suicidality, created safety plans, and developed diagnostic conceptualizations for clients

Behavior Specialist and On-Boarding/Training Coordinator

September 2017 – August 2018

Western Michigan University’s Behavior Analysis Summit Pointe Agency Battle Creek, Michigan

Supervisors: *Dr. Jessica Frieder and Dr. Sean Field*

- Utilized Behavior Analytic procedures to help adult and child clients gain ADL skills
- Constructed behavior plans and data sheets while training direct care staff

Therapist – Practicum Trainee

September 2014 – May 2016

California State University, Northridge, Clinical Psychology MA’s Anxiety and Mood Disorders Clinic

Supervisor: *Dr. Jill Razani*

- Provided CBT treatment to adult clients who presented with depression, anxiety, and grief

Research Experience

Graduate Dissertation

September 2021 – April 2023

Pepperdine University

Dissertation Chair: *Dr. Adel Najdowski*

- Successfully passed Dissertation Preliminary Examination in 2021
 - Entitled “A Systematic Review of Training Recommendations for Mental Health Professionals who are Treating Eating Disorders”
- Currently preparing for dissertation defense

Graduate Research Assistant

September 2017 – August 2018

Western Michigan University, Learning About Behavior (LAB) Lab

Supervisor: *Dr. Jessica Frieder*

- Provided feedback and developed data collection methods for research and presentations
- Collected and interpreted data for research purposes and presentations
- Constructed detailed behavior plans and data sheets

Graduate Research Assistant**September 2014 – June 2017**

California State University, Northridge's Simulation-Based Training & Behavioral Research Lab: K-Lab Thesis Chair and Research Lab Supervisor: Dr. Ellie Kazemi

- Successfully defended master's thesis that integrated both single-subject and group designs to evaluate the effects of an antecedent treatment package on college students' snack selection
- Acted as a simulated client, data collector, experimenter, script reader, and researcher
- Conducted literature reviews and interobserver agreement calculations

Research & Conference Presentations

Zion, S. & Kazemi, E. (2017). Experimental analysis of variables that affect healthier snack selection. Master's Thesis Defense.

- Findings presented as part of a symposium entitled, "Everything Under the Sun: Training, Robots, Snack Selection, and Workplace Conflict" at the 35th Annual Convention of the California Association of Behavior Analysis (CalABA), Anaheim, CA, and "Choice, Healthy Eating, and FA Training" at the 43rd Annual Convention of the Association for Behavior Analysis International (ABAI) Conference, Denver, CO.

Zion, S. & Kazemi, E. (2016). A step towards obesity presentation: can we alter college students' snack selections? Student organization Brown Bag for the Student Association for Behavior Analysis (SABA).

Zion, S., Kazemi, E., & Jones, S. (2016). A review of behavioral interventions that increased healthy food selection. Poster presented at the 34th Annual Convention of the California Association of Behavior Analysis (CalABA), Santa Clara, CA.

Hansard, C., Zion, S., & Kazemi, E. (2015). A review of components used in video training packages. Poster presented at the 33rd Annual Convention of the California Association of Behavior Analysis (CalABA), San Diego, CA.

Baumbach, T.J., Freeman-Dirksen, I.S., Li, X., Zion, S., & Quilici, J.L. (2013). The relation of gender and food thought to weight perception. Poster presented at the 93rd annual convention of the Western Psychological Association, Reno, NV.

Leadership & Supervisory Experience**Peer Consultant****September 2021 – July 2022**

Pepperdine's Community Counseling Center Encino, California

Supervisor: Dr. Anat Cohen

- Held weekly supervisory meetings with a first-year PsyD student
- Provided feedback on therapy sessions based on self-report and pre-recorded session observation
- Provided peer with psychoeducation and consultation regarding their client load and written materials

Steering Committee Member**March 2021 – July 2022**

Pepperdine University Student Government Administration (SGA) Member West Los Angeles, California

- Member of a student and faculty panel that discussed the direction of the Graduate School of Education and Psychology PsyD Program, curriculum changes, and goals of the academic environment.

Portola Middle School Anti-Bullying Presentation**November 2019***Pepperdine University Outreach Program, Tarzana, California*Supervisor: *Dr. Anat Cohen*

- Presented PowerPoint presentations to several hundred middle school students, faculty, and administrative staff regarding the dangers of cyberbullying
- Offered students, faculty, and administration resources for ongoing support and psychoeducation

Graduate and Lab Coordinator**September 2015 – August 2017***California State University, Northridge's Simulation-Based Training & Behavioral Research Lab: K-Lab*Supervisor: *Dr. Ellie Kazemi*

- Supervised the progress of undergraduate lab members and provided weekly feedback on their research, writing, and presentation skills

Senior Peer Educator and Presenter**September 2013 – May 2014***California State University, Northridge's Joint Advocates on Disordered Eating (JADE) Program*

- Conducted presentations on the CSUN campus, which were dedicated to increasing awareness around body image and the prevention of eating disorders
- Trained in understanding the various intersecting factors that contribute to the development of poor body image and disordered eating
- Learned to recognize potential risk factors, symptoms, treatment options, and referral sources for individuals engaging in disordered eating

Teaching Experience**Graduate Teaching Assistant****January 2018 – May 2018***Western Michigan University, Behavior Analysis Ph.D. Program Kalamazoo, Michigan*Supervisor: *Dr. Jessica Frieder - Course: PSY 2517, Course Specializing in Behavior Analysis*

- Presented on numerous topics, including the application of clinical psychology and behavior analysis on various populations
- Constructed weekly quizzes and mentored two undergraduate teaching assistants

Graduate Pedagogical Aide**September 2016 – December 2016***California State University, Northridge, Clinical Psychology M.A. Program*Supervisor: *Dr. Ellie Kazemi - Course: PSY 351, Behavioral Psychology and Therapy*

- Managed online student platform (e.g., uploaded grades and lectures, updated grades, and analyzed student performance)
- Developed exam questions and created study tools for students (e.g., practice quizzes, and lectures)
- Held office hours to answer students' questions related to class lectures and homework

Trainings Received

DBT Training at Aurora Behavioral Health Care, Hoag Hospital, and Pepperdine University

CBT and ACT Training at Aurora Behavioral Health Care and Pepperdine University

Family-Systems at Pepperdine University

ERP Training at UCLA OCD IOP

Anti-Racism and Cultural Awareness Training at Pepperdine University

Didactics on topics including suicide, addiction, neuropsychology, trauma, and more at Aurora Behavioral Health Care and Hoag Hospital

Awards and Honors

2016 Behavior Analysis Research Award, California State University, Northridge

2015 – 2016 Creative Endeavors Scholarship, California State University, Northridge

2015 Spring Thesis, Dissertation, Project Support Scholarship, California State University, Northridge

Languages

Fluent in English and Hebrew

ABSTRACT

Eating disorders are among the most dangerous mental health disorders, and the prevalence rates for them are on the rise. However, the literature is lacking when it comes to quantitative training recommendations for mental health professionals who wish to learn how to screen for, prevent, and treat individuals with eating disorders. This systematic review identified, reviewed, and synthesized the findings from studies ($n = 14$) concerning the impact of various training modalities on professionals and students who specialize in eating disorder prevention, screening, and treatment, on their knowledge, attitudes/beliefs, and skills. The aim was to identify training recommendations, across various fields, for aspiring mental health professionals who wish to specialize in the treatment of eating disorders. English-language quantitative studies that examined components associated with curriculum, training, and eating disorders were included in the review. The results indicated that most studies trained their participants on various therapies and modalities of treatment, that video examples and educational videos were used to deliver trainings, and that web-based videos were the most popular modality of training. Therefore, these particular topics and methods of training may be recommended for mental health professionals in these specific areas of interest. Further, it is recommended that future researchers continue to cultivate valuable research for the professional mental health community on the treatment of EDs. Areas for future research are discussed.

Keywords: curriculum, eating disorders, mental health, psychology, training

Chapter 1: Background and Rationale

The Seriousness of Eating Disorders

Eating disorders (ED) are associated with several adverse consequences including high medical and psychiatric comorbidity, poor quality of life, high morbidity, and detriments to psychological, social, and physical health (Agras, 2001; de la Rie et al., 2005; Fairburn, 1995; Klump et al., 2009). Not only do EDs lead to such negative outcomes, they are also the leading psychiatric disorder affecting young women (Pritts & Susman, 2003) and serve as the 12th leading cause of disability (Hoek, 2016). One in 10 adolescent women experience symptoms associated with bulimia nervosa (Lewinsohn et al., 2000), and anorexia nervosa has the highest mortality rate of all mental disorders in part due to suicide, medical complications associated with malnutrition, or other comorbid medical disorders (Birmingham et al., 2005; Halmi, 2009).

The general consensus is that the prevalence of EDs is approximately 1% and on the rise (Mitchison et al., 2012; Qian et al., 2013). However, according to Halmi (2009), it is important to note that the exact prevalence of EDs is difficult to determine. Current ED prevalence rates may be underreported due to several reasons. First, the data pertaining to the incidence of EDs may only be related to limited populations. Second, there are those who are unwilling to admit to having an ED. Third, EDs may be recurrent in nature. Therefore, prevalence rates may be higher than reported. This information suggests that the prevalence of EDs is potentially greater than initially thought, which presents serious implications for professionals in the mental health field (Halmi, 2009).

For example, millions of people who experience EDs may not be receiving the assistance they need (Kazdin et al., 2016). Though EDs rank among the most common presenting complaints in college counseling centers (Zivin et al., 2009), less than 20% of college students

who present with symptoms related to EDs report receiving treatment (Eisenberg et al., 2011), and only about one third of those with anorexia nervosa and 6% of those with bulimia nervosa receive mental health treatment (Hoek & van Hoeken, 2003). This is even more troublesome considering that EDs are generally chronic and prone to relapse, which may lead to depression and anxiety related comorbidity (Dawson et al., 2014; Lowe et al., 2001) and require ongoing care for maximum results. Interestingly, those with an ED are more likely to incur higher health care expenses in treatments that are not related specifically to EDs compared to individuals without an ED (Weissman & Rosselli, 2017). Furthermore, Kazdin et al. (2016) noted that White individuals with an ED are more likely to be diagnosed, receive appropriate care and referrals, and be asked about ED indicators compared to those from minority backgrounds who also present with EDs. These examples highlight the disparity and necessity for more ED-related care to individuals across settings and backgrounds.

Ethics and Competence in Treating Eating Disorders for Mental Health Professionals

According to Kazdin et al. (2016), therapist competence may be linked to treatment outcome, and given the seriousness of EDs and the exceptionally vulnerable client groups who seek treatment, the need for increased professional competence in this area is greater than ever (Williams & Haverkamp, 2010). According to Williams and Haverkamp (2010), mental health professionals' codes of ethics reflect the need for professional competence (e.g., Barnett et al., 2007; Falender & Shafranske, 2007; Kaslow et al., 2007; Kitchener, 2000). For example, the American Psychological Association's (2002) *Ethical Principles of Psychologists and Code of Conduct* states that "psychologists provide services to populations and in areas only within the boundaries of their competence, based on their education, training, supervised experience,

consultation, study, or professional experience” (p. 4). The American Counseling Association’s (2005) ethics codes list comparable standards.

Unfortunately, when mental health professionals, such as psychologists, are not adequately trained in the area of EDs and have a limited understanding of these disorders, there can be substantial risk for iatrogenesis (Garner, 1985). According to Williams and Haverkamp (2010), despite having the knowledge that there is a lack of competence related to the management of EDs (e.g., Gurney & Halmi, 2001; Rosenvinge et al., 2003), there remains insufficient training as well as a lack of competency and overall confidence for professionals who are working with individuals who have EDs (Jones & Larner, 2004). For example, graduate school training opportunities for those interested in treating EDs are likely “insufficient and inadequate” (Wilson et al., 2007, p. 207). Unfortunately, this means that sufficient supervision and in vivo exposure to those with EDs may be rare. This is unfortunate, because the need for increased knowledge and treatment of EDs exceeds readily available competent and well-trained mental health professionals (e.g., minimal resources may be found in rural areas and urban areas may have a lack of resources due to a high demand). In an effort to compensate for a lack of resources and training, clinicians may be tempted to treat individuals on matters outside their expertise. ED treatment standards in the professions of psychiatry (American Psychiatric Association, 2000, 2006) and social work (American Board of Examiners in Clinical Social Work, n.d.) are being developed; however, standards are largely lacking in psychology and other mental health fields (Williams & Haverkamp, 2010).

Training Resources for Primary Care Physicians and Social Workers

With regards to the training of primary care physicians, there are several arguments advocating for the development of practice guidelines related to identifying EDs. One reason for

this is because the majority of those who seek treatment for EDs will likely first visit their physician (Dickerson et al., 2011; Striegel-Moore et al., 2008). If physicians do not receive sufficient training, they run the risk of neglecting to provide a valid ED diagnosis (Kazdin et al., 2016). Further, according to McVey et al. (2005), most primary care physicians do not have the necessary skills to detect EDs, which lead them to neglect to detect a significant majority (92%) of ED diagnoses (Linville et al., 2010).

Gurney and Halmi (2001) have developed an EDs curriculum for primary care providers, including internists, pediatricians, obstetricians, nurse-practitioners, nurses, social workers, and lab technicians. The curriculum is meant for doctors and nurse-practitioners to receive adequate training regarding medical assessment, diagnosis, and treatment. Social workers also undergo intensive training in the assessment, diagnosis, and treatment of those with EDs (Gurney & Halmi, 2001). According to Gurney and Halmi (2001), providers, such as social workers, should have a deep and thorough understanding of EDs prior to working with clients with EDs, and therefore this curriculum was developed to aid them. Interestingly however, there does not seem to be many resources for mental health practitioners who work directly and frequently with clients who have EDs.

A study by Linville et al. (2010) sought to examine the training needs and ED screening and intervention practices of medical providers. Results showed that the medical providers stated their need for more effective training, continuing education opportunities, and consultative forums on EDs to be offered more frequently by medical training programs. Furthermore, providers identified medical schools, continuing education, and collaborative forums, with access to other providers, as environments where ED training should occur (Linville et al., 2010). Learning this information, lends the question: why is this level of attention not brought to the

training needs of psychologists who are also on the front lines diagnosing and treating clients with EDs and their comorbid conditions?

This question is further brought into sharp focus in a study conducted by McVey et al. (2005), which led a community-based training to increase the participants' knowledge and level of comfort when treating clients with EDs. This training led to statistically significant results, suggesting that training can lead participants to have increased perceived knowledge about EDs, body image, confidence in treating clients with EDs, and confidence in teaching a curriculum on body image and self-esteem. Despite these results, only approximately 3% of the participant sample consisted of psychologists. In a study by Gurney and Halmi (2001), which also assessed a training program for primary care providers, only social workers were included as participants. These studies serve as just two examples found in the literature on training practitioners in the assessment and treatment of EDs, leaving the question as to what the state of the ED research will reveal about what training exists for psychologists. Questionably, is there a collection of recommended trainings for the treatment and prevention of EDs that is suitable for the mental health profession?

Advocacy for Psychologist Training in Eating Disorders

According to the American Psychological Association (2020), the definition of “psychology,” in part, states that if one wishes to practice psychology, they must have and use their psychological knowledge to understand and help mitigate any cognitive, emotional, and physical dysfunction. They must also help improve behavior in a variety of settings (e.g., school, workplace, hospital, treatment center). Therefore, it can be deduced that the role of a psychologist, in part, is to help their clients lead higher quality lives by addressing concerns commonly found in the American Psychiatric Association's (2022) *Diagnostic and Statistical*

Manual of Mental Disorders (5th ed., Text Rev.; *DSM-5 TR*), which includes EDs. As inferred from the above section, psychologists who wish to focus their practice on the treatment of EDs should only be able to do so once they are deemed competent enough to effectively help that population without causing harm due to lack of training (American Psychological Association, 2002).

There are several settings of practice (i.e., outpatient treatment, inpatient hospitalization, residential treatment, partial hospitalization, and private practice) within the field of EDs, and each one of these settings may require a different level of training. For example, research has suggested that psychologists who wish to work in an inpatient unit may require a very unique experience (Halmi, 2009), such as having familiarity with what an ideal ED inpatient unit looks like. This may include: (a) a dining room space and day room areas that allow the patients to be monitored during meals and leisure time; (b) the bathroom area, which is generally locked to prevent purging behaviors; and (c) the television monitoring area for staff (requires consent from the patients), which is meant to help reduce any of the patients' surreptitious exercise (Halmi, 2009). Lastly, experience working with a multidisciplinary team is invaluable, as it "provides the most effective treatment service" for patients with EDs (Halmi, 2009).

More generally speaking, in order to acquire a higher level of training that would lead to success in the diagnosis and treatment of EDs, it has been suggested that training should be obtained in an EDs facility that offers inpatient, outpatient, and day program treatment (Halmi, 2009). More specifically, the trainee should also have access to and gain experience working with professionals that constitute a multidisciplinary team. These professionals may include primary care physicians, social workers, nutritionists, psychiatrists, and a variety of mental health professionals (Halmi, 2009). Working within a multidisciplinary team has been advocated

for (Cook et al., 2016; Fogarty et al., 2016) because doing so helps the individual in treatment: (a) restore their weight (i.e., within a normal range, in comparison to their height and age), (b) normalize eating behaviors as well as weight and size cognitions, and (c) manage any mental and physical co-morbidities (Fogarty et al., 2016).

Over the years, several recommendations have been made by researchers with regards to effective treatment orientations and modalities to help treat EDs. Some of these include family therapy (Hay, 2013; Lock & Le Grange, 2005), exercise regimens (Cook et al., 2016), cognitive behavioral therapy (CBT), interpersonal therapy (IPT), dialectical behavior therapy (Halmi, 2009), exposure and response prevention techniques (Halmi, 2009), and group therapy to address various areas of concern, which may include interpersonal conflicts, nutrition-based psychoeducation, the potential for medical concerns and relapse prevention, confidence training, self-discipline strategies, independence-related issues, and boundary-setting problems. The hope within a group therapy format is for the patient to gain an increased awareness of their symptoms and triggers, while developing effective coping strategies (Halmi, 2009).

Despite these recommendations, only 6%-35% of clinicians who treat EDs report utilizing evidence-based guidelines (Waller, 2016). In fact, practicing psychologists tend to not use treatments that have been empirically validated due to having received minimal training and because these treatments do not address effective ways to mitigate general concerns and comorbid conditions that individuals with EDs frequently report having (Haas & Clopton, 2003). To highlight this concern, only 13% of clinicians report having used any therapeutic model while working with and treating individuals with EDs (Tobin et al., 2007). Researchers have suggested that clinicians do not utilize treatment manuals consistently enough in therapy to mitigate the behaviors associated with EDs (Tobin et al., 2007; Wallace & von Ranson, 2011). These

suggestions have led researchers to hypothesize that limiting the use of effective treatment manuals can hinder the client's overall success in treatment (Waller et al., 2012). In an effort to help achieve treatment success, research has been conducted to highlight the fact that psychologists should have greater access to specified training pertaining to diagnosing and treating EDs. For example, despite there being a dearth of research asking psychologists what their training needs are with regards to EDs, a study by Lafrance Robinson et al. (2013) found that both physicians and psychologists reported having encountered a child or adolescent who presented with an ED and were unable to treat them due to primarily three barriers: having lack of skills, case complexity, and lack of resources. Similarly, these results can be found in other areas across the literature in which researchers have indicated that training in pediatric ED treatment is insufficient (Lafrance Robinson et al., 2013). Therefore, it may be worthwhile to increase the number of formal training opportunities for students in doctoral studies, and professionals alike (Lafrance Robinson et al., 2013). These efforts are particularly worthwhile given the self-identified training needs of clinicians, as well as the chronicity, mortality rates, and health care costs associated with the illness (Lafrance Robinson et al., 2013).

Therefore, researchers have urged university graduate programs and practicum sites to dedicate some of their training efforts specifically towards empirically-validated practices and treatments in EDs as they do towards other areas of concern related to mental health (Haas & Clopton, 2003). Further, it would be in the best interest of these programs to devote more of their time and energy into effectively training mental health professionals in the treatment of EDs because of the physical, behavioral, emotional, and fiscal costs incurred as a result of these disorders (Varnado-Sullivan et al., 2001). As noted above, most training curricula for the treatment of EDs has been geared towards medical professionals, and the mental health

profession still has a long way to go in growing their research in this area. While there is clearly a need for more training (both within and outside of the university setting), it is still unclear what that training should entail. Therefore, the aim of the current literature review is to assemble a collection of training recommendations, including those from the medical field, for mental health providers who wish to treat, screen for, and prevent the development of EDs.

Chapter 2: Methodology

Systematic Review Approach

A systematic review with integrative synthesis of quantitative studies was used for this study. This review reflects the results of quantitative studies in hopes to provide sufficient evidence to suggest what training programs and criteria are recommended for mental health professionals who wish to treat, screen for, and prevent the development of EDs. This approach was also selected in order to shed light on the disparity of research that has been conducted in this particular area. In other words, the role of this review and the methodological approach provides mental health clinicians with resources and tools to better treat, and identify methods of prevention for, their population of interest. It also serves as a call to action for more studies that could be conducted in this area. This review follows guidelines from the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) which is informed by the review standards, guidelines, and recommendations of the Cochrane Collaborative, the Campbell Collaborative, the U.S. Department of Health and Human Services, and the National Academy of Sciences (Moher et al., 2009).

Eligibility Criteria

Inclusionary Criteria

The selected studies were required to meet all the following criteria in order to be included.

Source Eligibility. The current study did not restrict articles based on country of publication or publication year due to the limited number of literature that was present with regard to this topic. However, only articles written in English and articles with a status of having been published were included in the present review. The hope was to find the most recently

reviewed quantitative evidence for effective training recommendations for those specializing in ED treatment.

Population. The population of interest were professionals and graduate students identified as having worked towards treating those with EDs. According to the American Psychiatric Association (2022), EDs, such as anorexia nervosa, are characterized by maladaptive eating behaviors that may result in significantly impaired physical and mental health. For the purposes of this study, the author reviewed literature related to anorexia nervosa, bulimia nervosa, binge-eating disorders, and the overarching terms “eating disorders” or “disordered eating.” Despite these disorders being more common in females in childhood and adolescence, this review did not restrict articles based on gender or age of the participant. Furthermore, no restrictions were placed on the socioeconomic status, ethnic, or racial backgrounds of the participants.

Setting. Given the aims of this review, recommendations, which can be applied to mental health professionals, were taken from any setting. These included hospital, residential, and clinical settings, to name a few.

Research Design. The author reviewed and recorded articles that included experimental designs in order to collect effective training methods that have led to behavior changes following ED training. Once all articles were collected, the researcher and Chair identified and evaluated specific study designs.

Exclusionary Criteria

Despite there being other types of disorders classified under the Feeding and Eating Disorders category in the *DSM-5 TR* (e.g., Pica and Rumination Disorder), the present study primarily focused on research targeting training for treating anorexia nervosa, bulimia nervosa,

and binge-eating disorder, as they appear to be the most prevalent (American Psychiatric Association, 2022), in addition to “eating disorders” and “disordered eating.” Participants with comorbid or differentially diagnosed medical (e.g., cancer) and psychiatric conditions (e.g., schizophrenia), which affect appetite, were not included in this review.

Search Strategy

Information Source

A comprehensive electronic literature search utilizing PsycInfo, Scopus, and PubMed/MedLine was conducted and recorded.

Search Terms

Search terms used to identify critical articles related to three major themes: (a) curriculum, (b) training, and (c) eating disorders. The terms that encompassed (a) the curriculum theme included “curriculum or curricula or instruction or teaching or learning”, (b) “train*”, and (c) the eating disorders theme included “eating disorders or anorexia or bulimia or disordered eating” (See Table 1 for the Search Documentation Record). These search terms applied to keywords, titles, abstracts, and references of all articles.

The finalized search syntax utilized on PsychInfo on 02/12/2022 consisted of 124 articles; however, after 70 duplicate articles had been removed there were a total of 54 articles remaining. Additional tags that were included were “peer reviewed,” articles in “English,” and “quantitative” methodology. The finalized search syntax utilized on PubMed on 02/14/2022 consisted of 214 articles; however, after 55 duplicate articles had been removed there were a total of 159 articles remaining. Article type tags that were included were: “clinical trial,” “clinical trial protocol,” “clinical trial” (phase I, II, III, IV), “comparative study,” “controlled clinical trial,” “evaluation study,” “observational study,” and “practice guideline.” The species

tag included was: “human.” The language tag was: “English.” The finalized search syntax utilized on Scopus on 02/27/2022 consisted of 327 articles; however, after 89 duplicate articles had been removed there were a total of 238 articles remaining. Additional tags that were included were “final pubstage,” the “English” language, and “journal” source type. After completing the initial screening phase, which included reviewing the article title, abstracts, and keywords, the author yielded 13 PsychInfo articles, 22 PubMed articles, and 91 Scopus articles, for a total of 126 articles of which to complete a full-text review. Once the full-text review was complete, a total of 14 articles were used for the literature review (2 from PsychInfo, 1 from PubMed, and 11 from Scopus).

Screening and Selection of Studies

The study selection process consisted of three phases: The initial screen (i.e., screening the articles’ abstracts, keywords, and titles), the full-text screen of all articles, and the final decision. The primary author screened the titles, abstracts, and key terms to identify possible relevant articles (i.e., articles in which the authors discuss training that can be applied to mental health professionals treating ED). Articles were selected during the initial screening (See the Screening and Selection Record in Appendix A) if they contained the following three criteria:

1. Independent Variable: Training for professionals treating, screening for, and/or preventing EDs.
2. Dependent Variable: Outcomes related to training professionals to treat, screen for, and/or prevent EDs.
3. Population: The study examines individuals who identify as being graduate students or practicing professionals who wish to treat, screen for, and/or prevent the development of EDs.

The initial screening yielded a total of 665 articles across the three search engines and 451 articles after duplicates were removed. See Figure 1 for a PRISMA Flow Diagram summarizing the number of articles across the three phases of study selection. After the initial screening was completed, the primary author conducted a full-text screen using the eligibility criteria to identify the studies that were used in the integrative synthesis of quantitative studies to answer relevant research questions. The same three questions were also used during the full-text review to determine eligibility for the systematic review, along with confirming the presence of the inclusionary criteria (e.g., publication status and language of study). The full-text review yielded a total of 126 articles with 112 being excluded for a variety of reasons (e.g., participants in the study were “carers” of those with EDs, the study measured behaviors related to EDs and several other co-morbidities, the studies were qualitative in nature). Lastly, during the final screening phase, 14 articles were included in the review.

Data Collection and Extraction

A Data Collection and Extraction form was used to gather information that aligns with the target variables (See Appendix B). Data extracted included:

- general information (e.g., study identification data, author information, year of study, title, database, date of review);
- eligibility criteria (e.g., quantitative ED training literature that had been published and written in English, any comorbid/differential diagnoses, type of ED documented);
- methodology information (e.g., study design, setting, purpose of study);
- participant characteristics (e.g., expertise classification, employment location, age, sex, race/ethnicity);

- intervention (e.g., training topics, intervention format, intensity/length of training, technological descriptions);
- outcome measures (e.g., dependent variables, results).

Measures

The articles that met the criteria to be included in the following review were evaluated along seven dependent measures: (a) participant characteristics, (b) experimental design, (c) dependent variables (d) independent variables (e) outcomes of the training, (f) quality appraisal, and (g) availability of technological description of training procedures.

Participant Characteristics

If available, the participant characteristics that were evaluated included: (a) gender, (b) discipline, (c) work setting, (d) practice or education length, (e) age, and (f) race/ethnicity.

Experimental Design

Quantitative designs, which result in data-based changes in professionals' self-confidence, attitude, knowledge, skills, or stigmatized beliefs regarding eating disorders, were taken into consideration.

Dependent Variables

Behaviors Targeted. Overt behaviors that were targeted in each study included: changes in the participants' performance immediately post training and any changes to prolonged implementation of new skills in the participants' practice. Subjective, vocal verbal, measures, such as participants' beliefs in their ability to properly assess and treat EDs, including the participant's self-confidence, attitudes, knowledge, skills or any reduction in stigmatized beliefs, will also be noted.

Various trainings were recorded and evaluated for each study. Examples of interventions that may be revealed include: (a) psychological therapy training (e.g., cognitive behavioral therapy or family therapy), (b) physical exercises (e.g., arts and crafts or working out), (c), medical training, (d) nutrition training, (e) administrative training (e.g., navigating working in an inpatient unit or with a multidisciplinary team), (f) psychoeducation training (e.g., learning about eating disorders and their nature), (g) training in-vivo with the clients, (h) training through a community forum, (i) reading materials, and (j) receiving supervision.

Intervention Modality and Intensity/Length of Training. The format of the training interventions that were delivered will be provided. For example, whether they occurred in person with the trainer or through an online format was recorded.

The number of training sessions (e.g., per day, week, month, etc.), the number of hours spent in training, per session, and the number of hours spent in training, per training phase was recorded.

Outcomes

The results of studies that utilized group designs were evaluated by noting statistically significant differences between baseline and intervention conditions. The extent to which results of effective training were sustained over time (maintenance) was recorded.

Quality Appraisal

In order to assess the quality of articles that were quantitative designs, a unique appraisal tool was utilized. The *Individual Study Quality Assessment* form (See Appendix C) was used to assess a range of domains using a Likert-type scale: Strong (3 points), Good/Adequate (2 points), Weak (1 point), Missing (0 points), or Not Applicable. This tool's versatility makes it the optimal tool for the current review. The appraisal tool assesses 12 domains, including the

strength of the rationale for the study, clarity of research aims, quality of research design, sample selection/characteristics, data collection tools, data analysis, study limitations, considerations of culture, and overall rating. The quality appraisal of studies occurred once the review and selection of studies was finalized.

Availability of Technological Description of Training Procedures

The training procedures in the studies were considered to be technological if a step-by-step training description was provided of the (a) training session, (b) session instructions, (c) if there was a reference to a published treatment manual, or (d) if there was a reference to a commercially available online curriculum. If none of these were included in the studies, then this information was noted.

Data Management

Data extracted from the articles were placed into and managed by Microsoft Excel spreadsheets. The data extracted was synthesized with data that is pertinent to the research question and was carefully reviewed using the quality appraisal form. Table 1 includes the following information from each of the articles: author name, sample size/participant title, purpose of the study, independent variable(s), dependent variable(s), and the key findings of the study.

Chapter 3: Results

As stated in the introduction, EDs are amongst the most dangerous and growing areas of concern within the world of mental health disorders. Despite the growth in EDs over recent years and the harmful implications they can have on mental and physical health, previous research has noted there seems to be a lack of information regarding effective training methods, specifically for mental health practitioners (Jones & Lerner, 2004; Waller, 2016; Williams & Haverkamp, 2010; Wilson et al., 2007). Therefore, the aim of the current literature review was to assemble a collection of training recommendations, including those from the medical and other related fields, for mental health providers who wish to prevent, screen for, and treat EDs.

This review serves two important functions: (a) as a call to action for researchers, supervisors in medical and psychological settings, and graduate institutions, to create more opportunities for those interested in the treatment of EDs to be more effectively trained and (b) to provide future researchers and practitioners with more empirical resources to draw from in order to directly train students and help a growing population of those suffering from EDs. The author was given approval by the IRB board at Pepperdine University on 2/3/2022 (See Appendix D).

Selection Results of the Review

Screening Process Results

As shown in Figure 1, the finalized search syntax utilized on PsychInfo on 02/12/2022 consisted of 124 articles; however, after 70 duplicate articles had been removed there were a total of 54 articles remaining. The finalized search syntax utilized on PubMed on 02/14/2022 consisted of 214 articles; however, after 55 duplicate articles had been removed there were a total of 159 articles remaining. The finalized search syntax utilized on Scopus on 02/27/2022 consisted of 327 articles; however, after 89 duplicate articles had been removed there were a

total of 238 articles remaining. After completing the initial screening phase, which included reviewing the article title and abstracts, the author yielded 13 PsychInfo articles, 22 PubMed articles, and 91 Scopus articles, for a total of 126 articles of which to complete a full-text review. Once the full-text review was complete, a total of 14 articles were used for the literature review (2 from PsychInfo, 1 from PubMed, and 11 from Scopus). In terms of the publication spread, across the 14 articles, the earliest published article was from 2001, with the most recent having been in 2020, thus these types of publications occurred within a 20-year span.

Excluded Studies

Articles were excluded during Phase I, in part, due to 214 duplicate articles out of the 665 retrieved from three different search engines. Once the duplicate articles were removed, 451 remained to be evaluated through Phase I. A combined 437 articles were then excluded during Phase I and II due to failing to meet inclusionary criteria and/or containing exclusionary criteria.

Of the 14 included studies, all were quantitative in nature and centered around the purpose of training professionals or aspiring professionals to effectively treat, screen for, or engage in preventative work related to EDs.

Demographic Information of Participants

Population of Interest, Number of Years Practicing, and Work Setting

The populations of interest consisted of job titles and disciplines consistent with the health field (See Figure 2). Nine (64%) included participants from the medical field (e.g., nurses, physicians, medical residents, psychiatrists, and health practitioners), seven studies (50%) included participants from the psychology field (e.g., counselors, therapists, psychologists), seven (50%) included participants from the social work field, four (29%) included participants from the dietetics and nutrition field, three (21%) included participants from the dental and

dental hygiene field, two (14%) included participants from the occupational therapy field, two (14%) included participants from the teaching field, and two (14%) included participants from “another” field.

Of the 14 studies, three (21%) noted the setting in which the participants worked, which all included community/mental health centers, hospitals, private practice, ED treatment services, and educational environments.

Of the 14 studies, four included participants that were students in either the medical or dental field (29%), whereas the remaining participants across studies were already professionals in their respective fields of interest. Of the four studies in which the participants were students, three (75%) noted how many years the participants were in their training program. Across all three, the majority of students who participated in the studies were in their first year of higher education. Out of the remaining 10 articles, 8 (80%) noted the number of years the professionals had been working in their field of interest, ranging from 0-45 years.

Age Range and Gender

Of the 14 studies, seven (50%) included information pertaining to the participants' age. These data varied from article to article. That is, some studies reported median or mean age, while others reported percentages of various age brackets. Therefore, across the seven studies that reported age, a population of 18 and up served as participants.

Of the 14 studies reviewed, 12 (86%) noted the gender of the participants. There were 3,214 participants across the 12 articles, and 2,629 of those participants were female (82%; with a range of 63%-100% across the 12 articles of participants being female); 585 of those participants were male (18%; with a range of 0%-37% across the 12 articles of participants being male).

Race and Ethnicity

Of the 14 studies, five (36%) made note of participants' race, and four made note of participants' ethnicity (29%). The majority of participants in all five studies were Caucasian (range of 63%-84.4% within each study). Across the four articles discussing ethnicity, Hispanic participants ranged from 3%-11.2% within each article. One of the 14 studies (7%) noted that 76.6% of the participants came from "English-speaking countries" such as the United Kingdom and the United States. Another one of the 14 studies (7%) stated that participants registered for the study from various countries but did not provide quantitative data.

Study Design

Of the 14 studies reviewed, 10 (71%) utilized a pre/post study design. Of these 10, two (20%) also included a follow-up condition. Of the remaining four, one (7%) utilized a prospective group randomized controlled trial, one (7%) utilized a two-group randomized controlled trial, one (7%) utilized a cluster randomized trial, and one (7%) did not disclose the design employed.

Dependent Variables

Target Behaviors

Across the 14 studies, a variety of both overt and covert behaviors were measured (See Table 2). For the purpose of this review, the variety of behaviors targeted were placed into one of the following three categories: (a) *knowledge* ($n = 12$; 86%), (b) *attitudes and beliefs* ($n = 12$; 86%), and (c) *skill* ($n = 5$; 36%; See Figure 3). Measures that evaluated the participants' understanding of an ED topic went into the *knowledge* category (e.g., to treat ED, of treatment options and oral manifestations, and about factors that influence body image). Measures that included information pertaining to the participants' self-efficacy, roles, confidence and comfort

level, perceived threat, training satisfaction, perceived ability to conduct case management, and perceived benefits and barriers of ED training were all grouped into the *attitudes and beliefs* category. Lastly, measures that examined the participants' screening practices, general "skills," interviewing skills, and implementation of IPE went into the *skill* category.

Twelve (86%) studies measured the demonstrated ($n = 8$; 67%) or perceived ($n = 4$; 33%) *knowledge* level for participants. Pertaining to the knowledge-related topics that were measured, general and procedural knowledge was measured in five instances (42%), CBT-E knowledge was measured in two instances (17%), knowledge of treatment options was measured in two instances (17%), knowledge of oral manifestations of ED was measured in one instance (8%), knowledge of ED was measured in one instance (8%), skills-based knowledge was measured in one instance (8%), knowledge of IPE was measured in one instance (8%), and knowledge about body image/puberty was measured in one instance (8%; See Figure 4).

Twelve (86%) studies measured the participants' *attitudes and beliefs*. General attitudes and beliefs were measured in six instances (50%), self-efficacy was measured in five instances (42%), confidence/comfort to treat or teach was measured in four instances (33%), perceived threat of ED was measured in two instances (17%), benefits/barriers was measured in two instances (17%), training satisfaction was measured in one instance (8%), acceptance of EBT was measured in one instance (8%), and case management was measured in one instance (8%; See Figure 5).

Five (36%) studies measured the demonstrated ($n = 2$; 40%) or perceived ($n = 3$; 60%) *skill* level for participants. Pertaining to the skill-related topics that were measured, general skills were measured in two instances (40%), IPE fidelity was measured in one instance (20%),

interviewing skills was measured in one instance (20%), and screening practices were measured in one instance (20%; See Figure 6)

Measurement of Target Behaviors

The studies evaluated in this review collected data on target behaviors using one or more of the following methods: (a) self-reports via questionnaires, (b) knowledge check questions (i.e., quiz questions), and/or (c) permanent product review. Specifically, 12 (86%) studies collected self-reports. Eight (57%) incorporated a correct/incorrect, quiz format for checking participants' adherence and knowledge. Lastly, two (14%) utilized a permanent product measure, where one reviewed medical charts and the other reviewed audio recordings. For the *knowledge* category, all dependent variables were measured either via self-report or knowledge check questions. For the *attitudes and beliefs* category, all dependent variables were measured via self-report. Lastly, for the *skills* category, all dependent variables were measured via self-report and permanent product.

Independent Variables

Training Topics

Across the 14 studies, the majority of the authors trained their participants on a wide variety of topics. The topics presented by authors were reviewed and placed into categories based on similarities. For example, one author stated that they trained their participants on positive body image, while another stated that they trained their participants on body positivity. In both cases, these topics were placed into the category of "peer pressure, body positivity, and body image" (category 8 below).

Furthermore, for the purpose of this review, 10 unique categories were created into which training topics were placed, including: (a) understanding EDs (e.g., course of the illness and

treatment, risk factors, and comorbidities), (b) diagnosis, (c) preparation for treatment, evaluating, and assessing, (d) management of ED cases and medical complications, (e) various therapies and modalities of treatment (i.e., CBT, enhanced cognitive behavior therapy [CBT-E], Interprofessional Education [IPE], interpersonal therapy [IPT], therapy overview, family work, and general “treatment”), (f) the role of the provider and the provider relationship, (g) resources, referrals, and support, (h) peer pressure, body positivity, and body image, (i) nutrition, healthy eating, and active living, and (j) improved school climate and adult role models.

Across the 14 studies, eleven (79%) included training on various therapies and modalities of treatment, including CBT ($n = 1$), CBT-E ($n = 2$), IPE ($n = 1$), IPT ($n = 2$), therapy overview ($n = 1$), family work ($n = 1$), and general “treatment” ($n = 7$). Six (43%) studies included training on preparation for treatment ($n = 2$; 14%), evaluating ($n = 1$; 7%), and assessment ($n = 5$; 36%). Five (36%) included training on understanding EDs and five (36%) on diagnosis. Four (29%) included training on management of ED cases and medical complications as well as four (29%) on resources, referrals, and support. Lastly, two (14%) studies included training on the role of the provider and the provider relationship; two (14%) studies included training on peer pressure, body positivity, and body image; two (14%) studies included training on nutrition, healthy eating, and active living; and two (14%) studies included training on improved school climate and adult role models (See Figure 7).

Training Methods

The majority of the studies reviewed utilized a variety of training methods (See Table 2 for specific training methods used in each study). For the purpose of this review, training methods were placed into the following 9 categories: (a) didactic, lecture, and presentation, (b) practice, role play, case studies, and simulated patients, (c) exercises, (d) educational videos and

video examples, (e) handouts, written materials, instructions, manuals, and guides, (f) supportive calls and consultation, (g) performance feedback, (h) community-based training and an improvement project within a practice related to the content of training, and (i) workshops.

Ten (71%) of the 14 studies trained their participants through video examples and educational videos. Nine (64%) trained their participants utilizing didactic, lecture, and presentation. Nine (64%) incorporated practice, role play, case studies, and simulated patients. Eight (57%) trained their participants using handouts, written materials, instructions, manuals, and guides. Six (43%) utilized performance feedback, and four (29%) utilized exercises. Three (21%) incorporated supportive calls and consultation. Two (14%) provided community-based training and improvement projects, and two (14%) provided workshops. One (7%) incorporated medical rotations (See Figure 8).

Training Modality

Training was provided in person for five (36%) of the studies, while eight (57%) used web-based training. One study (7%) used a combination of in-person and web-based training.

Training Intensity and Length

The intensity and number of hours of training provided to participants varied greatly. Of the 14 studies, two (14%) did not report the length of time used to train participants. Of the 12 studies that reported intensity and length of time to train participants, three (25%) took five or fewer hours, four (33%) took 6-10 hours, two (17%) took 11-15 hours, and three (25%) took 16-20 hours to train.

Regarding the total duration of the study, there was a range from minutes to months. Again, two of the 14 studies did not report the duration of the study. Of the 12 studies that did report study duration, one (8%) reported that the study took a total of under an hour to complete,

one took a week (8%), three (25%) took 3-4 weeks, one (8%) took 2 months to complete, five (42%) took 4-6 months, and one (8%) took one year to complete. See Table 3 for specific details regarding the intensity and length of treatment components implemented as well as the total duration of each study.

Outcomes of the Training

Overall Effects

Across the included studies, all 14 (100%) resulted in at least some positive results (See Table 2). Additionally, all training formats (i.e., in-person, web-based, and combination of the two) were associated with positive findings in at least one measured area.

In addition to finding positive results for one or more dependent variables, five (36%) studies also showed no changes in at least one dependent variable. For example, Brownlow et al. (2015) noted that there were no differences as it related to “willingness to treat,” although there were positive effects with knowledge, skill, and confidence to treat ED. DeBate et al. (2014) noted that their study yielded no changes for the following topics: “general knowledge of disordered eating behaviors and oral findings, perceived health threat associated with disordered eating behaviors, and role beliefs,” yet there were positive changes in benefits/barriers, self-efficacy, and skills-based knowledge for the interactive e-learning group. Gurney and Halmi (2001) noted that they did not observe changes in the providers’ “perceived ability to intervene,” even though they achieved positive results in knowledge and practice behaviors. McVey et al. (2009) showed that only teacher participants improved their knowledge scores, while only public health participants improved their efficacy scores. Pasold et al. (2018) stated that simulated patient (SP) simulation alone did not result in changes from their pre to post conditions, and that neither the 1-day rotation nor the 1-month rotation was found to be sufficient to see differences

for the participants, although overall positive effects were found for SP combined with feedback and didactic education.

Effects on Knowledge, Attitudes/Beliefs, and Skills

Of the 12 studies that measured *knowledge*, all 12 showed an increase in at least one area of knowledge, although three (25%; DeBate et al., 2014; McVey et al., 2009; Pasold et al., 2018) did not show an increase in knowledge in at least one area. Further, of the 12 studies that measured participants' *attitudes and beliefs*, 11 showed an increase in at least one area of participants' attitudes and beliefs; however, two (17%) did not show an increase in attitudes and beliefs in at least one area (Brownlow et al., 2015; Gurney & Hamli, 2001). Lastly, of the five studies that measured participants' *skills*, all five showed an increase in at least one skill area, although one (20%) did not show an increase in skill in at least one area (Pasold et al., 2018). There were no common themes or reasons that related to studies that did not find positive results in an area.

Effects of Comparative Studies

Across the 14 studies, four (29%) conducted comparative studies. Cooper et al. (2017) compared independent versus supported web-based CBT-E training and found no difference. DeBate et al. (2014) compared interactive versus flat-text e-learning programs and found that interactive e-learning participants improved significantly more than their flat-text counterparts in three of the six behaviors of study: (a) perceived benefits/barriers to secondary prevention of EDs, (b) self-efficacy, and (c) skills-based knowledge but not in the remaining three behaviors: (a) role beliefs, (b) perceived threat of ED, and (c) knowledge of ED. Gooding et al. (2017) compared print-learning to active-learning groups, and found that active learning resulted in higher ED knowledge scores, showed increases in participants' comfort level in diagnosing EDs,

and showed greater training satisfaction than the print-learning condition. Finally, Wilfley et al. (2020) compared expert versus train-the-trainer conditions and found that both conditions generated significant within-group improvements with regards to IPT adherence and competence with no significant difference between conditions.

Maintenance of Effects

Of the 14 studies, two (14%) conducted follow-up data. Specifically, at the end of their study, Cooper et al. (2017) showed that participants demonstrated an increase in their competence scores through both the independent and supported web-based CBT-E training. After a 6-month follow-up was conducted, the authors concluded that there was no significant difference between the two training groups (i.e., independent versus supported web-based CBT-E training) with respect to scoring over the competence threshold. In addition, the change in competence scores from the end of the training to the follow-up was insignificant.

After training, Gurney and Halimi (2001) showed statistically significant increases in knowledge of EDs, moderate improvement in “practice behaviors,” and no changes in neither social workers’ perceived ability to intervene with ED patients nor perceived obstacles to intervening. In addition, there were no significant changes from the end of training to a 6-month follow-up, for either perceived ability to intervene or obstacles to intervening. The authors also showed that there was a 5% mean decrease from the knowledge post training scores, though this change was not statistically significant. Lastly, the authors noticed an increase in the number of diagnosed eating disorder patients at follow-up when compared to pretraining.

Quality Appraisal

The Individual Study Quality Appraisal form (See Appendix C) was used to evaluate the quality of the 14 included studies. Four studies (33%) earned an “exemplary” rating, five (42%)

earned a “strong” rating, five (42%) earned a rating of “good or adequate,” and none earned a “weak” rating.

Availability of Technological Description of Training Procedures

Across the 14 studies, eight (57%) mentioned the possibility of obtaining a technological description of the interventions. However, in an attempt to obtain access to the training procedures, the current author was only able to obtain the training for three of the eight studies.

Unattainable Training Materials

The current author was unable to obtain the training materials in the following five studies. First, Cooper et al. (2017) noted that access to the content of the training as well as the CBT-E training program is available in an article by Fairburn et al. (2017) as well as in PDF files that are attached within the Cooper et al. (2017) article. Second, O’Connor et al. (2018) stated that “fuller details” pertaining to their CBT-E training and summary of the content is provided in another research article by Fairburn et al. (2017) and within PDF files attached within the O’Connor et al. (2018) article. The current author attempted to obtain access to the web-based training referred to by Cooper et al. (2017) and O’Connor et al. (2018), but ultimately was unable to find it. Instead, a short 3-page PDF that was too vague to replicate was found. This PDF referred to a book by Fairburn (2008) about using CBT-E to treat EDs. Therefore, the current author concluded that the web-based training used in the studies conducted by Cooper et al. (2017) and O’Connor et al. (2018) were not technically available to the general public.

Third, DeBate et al. (2014) stated that a detailed description of the intervention and its development can be found in other research articles by DeBate et al. (2011) and DeBate et al. (2012). However, similar to the studies noted above, the current author was unable to find a thorough technological description of the procedures for this study. The authors were contacted

to gain access to a more technological description. One author responded and referred the current author to a website which provided valuable information but did not include enough information to replicate the study.

Fourth, Gooding et al. (2017) noted that their sole intervention in the “print-learning group” was to receive copies of a medical guide titled *Eating Disorders: Critical Points for Early Recognition and Medical Risk Management in the Care of Individuals with Eating Disorders* created by the Academy for Eating Disorders. However, there was no reference to this resource and the current author was unsuccessful at finding this guide.

Fifth, McVey et al. (2005) noted that among the interventions utilized, they included a guideline from the American Psychiatric Association (2000) titled, *Practice Guideline for the Treatment of Patients with Eating Disorders*. Further, they included an educational video titled *Turning Points* (Davis & Phillips, 1994) as well as a manualized psychoeducational program for youth and families titled *Why Weight?* (Fraleigh et al., 1999). Unfortunately, the author could not locate these resources either.

Attainable Training Materials

The current author was able to obtain the training materials for three studies. First, Gurney and Halmi (2001) noted that they were in press to develop a full discussion of the complete curriculum from their study, which has since been published and titled *Developing and Eating Disorder Curriculum for Primary Care Providers*. Second, Maguire et al. (2019) utilized *The Essentials* program, which can be found online at the Inside Out: Institute for Eating Disorders (n.d.). (<https://insideoutinstitute.org.au/resource-library/the-essentials-training-clinicians-in-eating-disorders>). Third, McVey et al. (2009) utilized an online program entitled,

The Student Body: Promoting Health at Any Size, which can also be found online at Sick Kids.

(n.d.), (<http://thestudentbody.aboutkidshealth.ca/learningModuleSelection.asp>).

Chapter 4: Discussion

Demographic Information of Participants

The 14 quantitative studies reviewed in the current paper found that the majority of training in EDs that is being provided to professionals and aspiring professionals is within the medical field (64%), followed by the psychology (50%) and social work fields (50%). These data are in contrast to previous studies that have suggested that mental health providers are not using or being trained in empirically validated treatments that could help treat patients with ED (Haas & Clopton, 2003; Lafrance Robinson et al., 2013; Tobin et al., 2007; Waller et al., 2012).

That being said, across the three databases, only 50% ($n = 7$) of the participants across the 14 studies included individuals from the mental health field as one of the target populations in their research. Therefore, there is still much room for improvement and dissemination of training programs targeting mental health professionals.

Earlier, the current review posed the question as to why it may be the case that ED training research is primarily geared towards the medical field. Results from the current study suggest that, across the majority of studies reviewed herein, both professionals from the medical and mental health fields benefitted from the same training that was provided. Therefore, it is not possible to conclude at this time an appropriate reason as to why ED training should be geared towards one profession over another, with very few exceptions (e.g., dental findings). Additionally, the articles included in this review did not all report participant characteristics or career/education related information for the participants. The lack of these details and information may make it more difficult to generalize the results across populations. Of the studies that included demographics, the vast majority of the participants were White females.

This narrow inclusive window unfortunately does not lend itself to populations all over the world. Therefore, it is unclear if the results are relevant to diverse populations.

Given this, it is recommended for future researchers to continue to conduct research with diverse mental health professionals, who wish to treat the development and course of EDs. As noted above, EDs are associated with dire consequences to one's physical, mental, and emotional well-being (Agras, 2001; de la Rie et al., 2005; Fairburn, 1995; Klump et al., 2009). Therefore, as professionals in the area of mental health, it is our duty to continue to advance the efforts of previous researchers and build on what we know as a field as it relates to providing our students, clinicians, and researchers with the best and most up-to-date tools available to teach them how to combat this illness. Further, in order for future studies to be applicable to as many populations as possible, it is recommended that researchers expand their participant inclusion criteria for mental health professionals (e.g., including more male participants and more participants from diverse backgrounds). It is also recommended that researchers ask their participants more information pertaining to their previous training experiences, level of education, and number of years in practice so as to help readers replicate the studies and generalize the findings to their own practice.

Further, only three (21%) of the studies noted the settings in which the participants worked. It is recommended that future researchers note this detail so as to assist professionals in applying this research to their setting. Including this information could help future researchers and professionals understand the specific level of training that may be needed for their training sites. For example, if the training site was an inpatient hospital, it would be helpful to know the unique training benefits acquired (if any). This particular review noted that training took place in community/mental health centers, hospitals, private practices, ED treatment services, and

educational environments, but no conclusions can be made about the implications about such settings on the results that were obtained.

Study Design

Across the 14 studies, 10 utilized a pre/post study design, and 2 of the studies conducted a 6-month follow-up after the study was complete. While the utilization of pre/post designs may be helpful in measuring data, it may also be viewed as a weaker design that poses a “threat” to the internal and external validity of the study (e.g., history and testing effects) (Knapp, 2016). The utilization of more sophisticated experimental designs may provide a greater level of validity and reliability. For example, randomized controlled trials are the gold standard of research designs (Faraoni & Schaefer, 2016) and may provide readers with a higher degree of confidence in the conclusions from research studies.

Dependent Variables

As noted above, the dependent variables collected across the 14 studies were placed into three distinct categories: (a) knowledge, (b) attitudes and beliefs, and (c) skills. Both knowledge and attitudes and beliefs were measured most frequently at 86% each, while skills were only measured in 36% of the reviewed studies. This information potentially suggests that researchers may place a higher value on certain dependent variables, such as gaining knowledge to treat ED and professionals’ confidence in treating ED, over skills-based training. Alternatively, collecting self-reported data pertaining to knowledge acquisition and attitudes/beliefs may be a simpler endeavor, and therefore more studied, compared to measuring skills (i.e., behavior change) more directly. For example, the majority of studies ($n = 12$; 86%) collected data using self-reports, rather than examining behavior change. While these reports provide valuable information, they lack objectivity.

Therefore, future researchers may consider using more objective measurement methods to collect data (i.e., quizzes that consist of correct and incorrect answers, as well as observable changes in behavior such as an observable increase in the distribution of ED assessments, and permanent product). The use of quizzes appears to be promising, as quizzes were employed in eight (Cooper et al., 2017; DeBate et al., 2009, 2013, 2014; Gurney & Halmi, 2001; McVey et al., 2009; O'Connor et al., 2018; Wilfley et al., 2020) studies, and quiz performance improved in all except the study conducted by McVey et al. (2009), which measured knowledge of the physical changes associated with puberty. In the remaining seven studies that used quizzes, the corresponding target behaviors improved: increased CBT-E competence scores; knowledge of oral manifestations from restrictive and purging eating behaviors as well as of treatment options; general and procedural knowledge; behavioral skills; provider's knowledge and practice behaviors; CBT-E competence score; and IPT competence.

Further, the dependent variables most often measured across the three categories were general and procedural knowledge ($n = 5$; 42%), general attitudes and beliefs ($n = 6$; 50%), and general skills ($n = 2$; 40%). These three dependent variable measures were labeled as "general" because the authors of these studies did not provide enough detail for the present author to categorize them differently. This is a limitation because it does not specify which or what type of knowledge, attitudes and beliefs, and skills are being taught, and therefore, would be difficult for future researchers and clinicians to replicate. It is recommended that future researchers include as much detail pertaining to their dependent variables. Doing this would allow for a clearer understanding of the experiences that were specifically gained by the participants.

As it relates to examining behavior change, the review of permanent product was conducted in two studies (Gooding et al., 2017; Wilfley et al., 2020), and results demonstrated

that there were increases in chart documentation for ED screening; and IPT competence and fidelity. These types of data, (i.e., observable behavior change) in conjunction with self-reports, would give future researchers and clinicians a 360 view of what interventions might be necessary to not only achieve an increase in the perception of improvement by the participant, but an objective increase in behaviors that could ultimately help patients.

As seen in Figures 4, 5, and 6 respectfully (i.e., knowledge, attitudes and beliefs, and skills measured), there are a variety of dependent variables measured. That being said, there are several other dependent variables that are recommended to be tested in the future. Regarding *knowledge*, possible measures include how to appropriately engage in exposure and response prevention therapy (i.e., eating with an ED patient) or how patients can best handle “triggering” situations that lead to ED behaviors. Regarding *attitudes and beliefs*, professionals may benefit from empathy training, cultural body image expectations training, as well as how to minimize stigmatizing beliefs from social media and the fashion/entertainment industry. Lastly, regarding *skills*, professionals may benefit from bedside manner training.

Independent Variables

Training Topics

Similar to the categories created for the dependent variables above, 10 distinct categories were created for the training topics addressed across the 14 studies: (a) understanding EDs (e.g., course of the illness and treatment, risk factors, and comorbidities), (b) diagnosis, (c) preparation for treatment, evaluating, and assessment, (d) management of ED cases and medical complications, (e) various therapies and modalities of treatment (i.e., CBT, CBT-E, IPE, IPT therapy overview, family work, and general “treatment”), (f) the role of the provider and the provider relationship, (g) resources, referrals, and support, (h) peer pressure, body positivity, and

body image, (i) nutrition, healthy eating, and active living, and (j) improved school climate and adult role models.

The independent variable most commonly implemented across the 14 studies was training on various therapies and modalities of treatment ($n = 11$; 79%), possibly implying that professionals are more interested in learning evidence-based therapies, such as CBT and CBT-E, to help their patients overcome EDs, which contradicts statements made by previous researchers stating that mental health professionals are not being trained in empirically-validated procedures. These results also imply that researchers and practitioners may be more interested in ensuring that their clinicians are well-versed in corrective and antidotal training, rather than training that is more informative in nature, such as body positivity training.

Training Methods and Modalities

Categories pertaining to training methods were also developed for ease of literature consumption. These included: (a) didactic, lecture, and presentation, (b) practice, role play, case studies, and simulated patients, (c) exercises, (d) educational videos and video examples, (e) handouts, written materials, instructions, manuals, and guides, (f) supportive calls and consultation, (g) performance feedback, (h) community-based training and an improvement project within a practice related to the content of training, and (i) workshops. The training method most commonly used to train participants across the 14 studies was video examples and educational videos ($n = 10$; 71%), possibly implying that trainers prefer to invest their time and resources into creating digital training tools, which may free their valuable time to engage in other important duties, since digital training tools can be viewed by trainees on their own time schedule and as often as needed. Along the same lines, the training modality most commonly implemented was web-based training ($n = 8$; 57%), further implying that trainers may be seeking

more cost effective and time saving methods to train their staff. Both video and web-based training would help in achieving this goal because they would allow trainers to train their students/staff at a distance and allow trainers to record an optimal training session once and reuse that one recording anytime, as needed, which may help individuals get access to training if they cannot reach the training site for whatever reason. Reusing a singular training video would also save on costs and resources, as trainers would not need to be continuously compensated for the same training or navigate training concerns (e.g., scheduling conflicts).

Across most of the studies, the authors utilized multi-component interventions. That is, they combined several unique interventions into one intervention package. For example, an author may have chosen to combine performance feedback, didactic sessions, and video lecture as a singular intervention package. While in theory, this method may be helpful at increasing the likelihood of an intervention package resulting in statistically significant results, it could also unintentionally result in wasted resources. Perhaps similar results could be found with less intensive treatment packages and/or potentially very specific components are needed to achieve positive results while others are unneeded. Having this knowledge could potentially save future researchers and clinicians time, money, and other valuable resources they would have otherwise utilized while believing that the only way to obtain wanted results was through a more rigorous intervention method. Therefore, future researchers may wish to evaluate one intervention component at a time so as to identify which, if any, is the most effective at increasing (or decreasing) the dependent variable. If the researchers are then so inclined, they may choose to build upon the treatment package by combining two treatment components together to identify if the combined weight of two components makes a significant difference in the presentation of the data. As noted above, this information would be valuable for readers of the articles because they

would have a greater awareness of which variables are most effective, and which they may not need to spend time and resources implementing.

Training Intensity and Length

Across the 12 studies that reported intensity and length of time to train their respective independent variables, half ($n = 6$; 50%) took less than 10 hours and all studies took 20 or fewer hours to train participants. This is promising because these studies indicate that a wide variety of effective training can be implemented well within 0.5-2.5 short workdays, which is important data for researchers and professionals training their staff.

As noted earlier, some authors indicated the amount of time (minutes and hours) each of the interventions took to complete, while others only mentioned the total length (days, weeks, or months) of the study. This lack of detail may be viewed as a limitation by future researchers and clinicians who hope to replicate the study's results but have no way of doing so due to the lack of information presented in the articles.

Outcomes of Training

While all training formats (in-person, web-based, and a combination of the two) yielded positive results in at least one dependent variable, continuation in the development of web-based training may be optimal as technology continues to grow and serves many benefits (e.g., saves money, reusability, availability for training at any time). Despite all studies having shown positive results in at least one area, five (36%) studies showed no changes in at least one dependent variable. That is, across the 12 studies that measured participants' *knowledge*, three (25%) did not show an increase in at least one area. Across the 12 studies that measured participants' *attitudes and beliefs*, two (17%) did not show an increase in at least one area. Lastly, across the five studies that measured participants' *skills*, one (20%) did not show an

increase in skill in at least one area. These data indicate that there is room for growth pertaining to increasing participants' scores, particularly in the "knowledge" category. Furthermore, there were no commonalities across the studies that found no effects in a category. Therefore, it is unclear if there are specific areas that are more difficult to train than others.

Across the 14 studies, four (29%) conducted unique comparative studies. Of the four, one study found that interactive e-learning programs were more effective at training certain variables (DeBate et al., 2014). Another study found that active-learning groups resulted in higher scores (Gooding et al., 2017). The other two studies comparing independent versus supported web-based CBT-E training (Cooper et al., 2017) and comparing expert versus train-the-trainer conditions (Wilfley et al., 2020) yielded no differences between conditions. These data indicate that a more interactive/active learning style may be more effective at increasing participants' competence levels. However, given the limited number of comparison studies, more research is needed to replicate results before any solid conclusions can be made about one type of treatment being better than another.

Only two (14%) of the studies in this review included maintenance data, with a 6-month follow-up, which found positive results at follow-up. While this is tentatively promising, without more studies containing follow-up data, it is unclear if results tend to maintain overtime. This lack of data may be a limitation because it inhibits future researchers and clinicians from having more confidence in the results of the study. Therefore, it may be beneficial for future research to collect follow-up data. Statistically significant maintenance data allows the reader to have more confidence that the interventions and methods the authors utilized have lasting and enduring results for their clinical team. In turn, this might mean that there will be less of a need for repeat training, which may result in saved resources for the practice.

Quality Appraisal

The noted quality appraisal form allowed for the author of this study to investigate the appropriateness of the studies for this review. It was determined that the 14 studies included in this review were considered “strong” enough from a methodological perspective to be included and shared with the clinical population for the purposes of this review. It is recommended that future researchers and clinicians continue to disseminate and create research that is methodologically strong from a researcher’s perspective (i.e., technologically sound, valid, reliable, generalizable, etc.) so that such research can be included in future literature reviews.

Availability of Technological Description of Training Procedures

As noted above, researchers have suggested that clinicians do not utilize treatment manuals consistently enough in therapy to mitigate the behaviors associated with EDs (Tobin et al., 2007; Wallace & von Ranson, 2011). In the current review, only three (21%) of the studies used resources that were found to be commercially available by the current author. Although several additional studies provided references as to where more detailed instructions could be obtained, the current author was unable to locate those resources and/or the references resources were not technological in nature and would not lend to replication of the study.

It is strongly recommended that future researchers continue to provide as much detailed information as possible as it relates to the interventions, procedures, and participant characteristics. If the hope is for future researchers and clinicians to replicate and utilize these valuable studies, then we must help them along by providing the information that would be necessary to do so. This would include providing commercially available or otherwise attainable manualized interventions so that others could not only implement the intervention but also potentially obtain the same results as the original author and perhaps generalize the results to

different populations, settings, or areas of study. Use of clear and concise language would also be beneficial for future research to consider when writing the procedures, as it was difficult to ascertain what procedures were being used in some cases. When independent and dependent variables are clearly explained and outlined, it is easier for others to understand the function and utility of the study and how it may benefit practice.

Conclusions

EDs are associated with several adverse medical, psychological, and social effects (Agras, 2001; de la Rie et al., 2005; Fairburn, 1995; Klump et al., 2009). Previous researchers have noted that psychologists historically have not used treatments that have been empirically validated due to having received minimal training and because those treatments did not address ways to mitigate concerns and comorbid conditions that people with EDs typically display (Haas & Clopton, 2003). Therefore, it was also noted by LaFrance Robinson et al. (2013) that it would be worthwhile to increase the number of training opportunities for doctoral students and professionals alike. The aim of the current literature review was to assemble a collection of training recommendations, including those from the medical field, for mental health providers who wish to treat, screen for, and prevent the development of eating disorders. A secondary aim was to create a call to action for more research in this area to be conducted for professionals and students who wish to treat individuals with EDs.

Despite reviewing 665 articles, 14 were included in this review, suggesting that there is a dearth of quantitative research in this area. This is important, particularly for the mental health field, to note because there is a general lack of training opportunities available across settings (universities, practicum sites, and internships) for those who wish to treat one of the most enduring, complicated, and debilitating psychiatric illnesses in the field. It is concerning that

there is so little research in this field and even a smaller number that is generalizable and provides technological and replicable descriptions of the research procedures. That being said, of the 14 studies that were found, regardless of the participants' professional concentration, they all found positive results in at least some area(s), meaning that there are important take-aways future researchers, students, and professionals can take into account as they move forward in the treatment of EDs.

Specifically, the results showed that the majority of the participants across the studies were White females who came from the medical field. The majority of the study designs utilized was a pre/post design that either measured participants' demonstrated or self-reported knowledge and attitudes/beliefs. The majority of measurement tools used was through the use of self-report and there were three (21%) commercially available curricula that are potentially promising for individuals to use to train students and professionals on EDs: (a) *Developing and Eating Disorder Curriculum for Primary Care Providers* (Gurney & Halmi, 2001), (b) *The Essentials* program (Maguire et al., 2019), (c) *The Student Body: Promoting Health at Any Size* (McVey et al., 2009). The topic most trained was on various therapies and modalities of treatment, including CBT, CBT-E, IPE, IPT, therapy overview, family work, and general "treatment." These topics were most frequently trained by using video examples and educational videos. The majority of the training, across studies, were held via web-based platforms and took a month or less to complete. All 14 studies found at least one positive outcome.

These results are valuable because they provide data and recommendations for professionals and future researchers. For example, these data highlight the lack of inclusivity in the participant pool that should be addressed in future research. These data also highlight the lack of observable data collected; therefore, future researchers may consider collecting data using

more objective methods in addition to, or instead of, self-reports. The number of multicomponent interventions may lead to increased use of resources (i.e., time and cost). Perhaps future researchers may consider implementing one intervention at a time (e.g., one modality of therapy) to see if resources can be saved while also achieving positive results. Future researchers may consider implementing these interventions using video examples and educational videos, through web-based training as a possible cost and resource effective method of training mental health professionals. Further, researchers are also recommended to provide more details about their procedures and participant backgrounds so as to assist with generalizability and the replication of their findings. Finally, given the results of this review, it may be worthwhile to increase the number of formal training opportunities for students in graduate studies (Lafrance Robinson et al., 2013) so they may provide the highest level of care to those struggling with the emotional, physical, psychological, fiscal, and debilitating symptoms associated with EDs as they enter the field.

REFERENCES

- Agras, W. S. (2001). The consequences and costs of the eating disorders. *Psychiatrics Clinics of North America*, 24(2), 371–379. [https://doi.org/10.1016/S0193-953X\(05\)70232-X](https://doi.org/10.1016/S0193-953X(05)70232-X)
- American Board of Examiners in Clinical Social Work. (n.d.). *Eating disorders and advanced practice of clinical social work in eating disorders: A position statement of the American Board of Examiners in Clinical Social Work*. Salem, MA: Author. Retrieved January 20, 2003, from <http://www.abecsw.org/EatingDisordersPaper.pdf>
- American Counseling Association. (2005). *ACA code of ethics*. Alexandria, VA: Author. <https://www.counseling.org/docs/default-source/library-archives/archived-code-of-ethics/codeethics05.pdf>
- American Psychiatric Association. (2006). *Practice guideline for the treatment of patients with eating disorders* (3rd ed.). Washington, DC: Author. https://edsna.ca/wp-content/uploads/2017/07/apa_guideline_for_treatment_of_ed.pdf
- American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). <https://doi.org/10.1176/appi.books.9780890425787>
- American Psychiatric Association: Work Group on Eating Disorders. (2000). *Practice guideline for the treatment of patients with eating disorders* (revision). *Am J Psychiatry*, 157(1), 1-39. <https://ora.ox.ac.uk/objects/uuid:a97ae050-8924-4cef-8f99-897ef8e63505>
- American Psychological Association. (2002). *Ethical principles of psychologists and code of conduct*. Washington, DC: Author. <https://www.apa.org/ethics/code>
- American Psychological Association. (2020). *APA dictionary of psychology*. <https://dictionary.apa.org/psychology>

- Barnett, J. E., Doll, B., Younggren, J. N., & Rubin, N. J. (2007). Clinical competence for practicing psychologists: Clearly a work in progress. *Professional Psychology: Research and Practice, 38*(5), 510–517. <https://psycnet.apa.org/buy/2007-14485-008>
- Birmingham, C. L., Su, J., Hlynsky, J. A., Goldner, E. M., & Gao, M. (2005). The mortality rate from anorexia nervosa. *International Journal of Eating Disorders, 38*(2), 143-146. <https://doi.org/10.1002/eat.20164>
- Brownlow, R. S., Maguire, S., O'Dell, A., Dias-da-Costa, C., Touyz, S., & Russell, J. (2015). Evaluation of an online training program in eating disorders for health professionals in Australia. *Journal of Eating Disorders, 3*(37), 1-6. <https://doi.org/10.1186/s40337-015-0078-7>
- Cook, B., Wonderlich, S.A., Mitchell, J., Thompson, R., Sherman R., & McCallum, K. (2016). Exercise in eating disorders treatment: Systematic review and proposal of guidelines. *Med Sci Sports Exerc., 48*(7), 1408-1414. <https://doi.org/10.1249/MSS.0000000000000912>
- Cooper, Z., Bailey-Straebler, S., Morgan, K. E., O'Connor, M. E., Caddy, C., Hamadi, L., & Fairburn, C. G. (2017). Using the internet to train therapists: randomized comparison of two scalable methods. *Journal of Medical Internet Research, 19*(10), e355. <https://doi.org/10.2196/jmir.8336>
- Davis, R., & Phillips, W. (1994). *Turning points: A psychoeducational program for overcoming an eating disorder*. Toronto: Toronto Hospital, Eating Disorder Outpatient Clinic.
- Dawson, L., Rhodes, P., & Touyz, S. (2014). “Doing the impossible”: The process of recovery from chronic anorexia nervosa. *Qualitative Health Research, 24*(4), 494–505. <https://doi.org/10.1177/1049732314524029>

- DeBate, R., Cragun, D., Gallentine, A., Severson, H., Shaw, T., Cantwell, C., Christiansen, S., Loerber, A., Hendricson, W., Tomar, S., McCormack Brown, K., & Tedesco, L. (2012). Evaluate, assess, treat: Development and evaluation of the EAT framework to increase effective communication among oral health students regarding sensitive oral-systemic health issues. *Eur Journal of Dental Education*, *16*(4), 232-8.
<https://doi.org/10.1111/j.1600-0579.2012.00747.x>
- DeBate, R., Cragun, D., Severson, H., Shaw, T., Christiansen, S., Koerber, A., Tomar, S., McCormack Brown, K., Tedesco, L., & Hendricson, W. (2011). Factors for increasing adoption of e-courses among dental and dental hygiene faculty members. *Journal of Dental Education*, *75*(5), 589-97. <https://doi.org/10.1002/j.0022-0337.2011.75.5.tb05084.x>
- Debate, R., Severson, H., Cragun, D., Bleck, J., Gau, J., Merrell, L., Cantwell, C., Christiansen, S., Koerber, A., Tomar, S., McCormack, K., Tedesco, L., Hendricson, W., & Taris, M. (2014). Randomized trial of two e-learning programs for oral health students on secondary prevention of eating disorders. *Journal of Dental Education*, *78*(1), 5-15.
<https://doi.org/10.1002/j.0022-0337.2014.78.1.tb05651.x>
- DeBate, R., Severson, H., Cragun, D., Gau, J., Merrell, L., Bleck, J., Christiansen, D., Koerber, A., Tomar, S., McCormack Brown, K., Tedesco, L., & Hendricson, W. (2013). Evaluation of a theory-driven e-learning intervention for a future oral healthcare provider on secondary prevention of disordered eating behaviors. *Health Education Research*, *28*(3), 472-487. <https://doi.org/10.1093/her/cyt050>
- DeBate, R., Severson, H., Zwald, M., Shaw, T., Christiansen, S., Koerber, A., Tomar, S., McCormack Brown, K., & Tedesco. (2009). Development and evaluation of a web-based training program for oral health care providers on secondary prevention of eating

- disorders. *Journal of Dental Education*, 73(6), 718-729. <https://doi.org/10.1002/j.0022-0337.2009.73.6.tb04751.x>
- de la Rie, S., Noordenbos, G., & van Furth, E. (2005). Quality of life and eating disorders. *Quality of Life Research*, 14, 1511–1521. <https://doi.org/10.1007/s11136-005-0585-0>
- Dickerson, J. F., DeBar, L., Perrin, N. A., Lynch, F., Wilson, G. T., Rosselli, F., Kraemer, H. C., & Striegel-Moore, R. H. (2011). Health-service use in women with binge eating disorders. *International Journal of Eating Disorders*, 44(6), 524–530. <https://doi.org/10.1002/eat.20842>
- Eisenberg, D., Nicklett, E. J., Roeder, K., & Kirz, N. E. (2011). Eating disorder symptoms among college students: Prevalence, persistence, correlates, and treatment-seeking. *Journal of American College of Health*, 59, 700–707. <https://doi.org/10.1080/07448481.2010.546461>
- Fairburn, C. G. (1995). *The prevention of eating disorders*. In: Brownell, K. D., & Fairburn, C. G. *Eating disorders and obesity: A comprehensive handbook*. New York, New York: Guilford Publications, Inc, 289-93.
- Fairburn, C. G. (2008). *Cognitive behavior therapy and eating disorders*. New York: The Guilford Press.
- Fairburn, C. G., Allen, E., Bailey-Straebler, S., O'Connor, M. E., & Cooper Z. (2017). Scaling up psychological treatments: a countrywide test of the online training of therapists. *J Med Internet Res*, 19(6), e214. <https://doi.org/10.2196/jmir.7864>
- Falender, C. A., & Shafranske, E. P. (2007). Competence in competency-based supervision practice: Construct and application. *Professional Psychology: Research and Practice*, 38(3), 232–240. <https://doi.org/10.1037/0735-7028.38.3.232>

- Faraoni, D., & Schaefer, S. T. (2016). Randomized controlled trials vs. observational studies: why not just live together? *BMC Anesthesiol*, *16*(102), <https://doi.org/10.1186/s12871-016-0265-3>
- Fogarty, S., Smith, C.A., & Hay, P. (2016). The role of complementary and alternative medicine in the treatment of eating disorders: a systematic review. *Eating Behaviors*, *21*, 179–188. <https://doi.org/10.1016/j.eatbeh.2016.03.002>
- Fraleigh, J., Schemelefske, J., Henderson, K., et al. (1999). Why weight? A psychoeducational program for teens with eating disorders and their families, Newmarket (ON): York County Hospital
- Garner, D. M. (1985). Iatrogenesis in anorexia nervosa and bulimia nervosa. *International Journal of Eating Disorders*, *4*(4), 701–726. <https://doi.org/10.1002/eat.2260040427>
- Gooding, H. C., Cheever, E., Forman, S. F., Hatoun, J., Jooma, F., Touloumtzis, C., & Vernacchio, L. (2017). Implementation and evaluation of two educational strategies to improve screening for eating disorders in pediatric primary care. *Journal of Adolescent Health*, *60*, 606-611. <https://doi.org/10.1016/j.jadohealth.2016.12.002>
- Gurney, V. W., & Halmi, K. A. (2001). An eating disorder curriculum for primary care providers. *International Journal of Eating Disorders*, *30*(2), 209-212. <https://doi.org/10.1002/eat.1074>
- Gurney, V. W., & Halmi, K. A. (2001). Developing an eating disorder curriculum for primary care providers. *Eating Disorders*, *9*(2), 97–107. <https://doi.org/10.1080/10640260127716>
- Haas, H. L., & Clopton, J. R. (2003). Comparing clinical and research treatments for eating disorders. *International Journal of Eating Disorders*, *33*(4), 412-420. <https://doi.org/10.1002/eat.10156>

- Halmi, K. A. (2009). Salient components of a comprehensive service for eating disorders. *World Psychiatry, 8*(3), 150-155. <https://doi.org/10.1002/j.2051-5545.2009.tb00235.x>
- Hay, P. (2013). A systematic review of evidence for psychological treatments in eating disorders: 2005–2012. *International Journal of Eating Disorders, 46*(5), 462–469. <https://doi.org/10.1002/eat.22103>
- Hoek, H. W. (2016). Review of the worldwide epidemiology of eating disorders. *Current Opinion in Psychiatry, 29*(6), 336–339. <https://doi.org/10.1097/YCO.0000000000000282>
- Hoek, H. W., & van Hoeken, D. (2003). Review of the prevalence and incidence of eating disorders. *International Journal of Eating Disorders, 34*(4), 383–396. <https://doi.org/10.1002/eat.10222>
- Inside Out: Institute for Eating Disorders. (n.d.). *The Essentials: Training Clinicians in Eating Disorders*. <https://insideoutinstitute.org.au/resource-library/the-essentials-training-clinicians-in-eating-disorders>
- Jones, J., & Lerner, M. (2004). An audit of training, competence and confidence among clinicians working in eating disorder services. *Mental Health Practice, 8*(3), 18–22. <http://doi.org/10.7748/mhp2004.11.8.3.18.c1833>
- Kaslow, N. J., Rubin, N. J., Forrest, L., Elman, N. S., Van Horne, B. A., Jacobs, S. C., Huprich, S. K., Benton, S. A., Pantescio, V. F., Dollinger, S. J., Grus, C. L., Behnke, S. H., Miller, D. S. S., Shealy, C. N., Mintz, L. B., Schwartz-Mette, R., Van Sickle, K., & Thorn, B. E. (2007). Recognizing, assessing, and intervening with problems of professional competence. *Professional Psychology: Research and Practice, 38*(5), 479–492. <https://doi.org/10.1037/0735-7028.38.5.479>

- Kazdin, A. E., Fitzsimmons-Craft, E. E., & Wilfley, D. E. (2016). Addressing clinical gaps in the treatment of eating disorders. *International Journals of Eating Disorders*, 50(3), 170-189. <https://doi.org/10.1002/eat.22670>
- Kitchener, K. S. (2000). *The foundations of ethical practice, research, and teaching in psychology*. Mahwah, NJ: Erlbaum.
- Klump, K. L., Bulik, C. M., Kaye, W. H., Treasure, J., & Tyson, E. (2009). Academy for eating disorders position paper: Eating disorders are serious mental illnesses. *International Journal of Eating Disorders*, 42(2), 97–103. <https://doi.org/10.1002/eat.20589>
- Knapp, T. R. (2016). Why is the one-group pretest-posttest design still used? *Clinical Nursing Research*, 25(5), 467-472. <https://doi.org/10.1177/1054773816666280>
- Lafrance Robinson, A., Boachie, A., & G.A., Lafrance. (2013). “I want help!”: Psychologists’ and physicians’ competence, barriers, and needs in the management of eating disorders in children and adolescents in Canada. *Canadian Psychology / Psychologie Canadienne*, 54(3), 160-165. <https://doi.org/10.1037/a0032046>
- Lewinsohn, P., Striegel-Moore, R., & Seeley, J. (2000). Epidemiology and natural course of eating disorders in young women from adolescence to young adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39(10), 1284–1292. <https://doi.org/10.1097/00004583-200010000-00016>
- Linville, D., Benton, A., O'Neil, M., & Sturm, K. (2010) Medical providers' screening, training and intervention practices for eating disorders. *Eating Disorders*, 18(2), 110-131. <https://doi.org/10.1080/10640260903585532>

- Lock, J., & Le Grange, D. (2005). Family-based treatment of eating disorders. *Int J Eat Disord.*, 37(S1), S64–S67. <https://doi.org/10.1002/eat.20122>
- Lowe, B., Zipfel, S., Buchholz, C., Dupont, Y., Reas, D., & Herzog, W. (2001). Long-term outcome of anorexia nervosa in a prospective 21-year follow up study. *Psychological Medicine*, 31(5), 881–890. <https://doi.org/10.1017/s003329170100407x>
- Maguire, S., Cunich, M., & Maloney, D. (2019). Evaluating the effectiveness of an evidence-based online training program for health professionals in eating disorders. *Journal of Eating Disorders*, 7(14). <https://doi.org/10.1186/s40337-019-0243-5>
- McDevitt, S., & Passi, V. (2018). Evaluation of a pilot interprofessional education programme for eating disorder training in mental health services. *Irish Journal of Psychological Medicine*, 35. <https://doi.org/10.1017/ipm.2015.61>
- McVey, G. L., Davis, R., Kaplan, A. S., Katzman, D K., Pinhas, L., Geist, R., Heinmaa, M., & Forsyth, G. (2005). A community-based training program for eating disorders and its contribution to a provincial network of specialized services. *Int J Eat Disord.*, 37(S1), S35–S40. <https://doi.org/10.1002/eat.20114>
- McVey, G., Gusella, J., Tweed, S., & Ferrari, M. (2009). A controlled evaluation of web-based training for teachers and public health practitioners on the prevention of eating disorders. *Eating Disorders*, 17, 1-26. <https://doi.org/10.1080/10640260802570064>
- Mitchison, D., Hay, P., Slewa-Younan, S., & Mond, J. (2012). Time trends in population prevalence of eating disorder behaviors and their relationship to quality of life. *PloS One*, 7(11), 1–7. <https://doi.org/10.1371/journal.pone.0048450>

- Moher D., Liberati A., Tetzlaff J., & Altman D.G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med* 6(7), 1-6. <https://doi.org/10.1371/journal.pmed.1000097>
- O'Connor, M., Morgan, K. E., Bailey-Straebler, S., Fairburn, C. G. & Cooper, Z. (2018). Increasing the availability of psychological treatments: a multinational study of a scalable method for training therapists. *Journal of Medical Internet Research*, 20(6). <https://doi.org/10.2196/10386>
- Pasold, T. L., Woods, J. L., Portilla, M. G., Nesmith, J. D., & Boateng, B. A. (2018). An examination of eating disorder education and experience in a 1-month adolescent medicine rotation: what is sufficient to foster adequate self-efficacy? *International Journal of Adolescent Medicine and Health*, 32(5). <https://doi.org/10.1515/ijamh-2017-0212>
- Pritts, S.D., & Susman, J. (2003). Diagnosis of eating disorders in primary care. *Am Fam Physician*, 67(2), 297-304. <https://www.aafp.org/afp/2003/0115/p297.html>
- Qian, J., Hu, Q., Wan, Y., Li, T., Wu, M., Ren, Z., & Yu, D. (2013). Prevalence of eating disorders in the general population: A systematic review. *Shanghai Archives of Psychiatry*, 25(4), 212–223. <https://doi.org/10.3969/j.issn.1002-0829.2013.04.003>
- Rosenvinge, J. H., Skårderud, F., & Thune-Larsen, K. (2003). Can educational programmes raise clinical competence in treating eating disorders? Results from a Norwegian trial. *European Eating Disorders Review*, 11(4), 329–343. <https://doi.org/10.1002/erv.503>
- Sick Kids. (n.d.). *The student body: Promoting health at any size*. <http://thestudentbody.aboutkidshealth.ca/learningModuleSelection.asp>

- Striegel-Moore, R. H., De Bar, L., Wilson, G. T., Dickerson, J., Rosselli, F., Perrin, N., Lynch, F., & Kraemer, H. C. (2008). Health services use in eating disorders. *Psychological Medicine*, 38(10), 1465–1474. <https://doi.org/10.1017/S0033291707001833>
- Tobin, D. L., Banker, J. D., Weisberg, L., & Bowers, W. (2007). I know what you did last summer (and it was not CBT): A factor analytic model of international psychotherapeutic practice in the eating disorders. *International Journal of Eating Disorders*, 40, 754–757. <https://doi.org/10.1002/eat.20426>
- Varnado-Sullivan, E. J., Zucker, N., Williamson, D. A., Reas, D., & Thaw, J. (2001). Development and implementation of the Body Logic Program for adolescents: A two-stage prevention program for eating disorders. *Cognitive and Behavioral Practice*, 8(3), 248-259. [https://doi.org/10.1016/S1077-7229\(01\)80061-4](https://doi.org/10.1016/S1077-7229(01)80061-4)
- Wallace, L. M., & von Ranson, K. M. (2011). Treatment manuals: Use in the treatment of bulimia nervosa. *Behaviour Research and Therapy*, 49, 815–820. <https://doi.org/10.1016/j.brat.2011.09.002>
- Waller, G. (2016). Treatment protocols for eating disorders: Clinicians' attitudes, concerns, adherence and difficulties delivering evidence-based psychological interventions. *Current Psychiatry Reports*, 18, 1–8. <https://doi.org/10.1007/s11920-016-0679-0>
- Waller, G., Stringer, H., & Meyer, C. (2012). What cognitive behavioral techniques do therapists report using when delivering cognitive behavioral therapy for eating disorders? *Journal of Consulting and Clinical Psychology*. 80(1), 171-175. <https://doi.org/10.1037/a0026559>
- Weissman, R. S., & Rosselli, F. (2017) Reducing the burden of suffering from eating disorders: Unmet treatment needs, cost of illness, and the quest for cost effectiveness. *Behaviour Research and Therapy*, 88, 49-64. <https://doi.org/10.1016/j.brat.2016.09.006>

- Wilfley, D. E., Agras, S., Fitzsimmons-Craft, E. E., Bohon, C., Eichen, D. M., Welch, R., Jo, B., Raghavan, R., Proctor, E. K., & Wilson, T. (2020). Training models for implementing evidence-based psychological treatment. *JAMA Psychiatry*, *77*(2), 139-147. <https://doi.org/10.1001/jamapsychiatry.2019.3483>
- Williams, M., & Haverkamp, B.E. (2010) Identifying Critical Competencies for Psychotherapeutic Practice with Eating Disordered Clients: A Delphi Study. *Eating Disorders*, *18*(2), 91-109. <https://doi.org/10.1080/10640260903585524>
- Wilson, G. T., Grilo, C. M., & Vitousek, K. M. (2007). Psychological treatment of eating disorders. *American Psychologist*, *62*(3), 199–216. <https://doi.org/10.1037/0003-066X.62.3.199>
- Zivin, K., Eisenberg, D., Gollust, S. E. & Golberstein, E. (2009). Persistence of mental health problems and needs in a college student population. *Journal of Affective Disorders*, *117*(3), 180–185. <https://doi.org/10.1016/j.jad.2009.01.001>

TABLES

Table 1*Search Documentation Record*

<u>Search Type</u>	<u>Databases or Sources</u>	<u>Search Syntax or Instructions</u>	<u>Specifiers</u>
Electronic Database	PsychInfo	(curriculum or curricula or instruction or teaching or learning) AND (train*) AND (eating disorders or anorexia or bulimia or disordered eating)	*Language: English *Method: Quantitative *Type: Peer-reviewed articles only
Electronic Database	PubMed	((curriculum or curricula or instruction or teaching or learning) AND (train*)) AND (eating disorders or anorexia or bulimia or disordered eating)	*Language: English *Species: Humans
Electronic Database	Scopus	(curriculum or curricula or instruction or teaching or learning) AND (train*) AND (eating and disorders or anorexia or bulimia or disordered and eating))	*Language: English *Type: Final *Source Type: Journal

Table 2*Evidence Table*

<u>Citation</u>	<u>Sample Size</u>	<u>Purpose</u>	<u>Study Design</u>	<u>IV</u>	<u>DV</u>	<u>Key Findings</u>
Brownlow et al., 2015	187 health professionals (e.g., psychologists, nurses, dietitians, social workers)	To identify the effects of an online training course on clinician knowledge, skill, confidence, and stigmatized beliefs	Pre/Post	Online training course	Clinician knowledge, skill, confidence to, treat ED; attitudes, and beliefs about people with ED; measured via questionnaire	Significant improvements in knowledge, skill, and confidence to treat ED; decreased stigmatized beliefs
Cooper et al., 2017	156 licensed mental health professionals (e.g., psychologists, psychiatry/nursing, social workers)	To identify the effects of training professionals on CBT-E competence	Pre/Post and 6-month follow up	Independent or supported web-based CBT-E training	Competence at delivering CBT-E; measured via online measure	Increase in competence scores in both groups with no difference between the two forms of training
DeBate et al., 2009	66 dental and dental hygiene students and providers	To evaluate a web-based training program for training OHP on ED and its oral health effects, OHP roles, skills in identifying the oral signs of ED, communication, treatment, and referral	Pre/Post	Web-based training program combining didactic and skill-based objectives	Self-efficacy, knowledge of oral manifestations from restrictive and purging eating behaviors, knowledge of treatment options, and attitudes about role in secondary prevention; measured via questionnaire and question answering	Statistically significant improvements in all areas
DeBate et al., 2013	608 dental and dental hygiene students	To increase the capacity of oral health students to perform behaviors related to the secondary prevention of ED	A prospective group-randomized controlled trial	Web-based training program	General and procedural knowledge; role beliefs; perceived threat, benefits/barriers, and self-efficacy; measured via questionnaire and multiple-choice questions	Improvements in the intervention group on all six outcomes

Citation	Sample Size	Purpose	Study Design	IV	DV	Key Findings
DeBate et al., 2014	332 dental and dental hygiene students	To compare an interactive e-learning with a flat text e-learning on students' knowledge, motivation, and self-efficacy to address ED	Two-group randomized controlled trial	Interactive vs. flat-text e-learning programs	Role beliefs, benefits/barriers, perceived threat of ED, self-efficacy, knowledge of EDs, and skills-based knowledge; measured via multiple-choice questions and questionnaire	Improvement among interactive e-learning participants was superior to flat-text e-learning in 3 of 6 outcomes: benefits/barriers self-efficacy, and skills-based knowledge
Gooding et al., 2017	303 physicians, nurse practitioners and physician assistants	To compare the effects of active learning with print-learning on screening of ED on adolescents	Pre/Post	Print-learning vs. active-learning group	Documentation of screening; comfort screening for, diagnosing, medically monitoring, and treating ED; satisfaction with training; measured by reviewing medical charts for key terms and via questionnaires	Active-learning group had greater ED knowledge scores, increases in comfort diagnosing EDs, and training satisfaction
Gurney & Halmi, 2001	9 medical social workers	To examine the effectiveness of The Eating Disorder Curriculum for Primary Care Providers on knowledge of primary care providers	Pre/Post and 6 month follow-up	Four 75- minute interactive training sessions	Knowledge, perceived ability to treat EDs, and practice behaviors; measured via knowledge and attitude questionnaires	Statistically significant increases in knowledge and moderate improvement in practice behaviors; no changes in perceived ability to intervene or in perceived obstacles to intervening
Maguire et al., 2019	480 health professionals (e.g., physicians, nurses, social workers, psychiatrists, psychologists, dieticians,	To evaluate the effectiveness of an online training program, the Essentials, in reducing barriers to health professionals	Pre/Post	The Essentials, 5-module online training program	Attitudes, knowledge, and skills; measured via questionnaire	Statistically significant improvements in confidence, knowledge, treatment skills, and reduced stigmatized beliefs; No significant increase in willingness to treat ED

Citation	Sample Size	Purpose	Study Design	IV	DV	Key Findings
	occupational therapists, school counselors)					
McDevitt & Passi, 2018	23 mental health clinicians (e.g., social work, psychologists, occupational therapy, psychiatry)	To evaluate the effectiveness of an Interprofessional Effectiveness (IPE) program using a case-based learning (CBL) approach	Unknown	Five monthly 2-hr IPE sessions using a CBL approach	Attitudes towards IPE; learner reactions to training; and case management; measured via questionnaire and open-ended questions	Positive attitude toward IPE and reaction to content, delivery, outcome, and structure of the training; Change in clinical practice was reported in terms of communication, clinical activity, outcome evaluation and confidence
McVey et al., 2005	3,315 health care practitioners and educators (e.g., social work, psychology, occupational therapy, psychiatry, medicine, dietitian, teacher)	To increase practitioners' knowledge and comfort level in treatment, and build a community within the field	Pre/Post	Community-based training workshops	Perceived level of knowledge in treating EDs and teaching a body image curriculum; measured via questionnaire	Statistically significant increase in participants' knowledge and comfort to treat ED or teach a body image curriculum
McVey et al., 2009	78 elementary school teachers and 89 school-based public health practitioners	To assess if web-based program was a tool professionals felt comfortable using, provided knowledge, and improved efficacy to fight weight bias	Pre/Post	A 6-module web-based prevention program, The Student Body: Promoting Health at Any Size	Knowledge about factors that influence body image in children and efficacy to fight weight bias; measured via questionnaire	Improved knowledge concerning facts about dieting (teachers only) and in increasing efficacy to fight weight bias (public health participants only)

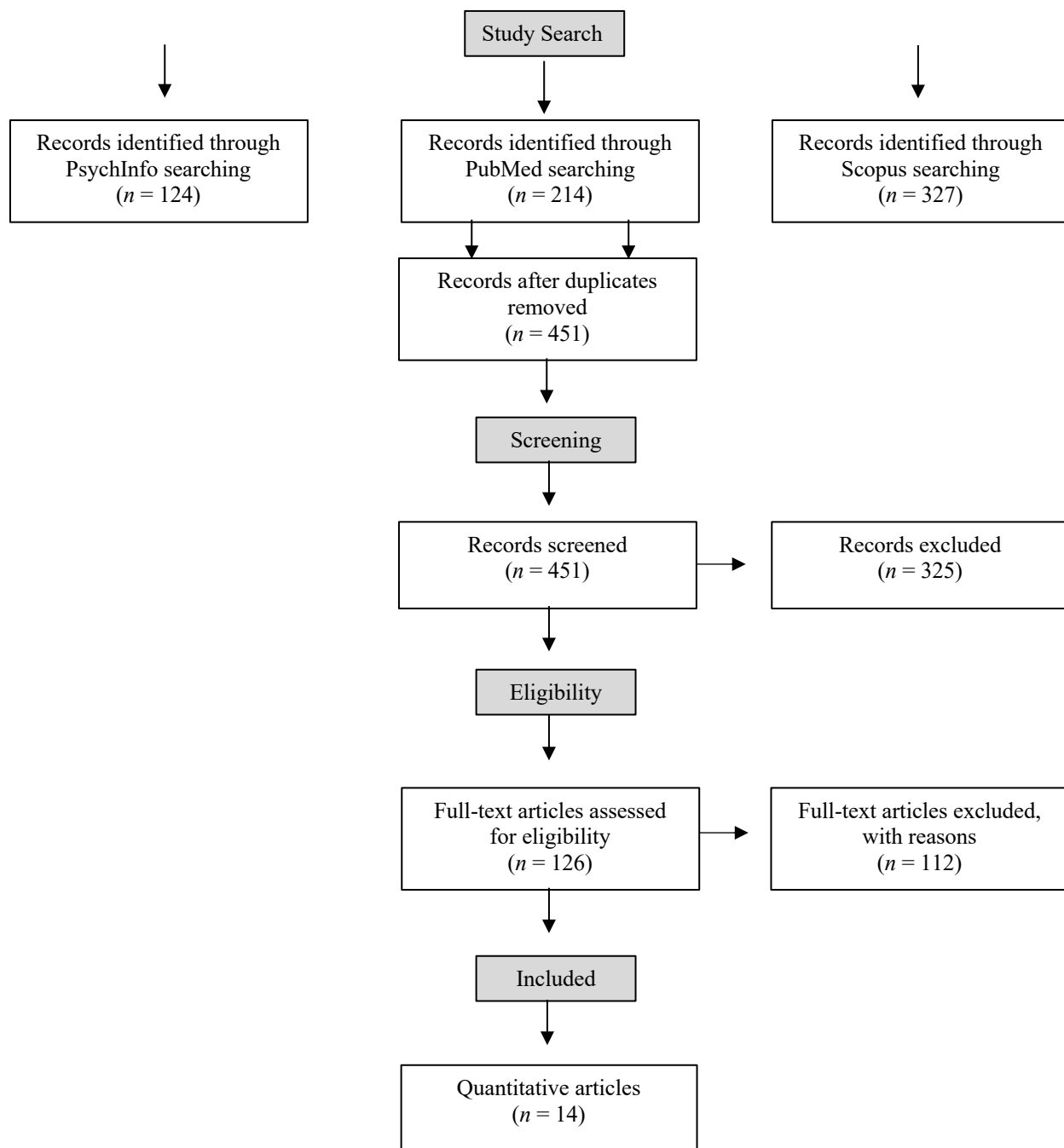
Citation	Sample Size	Purpose	Study Design	IV	DV	Key Findings
O'Conner et al., 2018	765 therapists, including nurses and social work	To identify the effects of training therapists on CBT-E competence	Pre/Post	Independent web-based CBT-E training	Competency at delivering CBT-E; measured via online questionnaire	After training, 45% of trainees who were not already competent met or exceeded the competence threshold
Pasold et al., 2018	132 medical students	To examine the impact of eating disorder education and experience offered to students	Pre/Post	1-month rotation that included SP simulation, didactic education, and a 1-day in vivo experience working within An ED clinic. Group 1 completed the Self-efficacy Questionnaire after the SP module. Group 2 completed it after completion of both the module and the didactic training. Both groups completed it again after the in-vivo 1-day training.	Self efficacy- including knowledge, interviewing skills, medical impact, and impressions; measured via questionnaire	SP simulation alone found no change from pre to post. SP combined with feedback and didactic education found a significant change in self-efficacy pre to post. The one-day rotation was found to be likely insufficient. The 1-month rotation was postulated to not be sufficient
Wilfley et al., 2020	184 therapists	To compare expert vs. train-the-trainer training methods for training therapists in interpersonal therapy	Cluster-randomized trial	Expert vs. train-the-trainer conditions	Therapist fidelity to and knowledge of interpersonal therapy; fidelity measured via audio recordings of therapy sessions and questionnaire	Both conditions showed significant within-group improvements to IPT adherence and competence and no significant differences between conditions

Table 3*Training Intensity and Length*

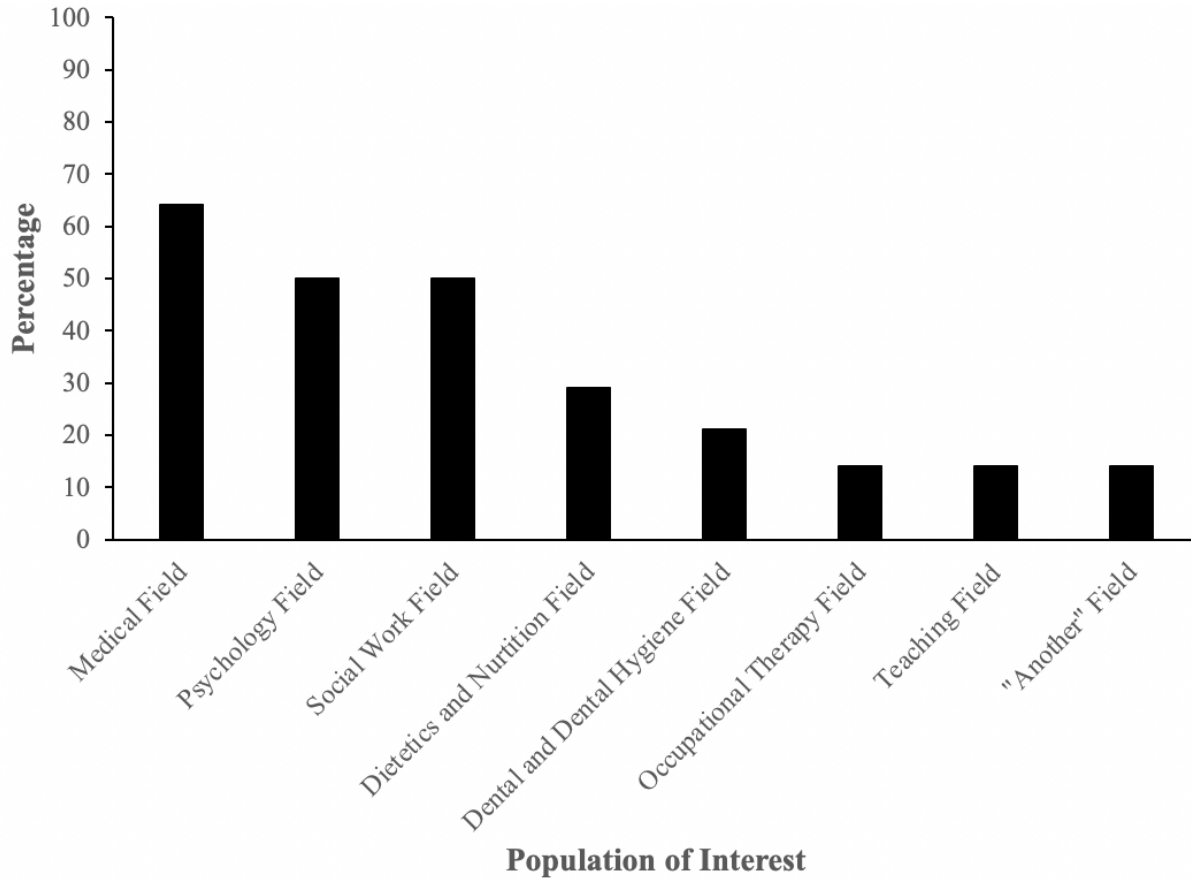
Authors	Training Components	Total Minutes/Hours	Length of Study	Follow-up (FU)
Brownlow et al. (2015)	5 modules at 3.5 hr each	17.5 hr	6 months	N/A
Cooper et al. (2017)	8-9 hr course, Twelve 30-min supportive phone calls	14-15 hr	20 weeks (i.e., 5 months)	6-month FU
DeBate et al. (2009)	Not Reported	Not reported	1 week	N/A
DeBate et al. (2013)	45-60 min case studies, 3-4 hr EAT Framework and skills portion, 2-3 hr ED and oral findings training	6+ hr	3 weeks	N/A
DeBate et al. (2014)	30-45 min didactic	30-45 min	30-45 min	N/A
Gooding et al. (2017)	1 hr of lecture, 12 ED questions were sent to participants over the course of 5 weeks (approx 2 questions per week)	1+ hr	4 months	N/A
Gurney & Halmi (2001)	4 training sessions at 75 min each	5 hr	4 weeks (i.e., 1 month)	6-month FU
Maguire et al. (2019)	5 modules at 3.5 hr each	17.5 hr	Not reported	N/A

Authors	Training Components	Total Minutes/Hours	Length of Study	Follow-up (FU)
McDevitt & Passi (2018)	2-hr meetings each month across 5 meetings	10 hr	4 months	N/A
McVey et al. (2005)	3-hr prevention training, 3hr assessment and treatment training, 6-hr presentation and treatment training, 3-6 hr specialized treatment training	15-18 hr	Not reported	N/A
McVey et al. (2009)	Not reported	Not reported	60 days (i.e., 2 months)	N/A
O'Connor et al. (2018)	8-9 hr course	8-9 hr	20 weeks (i.e., 5 months)	N/A
Pasold et al. (2018)	1-month adolescent rotation, 1.5 hr didactic training, 1-day outpatient observation	8+ hr	1 month	N/A
Wilfley et al. (2020)	One (expert training condition) or two (train-the-trainer condition) 2-day workshop(s), optional 1-hr consultation call every month for up to 12 months, optional 1-hr weekly group consultations with trainee colleagues	12+ hr	12 months	N/A

FIGURES

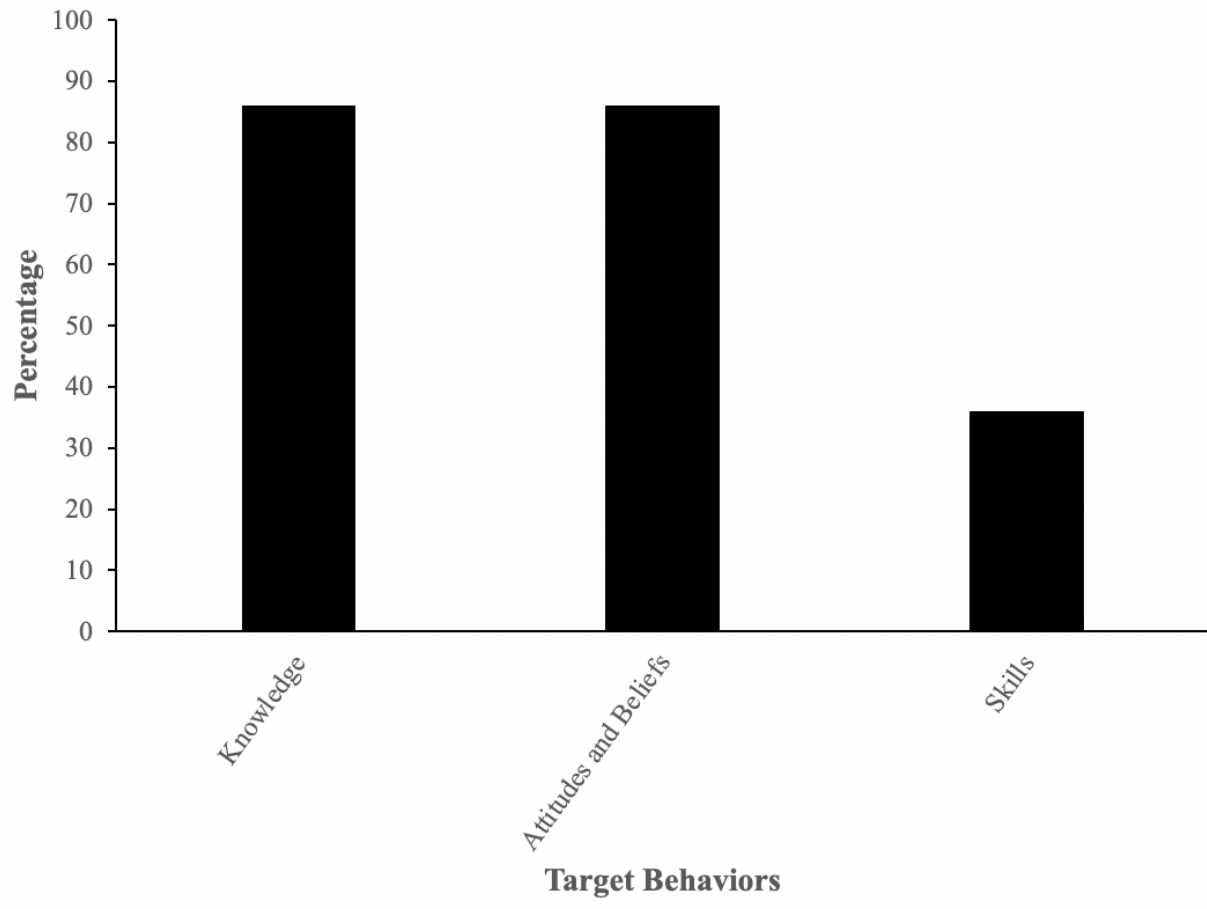
Figure 1*PRISMA Flow Diagram*

Note. PRISMA Flow Diagram indicates the process in which articles were selected and excluded for the study, providing an overview of the search, screening, eligibility, and inclusion processes.

Figure 2*Population of Interest*

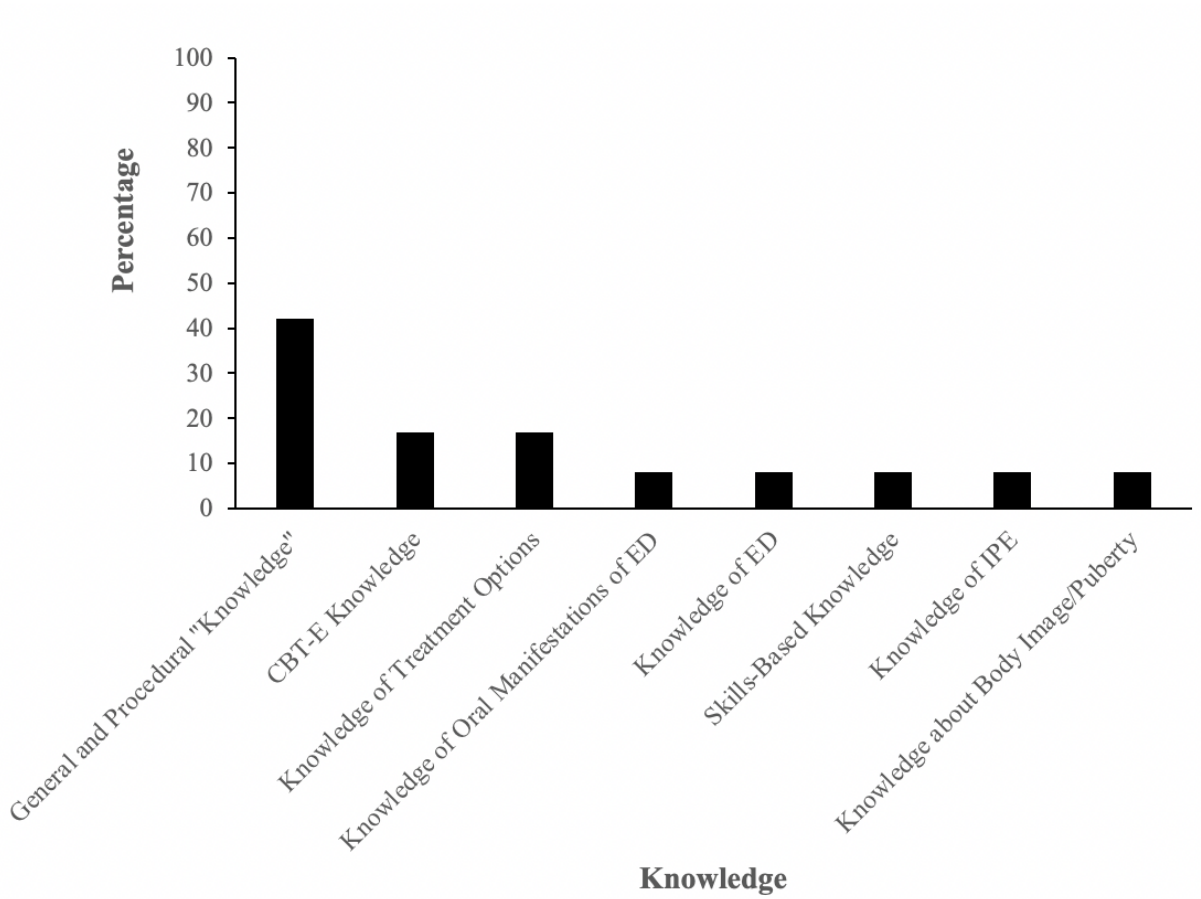
Note. Percentage breakdown of the types of participants that were included, across all 14 studies.

Figure 3
Target Behaviors

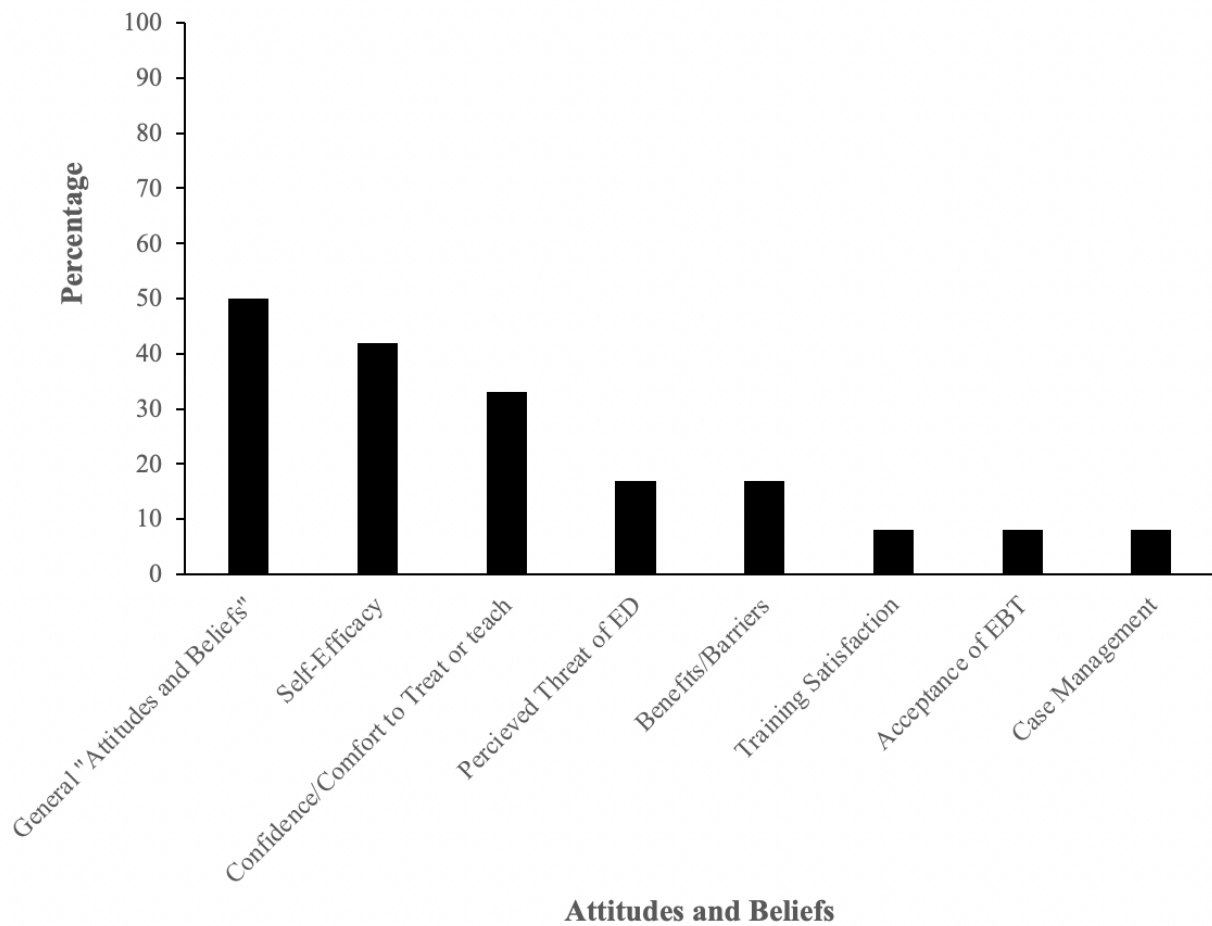


Note. Percentage breakdown of the three categories of target behaviors measured by studies, including (a) knowledge, (b) attitudes and beliefs, and (c) skills.

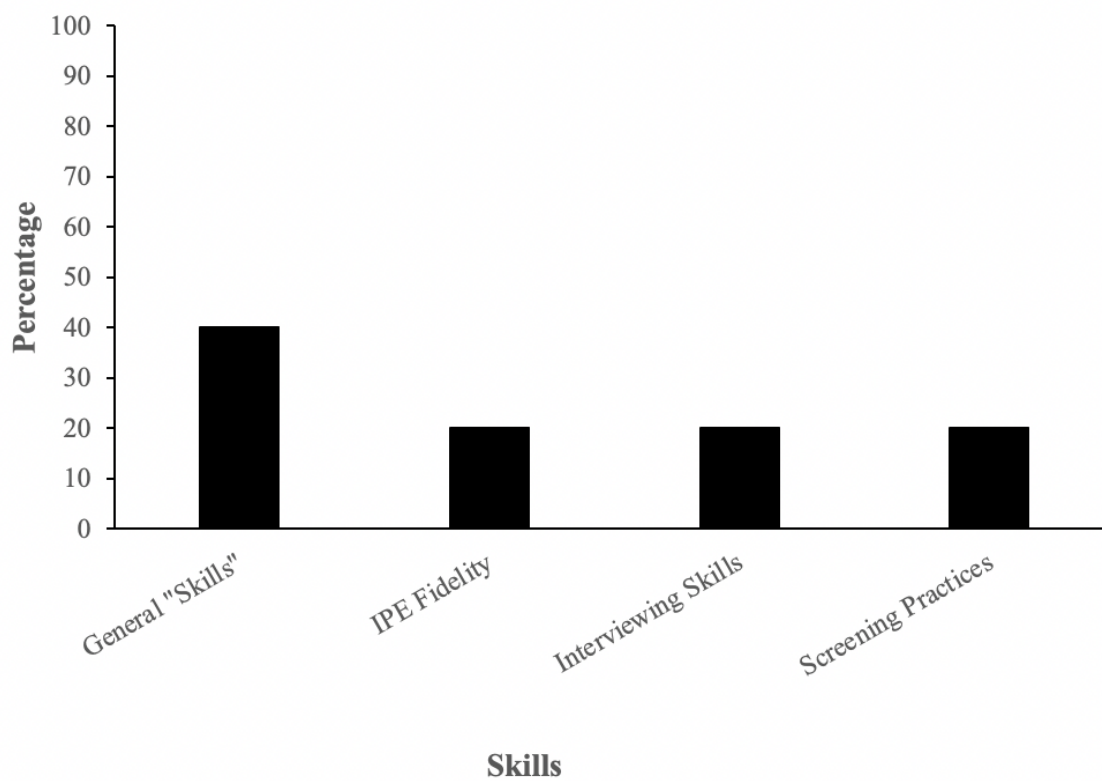
Figure 4
Knowledge Measured



Note. Percentage of each of the types of “knowledge” measured across the 14 studies.

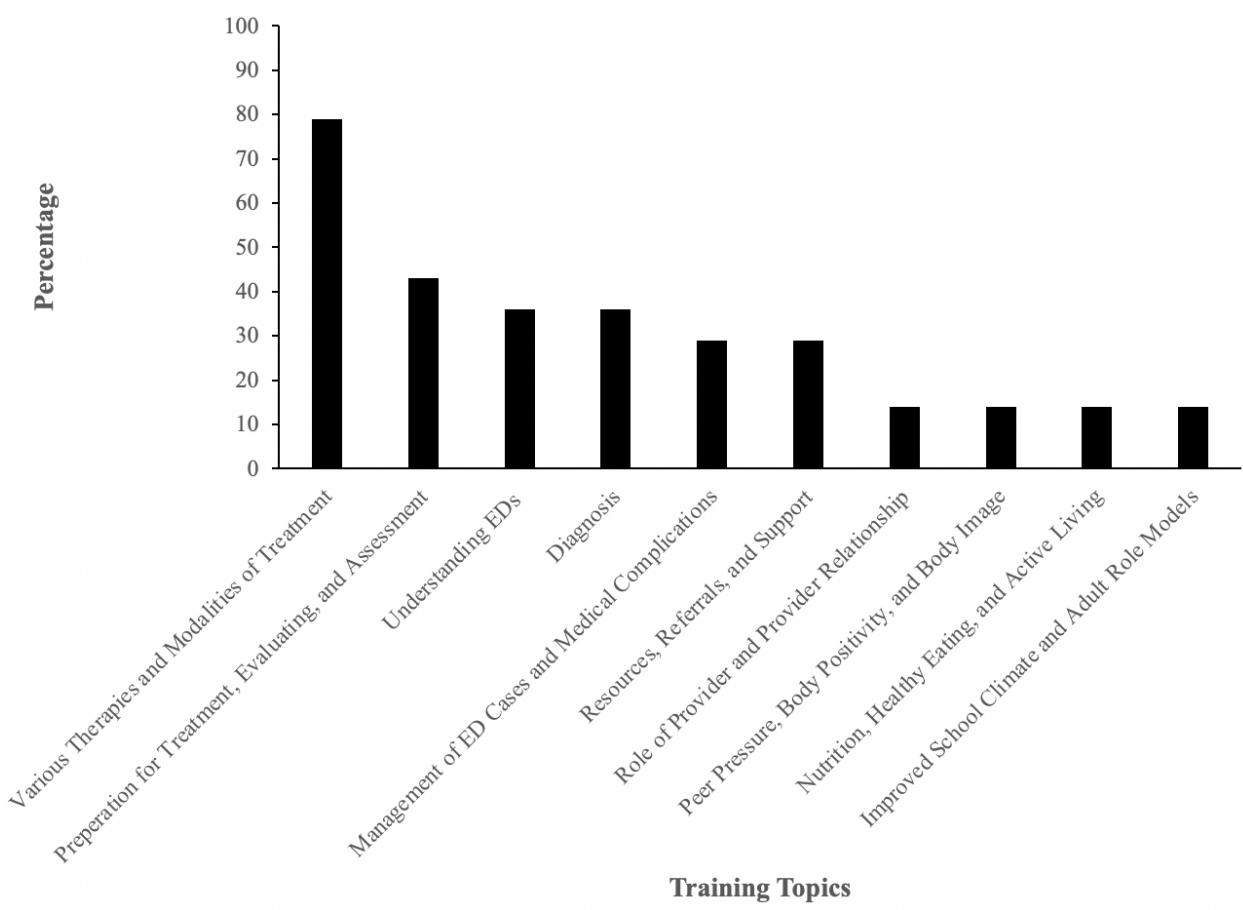
Figure 5*Attitudes and Beliefs Measured*

Note. Percentage of each of the “attitudes and beliefs” measured across the 14 studies.

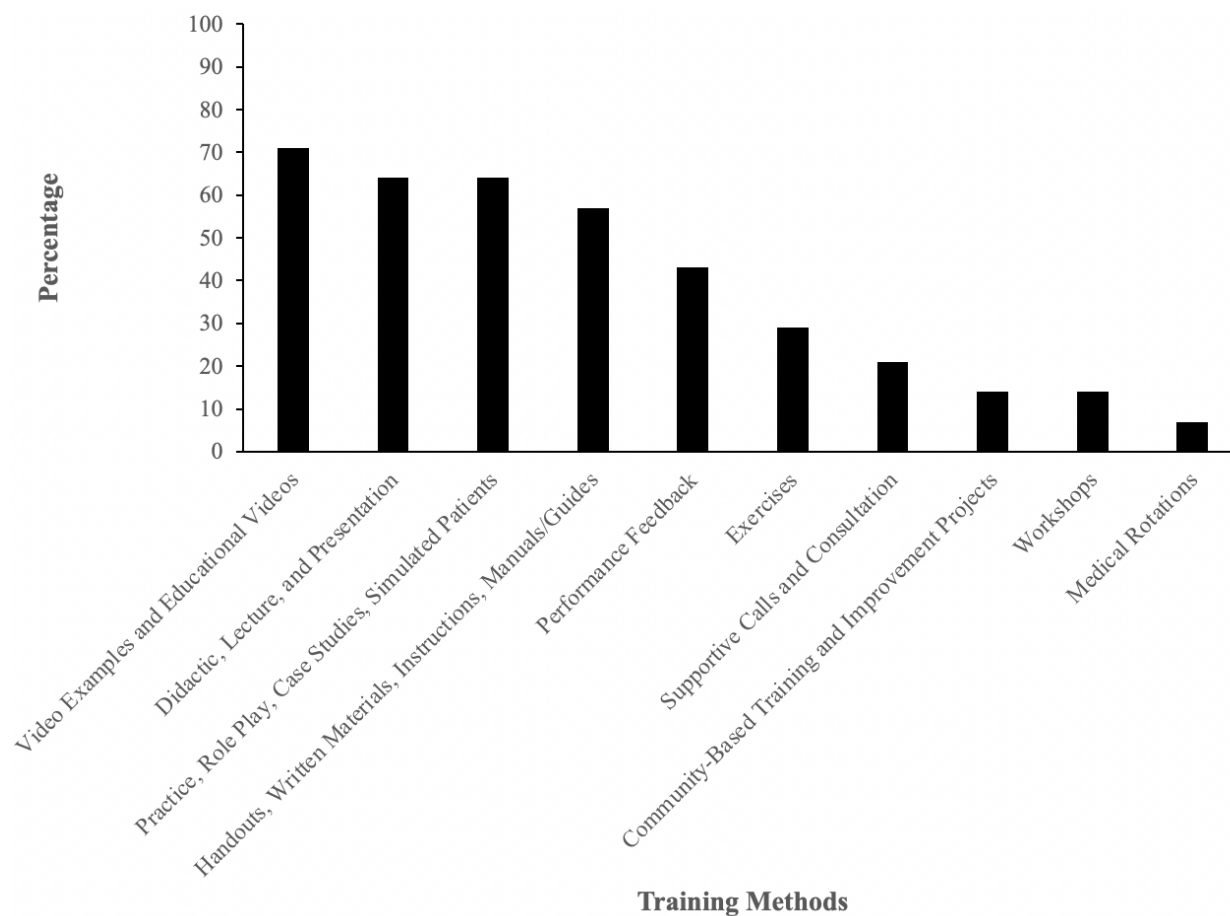
Figure 6*Skills Measured*

Note. Percentage of each of the types of “skills” measured across the 14 studies.

Figure 7
Training Topics



Note. Percentage of each of the types of training topics taught across the 14 studies.

Figure 8*Training Methods*

Note. Percentage of each of the types of training methods used across the 14 studies.

APPENDIX A

Screening and Selection Record

SEARCH ID#	AUTHOR	YEAR	ABBREVIATED TITLE	DATABASES/SOURCES	TITLE/KEYWORD SCREEN: DECISION/DATE	ABSTRACT SCREEN: DECISION/DATE

APPENDIX B

Data Collection and Extraction Form

Document ID# and Database

Authors and Year (<i>last names of authors and year of publication</i>)

Full Document Title

Date retrieved (<i>dd/mm/yyyy</i>)	
Comorbidities/Differential Diagnoses?	
Publication Status (<i>Published, Unpublished</i>)	
Eating concerns listed?	
Document Language	
Quantitative study?	
Purpose/Research question of the study	
Participant characteristics:	
Setting:	
Experimental Design:	

Modality of training: (<i>Online or in-person</i>)	
How they were Trained: (<i>Feedback or handout</i>)	
Independent Variable Topic(s):	
Dependent Variable(s):	
Duration/Length/Intensity of Training:	
Technological Descriptions:	
Results:	
Maintenance:	
Generalization:	
Conclusions:	
OTHER:	
Notes:	

APPENDIX C

Individual Study Quality Assessment (Template)

Author(s) and Year: _____

Study ID# _____

1.	Methodology:	Quantitative	Qualitative	Mixed Methods	
2.	Specific		Design/Inquiry		Approach:

RATING SCALE: Strong=3 Good/Adequate=2 Weak=1 Missing=0 N/A

3. **Strength of Literature Foundation and Rationale for Study:** _____
 (POSSIBLE CONSIDERATIONS: current and relevant references, background literature sufficiently comprehensive regarding eating disorder treatment, prevention, and screening by professionals and graduate students. Need/Rationale for study clearly stated.)

4. **Clarity and Specificity of Research Aims/Objectives/Questions:** _____
 (POSSIBLE CONSIDERATIONS: research aims/objectives/questions are clearly stated in the protocol, hypotheses are formed, researchers explain how they plan to test questions and measure objectives, researchers define target behaviors well (i.e., CBT-E implementation therapy implementation.)

5. **Quality of research design or methodological approach:** _____
 (POSSIBLE CONSIDERATIONS: provides rationale for design chosen, appropriateness for research questions, clear description of design and methodological approach, strength of design characteristics utilized [e.g., randomization, blinding, triangulation, etc.], potential confounds identified and addressed in some way, consideration of internal and external validity in design, specific design-based “risk of bias” criteria.)

6. **Sample Selection and Characteristics:** _____
 (POSSIBLE CONSIDERATIONS: adequacy of sample size in context of design, detailed description of sample characteristics, representativeness of sample, adequacy of sample characteristics in the context of research aims, detailed description of recruitment and selection of participants, control group/active control group/no control group, randomization and stratification for sample, extent of selection or sample bias, past eating disorder treatment experience of participants, age, nationality)

7. **Measures / Data Collection Tools:** _____
 (POSSIBLE CONSIDERATIONS: rationale for selection, appropriateness for assessing variables, development of new tool clearly described psychometric properties [reliability, validity, utility] described, adequacy of psychometric properties, sufficiently comprehensive, etc.)

8. **Data Collection:** _____
 (POSSIBLE CONSIDERATIONS: data collection procedures clearly described, intervention strategies and implementation described in detail, quality of data collected, attrition, etc.)

9. **Analysis of Data:** _____
 (POSSIBLE CONSIDERATIONS: appropriateness of analysis for research questions and type of data, power and effect size presented, results presented clearly and comprehensively, etc.)

10. Discussion of Study Limitations: _____
(POSSIBLE CONSIDERATIONS: identifies and discusses limitations in the context of design/strategy utilized [e.g., various forms of bias, internal validity, external validity / generalizability, ecological validity, transferability, credibility, transparency, etc., comprehensiveness of limitations identified.]

11. Consideration of culture and diversity: _____
(POSSIBLE CONSIDERATIONS: attention to diversity within sample, includes culturally appropriate methods and tools, avoids biased language, uses appropriate terminology, etc.)

12. OVERALL RATING:	EXEMPLARY	STRONG	GOOD/ADEQUATE
WEAK			
(mostly "1"s)	(all "3"s)	(mostly "3"s)	(mostly "2"s)

APPENDIX D

IRB Approval

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

February 3, 2022

Protocol #: 2322

Project Title: A Systematic Review of Training Recommendations for Mental Health Professionals Who Are Treating Eating Disorders

Dear Shir:

Thank you for submitting a “GPS IRB Non-Human Subjects Notification Form” for *A Systematic Review of Training Recommendations for Mental Health Professionals Who Are Treating Eating Disorders* project to Pepperdine University’s Institutional Review Board (IRB) for review. The IRB has reviewed your submitted form and all ancillary materials. Upon review, the IRB has determined that the above titled project meets the requirements for *non-human subject research* under the federal regulations 45 CFR 46.101 that govern the protection of human subjects.

Your research must be conducted according to the form that was submitted to the IRB. If changes to the approved project occur, you will be required to submit *either* a new “GPS IRB Non-Human Subjects Notification Form” or an IRB application via the eProtocol system (<http://irb.pepperdine.edu>) to the Institutional Review Board.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete explanation of the event and your response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at <https://community.pepperdine.edu/irb/policies/>.

Please refer to the protocol number denoted above in all further communication or correspondence related to this approval.

On behalf of the IRB, we wish you success in this scholarly pursuit.

Sincerely,

Institutional Review Board (IRB)
Pepperdine University

cc: Mrs. Katy Carr, Assistant Provost for Research

Dr. Judy Ho, Graduate School of Education and Psychology IRB Chair