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Applying Deliberate Practice to Learning Psychotherapy Techniques

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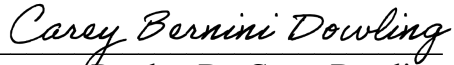

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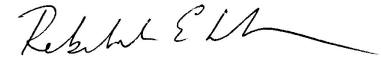

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Abstract

Deliberate practice has commonly been used in areas such as music, chess, and medicine, but there is a lack of deliberate practice found in psychotherapy. The purpose of this study was to examine whether deliberate practice can be applied to learning psychotherapy techniques in a novice learner (the author of this study). The study also aimed to research the anxiety and reactivity levels of the subject in response to performance during and after the session. The author independently learned modules from the Unified Protocol manual and then engaged in role-play sessions with an expert. Before beginning each exercise, the subject also completed a self-assessment form concerning levels of anxiety. Immediately following the role-play, the subject received feedback from the expert, engaged in deliberate practice exercises, and provided self-ratings of performance. After concluding the session and review of expert feedback, the subject then completed additional questions about the level of emotional reactivity to the entire interaction. The overall quantitative and qualitative findings of this study indicated that deliberate practice is a promising method in learning psychotherapy techniques, which resulted in a reliably stronger performance at each successive trial. Deliberate practice could be an effective tool for clinicians in helping them improve their therapeutic skills, which may facilitate more systematic, group-level treatment in the future.

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Applying Deliberate Practice to Psychotherapy

Deliberate practice is defined as "the individualized training activities specifically designed by a coach or teacher to improve specific aspects of an individual's performance through repetition and successive refinement." (Ericsson & Lehmann, 1996 p. 367). The idea of deliberate practice was first presented by Ericsson in 1993 with the established primary goal "to distinguish activities invented with the primary purpose of attaining and improving skills from other types of everyday activities, in which learning may be an indirect result." (Ericsson et al., 1993 p. 367). This paper also differentiated deliberate practice from work and play. Work was defined in this sense as "public performance, competitions, services rendered for pay, and other activities motivated by external rewards." (Ericsson et al., 1993 p 368). Play was defined as "activities that have no explicit goal and that are inherently enjoyable." (Ericsson et al., 1993 p 368). Alternatively, deliberate practice entails focal activities that are specially designed to help improve performance on a given task. To engage in deliberate practice, Ericsson states that the instructor has to organize a series of appropriate training activities unique to the individual learner. It is also necessary to monitor the improvement of the trainee so that more complex tasks can be implemented as foundational principles are learned and integrated into construct conceptualization. Another key component of deliberate practice is the trainee receiving immediate feedback from the instructor. As the article states, "Even with the repetition of learning a skill, it still won't be obtained unless there is adequate feedback." (Ericsson et al., 1993 p 366). The subjects should immediately receive feedback and knowledge about their results with a specific emphasis on using that feedback to guide subsequent rounds of individual practice.

In the process of conducting deliberate practice, the subject typically conducts a meeting with an expert in the field that they are studying. During this interaction, the expert and the subject first, conduct a baseline evaluation to gauge where the subject's performance is initially. Next, the expert informs the subject of the area(s) of their performance in need of improvement. The quality and level of focus of this assessment is different than most other learning experiences, in that the expert is not just providing general feedback about the subject's whole performance but specific, focused criticism that can be used to develop exercises to assist the subject in refining and improving in that particular skill area. The expert has the job of paying close attention to the subject's performance so that adequate feedback will be given to the subject. With the feedback and individually designed exercises provided by the expert, the subject then practices intensely and repetitively, typically in isolation, before presenting their performance to the expert again and soliciting additional feedback and practice. Each time this cycle repeats, the expert monitors to see if the subject is improving in their performance and continues to offer specific criticism and suggestions for continual improvement. Importantly, this process has no end, as it is central to the perspective that there is all skills can be improved indefinitely (Ericsson et al., 1993). Additionally, the expert tries to assist the subject in forming their own representations of the tasks while allowing them to refine and examine their own performance. The subject is not just engaging in simple repetition, but actively engaging in mental assignments and expanded thought exercises that help them to examine what they are doing in their performance and to understand why they are choosing to do it in that specific way.

Ericsson et al.'s formative paper (1993) provided numerous examples of studies of musicians, including violinists from the Music Academy of West Berlin. Ericsson et al. (1993)

predicted that those who had applied more deliberate practice in their earlier years before entering the music company would have the highest level of performance. The results from this study supported this notion, finding that there was a correlation between the subjects' performances and the past and current amounts of deliberate practice in which they engaged. This practice was almost always a solitary rehearsal of expert-guided technical improvements, and the majority of participants indicated that they did not find it particularly enjoyable (although the effectiveness of practicing in this manner was very clear).

The Ericsson article is one of many that examines the use of deliberate practice in fields such as music or other discrete skill training. More recently, Clements-Hickman & Reese (2020) acknowledged that deliberate practice has typically been used in fields that have a clear goal of improving a specific kind of performance with clear rules to guide its application and determine successful outcomes (e.g., music, chess, education, medicine). Starkes et al. (1996) also indicated that the use of deliberate practice has rarely been used in sports (despite obvious potential applications). This is briefly discussed in the Ericsson et al. (1993) article, although measurement of athletes and their skill performance was not the main focus of the authors' seminal work in this area.

Although far from being a typical training technique, deliberate practice has been applied and studied in the field of medicine. The article by McGaghie et al. (2008) conducted research on "the use of deliberate practice as an independent variable in the context of simulation-based education in EM (emergency medicine)." (McGaghie et. al, 2008, p. 995). At the beginning of their research, McGaghie et al. identified the factors of deliberate practice that can contribute to emergency medicine. They particularly noted that "rigorous educational measurement yields

high-quality, reliable data." (McGaghie et. al, 2008, p. 996), which was needed to give the learners error-free feedback that could then be utilized as a foundation for rigorous quantitative research (and potentially generalizable training techniques). Careful monitoring of data was also cited as essential to permitting valid decisions or inferences about learners at individual or team levels (an important element of applied training in medicine). To conduct their study, McGaghie et. al (2008) examined large within-group gains and between-group differences in cardiac auscultation skill acquisition among fourth-year medical students and internal medicine residents. The independent variable was the deliberate practice on Harvey, which was "a high-fidelity cardiology simulator." These structured exercises with immediate expert feedback were compared to standard training through clinical experience using consistent, standardized evaluations of capability in the technique (McGaghie et. al, 2008). The study found that the deliberate practice group showed a 38 percent improvement in advanced cardiac life support (ACLS) skill acquisition in comparison to a randomized group that instead received training as usual. The study also noted that there was an improvement in the control group after crossover (meaning that their skill level accelerated, on average, only after receiving training through deliberate practice). McGaghie et. al (2008) ultimately concluded that deliberate practice is an effective stepping stone in helping to improve the field of simulation-based education in emergency medicine, and provided ten deliberate practice research opportunities that could be used in this context.

A later article by McGaghie et. al (2011) found that medical education and evaluation research programs that incorporate deliberate practice and mastery learning were showing positive outcomes. They noted that many of these medical educational programs used health care

simulation technology as a curriculum driver, as suggested in their earlier article (reviewed above). Some examples that the authors noted were that these training programs had been shown to improve inpatient care, including reduced incidence of complications and higher success rates at central venous catheter (CVC) insertion, improvement in laparoscopic surgical skills, and increased competence in several types of endoscopy. McGaghie et. al (2011) also found that this translated over to patients because there have been reduced rates of catheter-related bloodstream infections, reduced birth complications due to shoulder dystocia, and a variety of other measurable, positive impacts on patient outcomes. McGaghie et. al (2011) suggested that medical schools and residency curricula should make changes to adopt new programs to test and build competency and help to train their doctors better, which they posited could be best accomplished through a deliberate practice framework.

The following study conducted by Welch and Carter (2018) also suggests a similar finding regarding the utility of deliberate practice in the field of nursing. The article describes the educational process to accelerate skill acquisition for new nurse graduates through deliberate practice and situational learning experiences. Welch and Carter (2018) identified that the "main problem lies within the attrition, onboarding, training, and retention of qualified and competent nursing staff to meet and maintain the quality and safety needs of patient populations." (Welch & Carter, 2018). In applied settings, new nurses were not typically given the time and relevant experiences to assist them in learning how to "develop prioritization, time management, and critical thinking skills to accurately apply their knowledge to patient situations, make decisions, and respond with appropriate actions." (Welch & Carter, 2018). The authors provided numerous examples of how deliberate practice could provide an effective, efficient means of enhancing

training and efficiently speeding up the acquisition of relevant skills. The authors concluded by suggesting these training techniques be implemented into professional medical settings to give new graduate nurses the opportunity to gain essential practical experiences that would have taken them numerous years to accomplish in clinical practice.

Most commonly for new graduate nurses, a high-fidelity simulation is used to assist nurses in gaining training. In a high-fidelity simulation, there is usually no demonstration of the best possible techniques given, and the entire scenario is only conducted one time, with a debriefing at the end of the session. Deliberate practice differs in these settings as Welch and Carter note in three numerous ways: "Scenario is presented by an expert in the area of focus to demonstrate expert behaviors and best practice. The entire scenario is conducted with focused mentoring throughout the scenario, and the scenario is repeated until expertise is achieved, or the scenario is broken into segments with focused mentoring with each segment until expertise of that segment is achieved." (Welch & Carter, 2018, p. 270). Deliberate practice increases skill acquisition and performance in new graduate nurses as they are given more time, structured repetitive exercises, and help from expert nurses in refining their skills, while simultaneously placing them in real-life situations with real patients (thus advancing knowledge through context). By placing the new nurses in real-life situations with real patients, they are able to more accurately refine and correct their performance which can assist them when dealing with patients later on. In this article, Welch and Carter suggested that expert nurses demonstrate the best practice to the new graduate nurses, which would provide a more systematic process for training than was otherwise typical.

It is important to note that many organizations have already established the use of formal coaches and mentors who can assist new nurses in transitioning into the workforce for their first year. Welch and Carter pointed out that research has shown that these formal coaches and mentors have had a positive impact on the new nurses' retention rates, job satisfaction, and improvement in patient outcomes. However, Welch and Carter note that these coaches, mentors, and educators could still benefit from implementing deliberate practice into their educational exercises to ensure longevity in the new nurses' skill acquisition and improvement in their performances.

First, Welch and Carter suggested that the performance of expert nurses should be monitored and recorded. From the recordings of the expert nurses' performances, scenarios and vignettes could be created to use as performance models to teach the new graduate nurses. Next, the expert nurses are asked to perform a real-life clinical situation to manage a patient that is in crisis. As the expert nurse is attending to the patient, they are asked to verbalize all of their thought processes aloud. The expert nurses' thought processes are transcribed while the interaction with the patient is recorded. The entire performance and transcription are then turned into a scripted narrative and recording that are shown to the new nurse graduates to help them in learning to build upon their current knowledge and think critically about their likely actions in these situations. The new nurses are given the opportunity to perform deliberate practice while keeping in mind what they learned from the expert nurses' performance. Welch and Carter concluded that there were numerous real scenarios that institutions could use to teach their new nurses, but also that this practice of deliberate practice is optimal in helping new graduate nurses

to obtain skill acquisition and improve their performance in working with real patients and real scenarios.

An emerging area of skill development where deliberate practice has rarely been used is in the field of psychotherapy. Miller et al. (2018) conducted studies that showed that many degreed professionals performed no better than students when administering psychotherapy to their clients. Fairburn and Cooper (2011) conducted a study that focused on the lack of research on the training that therapists have, and the therapists' ability to provide theoretically consistent treatments (i.e., therapists' competency). Fairburn and Cooper (2011) defined therapist competency as, "the extent to which a therapist has the knowledge and skill required to deliver a treatment to the standard needed for it to achieve its expected effects." (Fairburn & Cooper, 2011, p. 374). One of the goals that deliberate practice is focused on is reviewing whether practice over time will improve the skill set of an individual. Goodyear et. al (2017) support this statement by arguing that, "the most meaningful definition of expertise must involve steady improvement over time to achieve superior performance on some meaningful measure, which typically is client outcome. We also argue that the best means by which a therapist can achieve this is through ongoing deliberate practice." (Goodyear et. al, 2017, p. 54)

Although this has been repeatedly demonstrated across many other areas of performance, there is currently minimal evidence one way or another when it comes to the learning and delivery of clinical services. An article by Skovholt and Rønnestad (2003) points out the numerous struggles that novice therapists encounter in their beginning stages of working in the professional field. For the purpose of this study, the only part of Skovholt's and Rønnestad's article that will be focused on is the discussion of acute performance anxiety and fear in novice

therapists. Initially, Skovholt and Rønnestad pointed out that novice therapists do not have as much experience when it comes to conducting sessions, and tend to rely on their intuitive knowledge and tactic, unlike experts who have much more experience. Skovholt and Rønnestad then pointed out the numerous struggles experienced by novice therapists, with the primary barrier being performance anxiety and fear. Skovholt and Rønnestad noted that new therapists are often overwhelmed early in their careers given a lack of professional confidence to help with the anxieties that they have when they face difficult situations in their sessions. This, in turn, can impact the work that the novice therapist is conducting. The individual's attention is directed toward reducing the external visible effects (e.g., trembling and sweaty hands, unsteady voice) and lowering internal anxiety to enable effective thought (Skovholt and Rønnestad, 2003). This article by Skovholt and Rønnestad (2003) is effective in the fact that it gives more context to the numerous struggles that novice therapists encounter, but this article does not include much research and statistics on helping novice therapists to deal with this (beyond general awareness that this is a common phenomenon). Additionally, it does not provide much information and research on taking these reactions into account and the novice therapists' awareness of it.

Williams et al. (1997) conducted a study taking into account the emotional aspects that many beginning therapists struggle with and their awareness of these reactions. Williams et al. (1997) believed that a beginning therapist's own lack of control over their personal actions could affect the way that they administer therapy. The authors chose to examine basic skills, self-efficacy, anxiety, and countertransference management. To do this, the study measured "through the use of both qualitative and quantitative methods, we investigated the trainees', clients', and supervisors' perceptions of the trainees' personal reactions and management

strategies during counseling sessions." (Williams et al., 1997, p. 391). The researchers of this experiment also questioned whether the education and experience that the beginning therapist received from their school would play a part in their competency. Williams et al. (1997) discovered that the experiment limited them as they were only able to monitor the reactions and management strategies that the trainees gave to them, as opposed to the broader cross-section of behaviors and learning strategies that were actually occurring. Another problem that was encountered by this experiment was the sample size was only one doctoral program, which promoted difficulties in generalization given the small and insular nature of the participants. This experiment leaves the door open for research to be done on whether the education and experience of beginning therapists from their schools contribute to their performance in giving actual therapy to patients. In the article by Skovholt and Rønnestad (2003), they mention that most students who are admitted to graduate programs have shown that they have excelled at mastering the subject matter in class on the topics, but this does not ensure that the knowledge from their classes will translate over to their performance in the professional fields. Both articles bring up new points about how education could affect the performance of novice therapists, but they don't add much research or results of these implications.

Other studies examined this question in terms of ascertaining expertise in psychotherapy. Miller et al., (2018), for example, applied deliberate practice to developing therapists and examined the results in terms of specific training exercises. Miller et al., (2018) created the Taxonomy of Deliberate Practice Activities (TDPA) which maps the clinicians' overall performance and shows the areas where deliberate practice can be applied. The TDPA is based on five factors: "(1) quality of the therapeutic relationship (2) creation of hope and expectation of

change (3) provision of plausible rationale and healing rituals (4) understanding and use of client strengths and resources (5) therapist self-regulation." (Miller et al., 2018, p. 5). Although this preliminary study provided some basis for future research, the authors also acknowledged that the TDPA still needed "conceptualizing and organizing deliberate practice efforts and validation." (Miller et al., 2018). They also indicated that it would be helpful to use routine outcome monitoring (ROM) to establish baselines in the subject's performance before then applying deliberate practice, which would enable detailed monitoring of change over time. Overall, Miller et al. (2018) highlighted that deliberate practice would be a good stepping stone to improving psychotherapy but provided no clear or structured plan on how to do so. While Miller et al. (2018) briefly mentioned how routine outcome can be used as a baseline in the subject's performance, the study did not implement this technique in its methods.

Another study conducted by Goldberg et al. (2016) examined the changes in psychotherapists' effectiveness within an agency. This study sought to improve outcomes through the use of ROM combined with ongoing consultation and a planned application of feedback in deliberation practice. In this study, Goldberg et al. (2016) used ROM over the course of 7 years within a mental health agency. Not only did the authors monitor the performance level of the agency, but they also monitored the individual performances of the psychotherapists within the agency as well. The ultimate goal of this study was to see if the patient outcomes in the agency improved over time.

The study notes that if there are any improvements seen, then there are two explanations: psychotherapists improved in their performance, and psychotherapists who were hired later in time were more effective than the psychotherapists who were hired earlier. With the use of ROM

and deliberate practice, the agency found that their patient outcomes did improve. Although this change was small, it was statistically significant and viable for the patients affected in terms of outcome. The authors also noted that these results were consistent with the literature on deliberate practice and therapist effects that suggested incremental improvements were possible through the application of these training techniques. The study also found that there was a small increase in improvement each year in the individual psychotherapists, which was again consistent with deliberate practice skill development. The clients of these psychotherapists also showed improvement with there being less distress in them gradually each year as they saw their therapist. Additionally, the study aimed to see if the psychotherapists who were hired later were more effective than the psychotherapists who were hired earlier. In conclusion, the study found that this hypothesis was not supported, providing further indication of the usefulness of deliberate practice models (as they did not appear to be time contingent in facilitating positive treatment outcome).

The papers mentioned above have shown how deliberate practice can be applied to psychotherapy and the need for deliberate practice in this field, but there is a lack of knowledge about the potential limitations of applying deliberate practice to psychotherapy skill development. Clements-Hickman and Reese (2020) is the first paper to question the suitability of deliberate practice in psychotherapy. Clements-Hickman and Reese first acknowledged that there are factors out of the therapist's control that could be affecting the patient's progress. The second limitation of using deliberate practice in psychotherapy is that deliberate practice uses a reductionistic approach that "can be limiting because it only focuses on improving a specific skill(s) but could take away from the whole thing because it could be incongruent with the large

amount of research support that suggests psychotherapy skills are not easily reduced down to skills that translate into an increased benefit for clients." (Clements-Hickman & Reese, 2020, p. 608). The authors also indicated that deliberate practice does not help clinicians to determine which skills need to be assessed in the absence of detailed observation and feedback from an expert. In fact, the entire field of deliberate practice research suggests that individuals are often the worst judges of their own performance and the strategies that would be necessary to improve it. There is very little evidence, for example, that indicates that continuous engagement in an activity is associated with an increase in performance skill (and almost none to suggest that about psychotherapy specifically, particularly in terms of enhanced patient outcomes).

Another area that is currently unknown about the application of deliberate practice to psychotherapy skill development is time constraint. Deliberate practice differs from traditional practice as it lacks the use of time constraints, assuming that practitioners are given a lifelong amount of time to improve their performance (Young & Maack, 2021). Knowing how long is necessary to initiate improvement is a critical question, however, particularly in terms of new learners. In the absence of understanding these dosage effects, it is difficult to construct a specific learning regimen that could optimally advance individual skills. Similarly, knowing how much expert time and feedback is necessary to derive benefit for the learner would be beneficial in constructing an overall training method.

All of the other studies above have mentioned the use of deliberate practice in external fields or in the field of psychotherapy, and they have also highlighted the potential limitations and gaps that could come with deliberate practice. The studies have collectively not generated a fully structured plan that implements deliberate practice into psychotherapy and how it can be

used. Young & Maack (2021) give detailed instruction on how deliberate practice can be applied to psychotherapy, although this paper provides only an overview of ideas (rather than measurable data to determine if those ideas are effective). Unlike the Ericsson paper where deliberate practice is contrasted from work and play, in this paper, deliberate practice is contrasted from traditional practice. This paper details the use of role-play exercises where the expert pays attention to inflection points (defined as points in a given exercise where the session could have gone exceptionally well or exceptionally badly, which is inherently subjective). After the roleplay is finished, the expert offers what the learner may have done differently in the instruction. They are instructing the subject on the points where their performance can be improved. Young and Maack (2021) state, "In the case of the live review, feedback never interrupts the implementation of a single iteration of a practice exercise. The role-playing therapist must either get to the end of what he or she is trying to say or reach the time limit for the activity (when applicable) before any feedback is given." (Young & Maack, 2021, p. 6). Young and Maack (2021) also provided ten specific exercises for deliberate practice as pertains to psychotherapy skill development. This paper is among the first to descriptively detail a way that deliberate practice can be applied to psychotherapy, and it provides a format to approach some aspects of the current study. Overall, Young and Maack still leave much interpretation to others about the numerous ways that deliberate practice exercises can be created and implemented into the field of psychotherapy. For the future of deliberate practice being implemented into psychotherapy, there still needs to be more research done to see if this is an optimal practice to help clinical better give therapy to their patients. Thus, the current study examines this from the perspective of a new learner motivated to pursue graduate study in

clinical psychology but not yet specifically educated on the implementation of clinical techniques (i.e., the author of this paper).

Methods

The first step that the author completed when beginning this research was choosing a module from the Unified Protocol manual. The Unified Protocol for Transdiagnostic Treatment of Emotional Disorders is a manual that has been used to treat emotional disorders such as anxiety, depression, obsessive-compulsive disorder, and posttraumatic stress disorder (Barlow et al., 2018). When conducting sessions from the Unified Protocol manual, the author worked through the manual from the beginning of the protocol in order to each successive module. The author was free to choose from any module in the manual to engage in these deliberate practice exercises, and this ordering was self-directed as the most logical approach to initial training. In the first module (i.e. Setting Goals and Maintaining Motivation), the primary goal is to help the patient to identify the top area where they are struggling, a goal for that area, and treatment steps that they could take towards reaching that goal. The module also focused a lot on helping the patient to find ways to stay motivated enough to complete the steps and reach their goal. After choosing the modules, the author learned the module independently by reading, taking notes about the most important information, and creating a specific plan from the Unified Protocol workbook to know how to administer the treatment to the patient. This was done without receiving instruction or viewing a model for the session, which was a critical aspect of training. In pursuing this organization independently, with the knowledge that the session would be evaluated by an expert, the author was forced to think very hard about what was supposed to happen and why. The author began the roleplay session with the experts, who were in this case

primarily graduate students working in the lab who had extensive knowledge of Unified Protocol. The other expert was a professor with extensive knowledge in psychotherapy, deliberate practice, and the Unified Protocol manual (the supervisor for this thesis project). In the role-play sessions, the author played the role of the therapist while a graduate student or professor played the role of the patient. Following each exercise, the author received feedback and engaged in deliberate practice exercises designed to elevate subsequent performance.

There were two forms of practice: 1) session-level and 2) deliberate practice exercises. In the former, the author conducted an entire session the same way they thought a practicing therapist would conduct it. This allowed feedback from experts, who were able to assess the areas where the author was strongest, but also the areas where the author needed help. Immediately after the first roleplay, the author received feedback from experts about their performance, which was focused very specifically on aspects of performance the author could improve. The next step was the expert partner setting a timer for five minutes (or sometimes less) to structure deliberate practice exercises, which comprised the second form of practice. This was typically focused on a very specific aspect of feedback from the preceding session and involved rapid feedback between several quick rounds of practice. Each time the author received feedback between these short iterations, the author attempted to incorporate that feedback into the next round of practice. After the author showed that they were progressing in skill performance, the author either moved on to another specific skill in need of improvement or engaged in more nuanced discussion and practice of the current skill. Consistent with deliberate practice strategies in general, the goal was to continually advance the author's conceptualization of the techniques being discussed, which was hypothesized to be the mechanism to promote skill development.

Additionally, just prior to each role-play session, the author completed the Comfort and Reactivity Form (designed for this study by the author; see Appendix 1). The Comfort and Reactivity Form aims to gauge the level of anxiety that the learner may have at the beginning of, during, and after each session. Additionally, the form aims to capture general learner reactions to feedback and critiques that they are receiving from the experts. This form aims to see if there is a trend in the author's anxiety levels that may affect their performance, but also whether the feedback that the author is receiving is affecting the author's performance. At the end of each section, the author completed the second half of the Comfort and Reactivity Form. After the author completed a session with the graduate students, the author then also completed the Deliberate and Meticulous Self-Review Form (DMSR; Appendix 2), a detailed form for self-reflection that is used in several studies in the same lab. This form is composed of many different parts where the author had to record general notes about performance, list timestamps where their performance could be improved, and convey conceptual issues that could help formulate questions and develop greater skills in the future. Experts also reviewed each practice session with the author to provide feedback on the same dimensions outlined above (Appendix 3). This discussion helped to provide the foundation for developing deliberate practice exercises, which were conducted in the same meeting.

Results

Over the course of the study, the author noticed significant improvements in performance on the basis of engaging in deliberate practice exercises. Each time that the author received immediate feedback from an expert, for example, this provided new understanding and

perspectives on how to improve performance in the next session and iterations. The author was able to form different conceptual views that were not apparent before feedback and to adjust their mindset to enable improvement each time after the feedback. The feedback assisted the author in properly noting the areas where improvement was needed. Each time that the author engaged in deliberate practice, they noticed that they were able to administer the treatment to the patient in a quicker, more precise manner that more closely approximated skilled performance.

The author also found that the speed of learning increased over time such that more complex techniques or topics were understood more quickly, which facilitated stronger session-level practice exercises and left room to focus on areas in need of specific improvement. For example, the author was able to more efficiently transition between setting an agenda with the patient to engaging in Socratic questioning with the patient after deliberately practicing each of these skills in isolation. In the case of Socratic questioning, the author learned to ask the patient open-ended, leading questions to help them to better understand the concepts in the treatment by thinking through issues themselves, as opposed to just delivering information. In the case of agenda-setting, the speed of setting an agenda and smoothness of transition to other material increased quickly after the author understood the primary purpose of this technique was to serve as a guide for the rest of the session (analogous to a road map). The author was also able to learn to understand the differences between session-level practice and deliberate practice in terms of the intended purpose and optimal application and to shift focus accordingly. Longer session-level practices were useful for ensuring that broad ideas were communicated to a role-play patient, whereas deliberate practice was generally free from this general context.

On a more quantitative level, the author also measured performance results by using information from the DMSR. The author used these forms to give a self-rating from 0-10 after reviewing a video of each role-play (but before receiving expert feedback). This generally resulted in increases in ratings over time, from a baseline of 3 to a final rating of 10. The one exception to this general trend was the first meeting with the project's faculty supervisor, which was perceived to be lower in terms of performance (see Table 1). The author also measured performance evaluation from expert feedback, which was recorded and retained for further review. When feedback reflected numerous positive statements, the author was able to highlight points of relevant strength to serve as the foundation for additional learning. When feedback consisted of a lot of critiques, however, this was also useful to measure and assess areas of needed improvement. The degree to which this was achieved could then be interpreted by the next round of feedback, both in terms of the number of positive statements and whether or not focal improvements were notable.

Additionally, the author was able to use the Comfort and Reactivity Levels Form to measure changes over time. The author ranked their comfort levels at the beginning, during, and at the end of the session. With the assistance of the Comfort and Reactivity form, the author was able to notice a trend in their own anxiety and comfort levels, and reactivity (Table 2). The author noticed that initially before beginning the session, they were typically somewhat nervous and anxious about their own performance. The author showed increasing anxiety at the beginning of the sessions, especially when the expert in the session was unfamiliar to them (and especially when that person was much more senior, as in the case of working with the supervising professor during sessions 5 and 7). As can be seen in the table, however, these

anxious feelings typically dissipated as the session moved along with the expert. It is worth noting that the author noticed that their anxiety decreased when the author recognized that the expert(s) were of similar experience levels as them (independent of the perception of the expert's level of skill in performance). The author expressed that they had fewer worries when it came to their performance in sessions with someone of a closer experience level. However, the author notes that anxiety was always high when it came to conducting sessions with someone of a much higher experience level. Retrospectively, this appeared to be due to a perceived need to perform with the conscious thoughts of perfection when in sessions with an expert of a higher experience level. However, the author noticed that their anxiety decreased as the session progressed with no regard to if the expert was of a higher or closer experience level, suggesting that initial nervousness was not a factor in the ability to engage in exercises and learn from feedback. It may have had some bearing on overall self-rated performance in session 5, although this did not impair improved performance in the next session. In relation to reactivity to critiques and feedback, the author noticed that they reacted in a positive manner to all of their critiques with no regard to whether the expert was of a higher or closer experience level. The author was only concerned with taking into consideration the feedback and finding ways to refine their performance for the next session and iteration. Additionally, the author was able to disregard any preconceived notions and insecurities of their own performance and could accept the feedback in a constructive fashion.

Discussion

In this study, the author sought to determine whether deliberate practice would be effective in learning psychotherapy techniques. The author found that deliberate practice was a

useful tool for initial orientation to learning these complicated concepts, which was reflected in both qualitative and quantitative data. Although anxiety regarding feedback was at times elevated, particularly in interactions with the thesis supervisor, this did not impair skill development and consistently became easier over time. Through deliberate practice, the author was able to participate in repetitive exercises that involved the use of feedback to assist in improving performance. More general conclusions and implications appear below, but from an individual perspective, these methods produced insights and facilitated more rapid development than might have otherwise been the case.

The use of a clear, structured plan also enabled more rapid learning with an emphasis on designing and implementing deliberate practice exercises. The use of the Unified Protocol manual, expert review, and structured evaluation forms helped the author have a clear, distinct set of methods to learn, appraise performance, and track changes over time (both internal and external). Another strength of this study was the use of the role-play sessions with the roles of therapist and patient to emulate real scenarios encountered in applied practice. The author was able to gain a real-life understanding through their role as the therapist, and as such was able to learn, progress, and form more complex mental models than would have been likely through reading and/or watching other people perform the same techniques. This same general process could be meaningful if implemented in practice, which would allow active or training clinicians to develop skills through role-play, expert feedback, and routine engagement in deliberate practice.

Over the course of doing the study, the author was also able to refine knowledge of psychotherapy in general, as well as the transdiagnostic features involved in the Unified Protocol

specifically. This was also directly tied to engaging in deliberate practice exercises, which was notable in an internal sense of self-correction and skill development, as well as reflected in external ratings of performance. Additionally, the deliberate practice exercises showed the author areas where improvement was needed, as well as those that constituted greater strengths. Ensuring that the latter was also emphasized provided encouragement and reinforcement to more easily approach critical feedback and work to improve performance. This is key to the overall approach of deliberate practice in skill development, in that feedback is almost always focused, direct, and negative (and thus an open, receptive attitude toward criticism is necessary).

More generally, the study also provided preliminary ideas about how these techniques might be useful in training therapists, both during the course of graduate education and in professional practice. Similar strategies applied to larger groups of learners/clinicians may provide an effective method of continual skill development, or at least a venue for therapists to understand which skills they may need to improve or refine. For trainees learning these techniques for the first time, deliberate practice could be an invaluable method of developing strong habits focused on continual improvement. Similarly, this could also engender a stronger conceptualization of the purposes of various techniques (as was the case in this self-directed study, where the author experienced more rapid advancement of conceptual viewpoints as a result of deliberate practice exercises). The ultimate goal of psychotherapy is to give the best possible treatment to patients to overcome any mental and emotional situations they may be dealing with. Deliberate practice is not aimed at telling these therapists/clinicians that they are not good at their job (as many may perceive given the direct, focal nature of criticism), but it is

aimed at helping them to improve their own skills and giving them better chances to help their patients.

Limitations and Future Directions

The limitations associated with this study include the lack of other participants. Although individual, self-directed study provided many opportunities to develop rich insights, the results were generally qualitative and formative for future group-level research. Subsequent studies would ideally involve randomized groups receiving either systematic deliberate training methods or the standard methods associated with their institutions. Similarly, understanding comfort and reactivity of receiving feedback across multiple people with different perspectives on these activities would also be valuable. This could provide insights about not only the role of anxiety in knowledge acquisition and skill refinement but also reactivity to these deliberate training methods (both positive and negative). It may also enable a greater understanding of the optimal differences in experience between learner and expert to enable faster, more efficient learning. Finally, these group-level designs would ideally involve both active, practicing clinicians and graduate student clinicians in training. This would provide a means of understanding the differences in how these training techniques might be received and/or effective in both groups, which in turn may lead to further research in adaptation and sustainability across environments.

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Tables

Table 1: Self-Ratings of Role-Play Performance

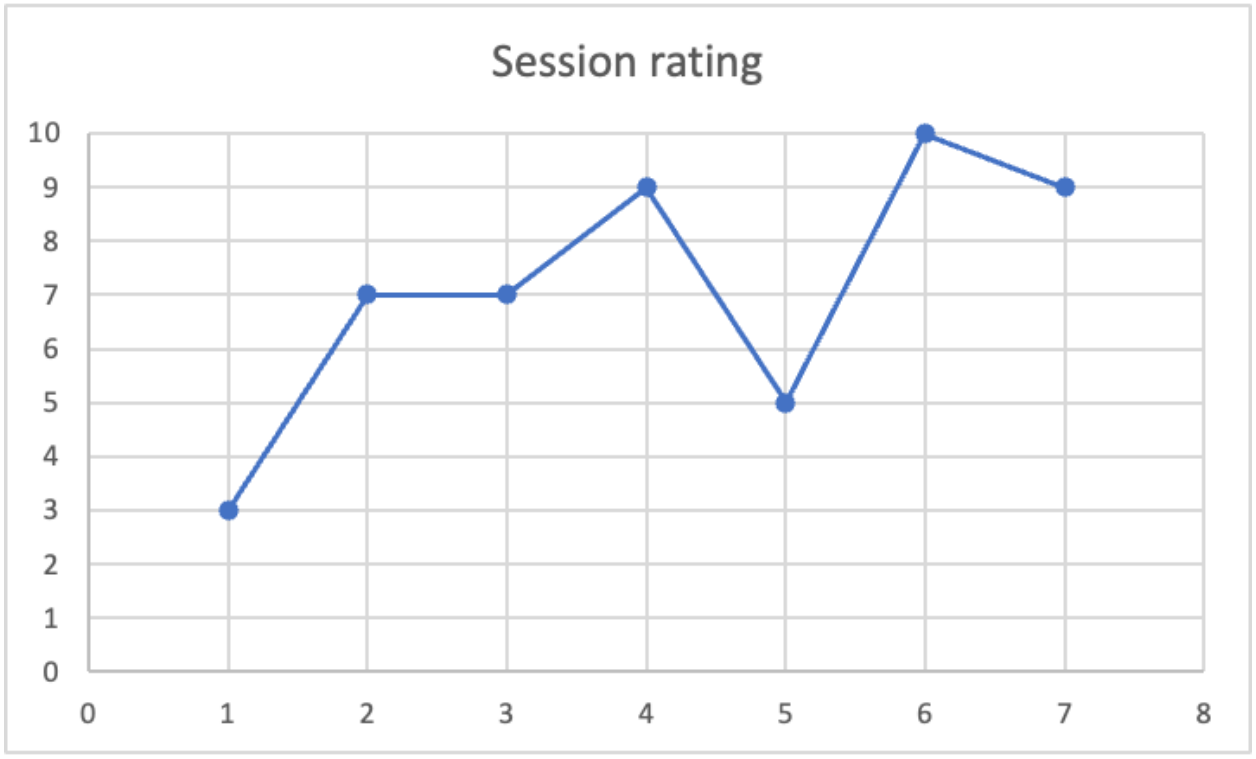
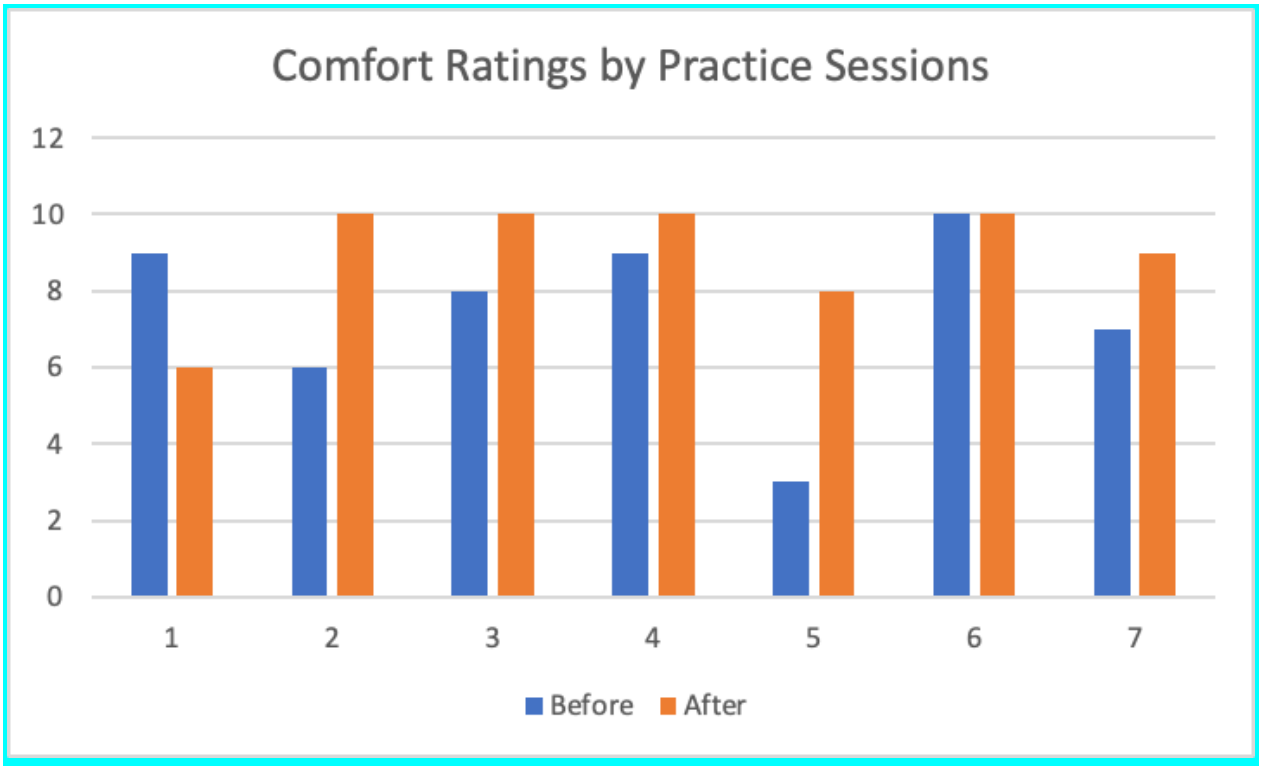


Table 2: Comfort Levels Before and After Practice Sessions



Note: Sessions 5 and 7 were with Dr. Young.

Appendix 1: Comfort and Reactivity Form

1. On a scale from 1 to 10, how would you rate your comfort before beginning the session? (1-uncomfortable, 10-comfortable)

1 2 3 4 5 6 7 8 9 10

2. On a scale from 1 to 10, how would you rate your comfort after the session? (1-uncomfortable, 10-comfortable)

1 2 3 4 5 6 7 8 9 10

3. Did you feel your nerves increase or decrease as the session progressed?

4. How did you react to your critiques?

5. Do you feel that you had negative or positive responses to your critiques?

6. Did you feel your nerves increasing or decreasing in response to receiving your critiques?

7. How comfortable were you in the session with someone closer to your experience level? How comfortable were you in the session with someone of a higher experience level?

Appendix 2: Deliberate and Meticulous Self-Review (DMSR)

Name: Date of Recording:

This form is meant to help you review your own therapy sessions, role-plays, and other practice exercises to understand things you can practice to improve your overall skill. In general, pay attention to *inflection points*, or places in the session where you could imagine the conversation going two (or more) different directions. Attention to *antecedents* of these inflections can often help you understand why they occurred, which in turn can help you learn to repeat positive behaviors and avoid negative ones.

1. In fewer than 25 words, what was the purpose of this session?

2. Below, record the time stamp of any point in the video where you notice communication strategies that are less than optimal (e.g., unintentionally asking yes/no questions; fumbling words in search of an explanation; babbling without making a point; overtly not listening to the other person). If you notice yourself speaking for more than 2 – 3 minutes where the other person has no opportunity for response, note those time stamps as a range (e.g., 1:34 – 5:12). Record the non-optimal communication and an alternative strategy.

Time	Non-optimal communication	Alternative phrasing or strategy

3. Every time you use an analogy or concrete example to make a point, note the time stamp and try to generate at least one alternative analogy/example that is very different from the one you used.

Time	Analogy or Example	Alternative Analogy or Example

4. Note the time stamp of any instance where you can evaluate the other person's level of understanding about the topic of the session. This can be in both a positive (i.e., direct demonstration of knowledge, like nodding or verbalizing understanding of a concept) and negative sense (i.e., confusion inferred through facial expressions or verbalizations, or distraction/lack of engagement). If negative, detail what you think would increase the patient's understanding.

Time	Indication of Understanding	How to Increase Likelihood

5. What specific behaviors (yours or the other person's) contributed to distraction, tangent, or lack of focus on the session's purpose as noted above?

6. Estimate the degree to which you effectively managed the direction of the session (0 – 10, with 10 being completely effective management):

7. Circle any of the following you noticed during the session:

Behaviors that would irritate you Your own knowledge limitations Use of visual examples

8. What was the best thing about this session? What was the most in need of improvement? What else do you notice about your own performance (as specifically as you can define, using time stamps if possible)?

Appendix 3: Session Review and Practice Design Form (SRPD)

Date of reviewed session: Learner Name: Rater Name:

Please rate each of the following using a 0 – 10 scale, with 10 meaning the highest possible amount.

Skill rating:	Accuracy of DMSR observations:	Learner reception of feedback:	Degree to which previous feedback was incorporated (if applicable):

1. In fewer than 25 words, what was the purpose of this session?

2. Write down the time stamps of what you consider to be possible *inflection points* (i.e., moments in the session when the outcome of communications could have gone multiple ways).

Time stamp	Observation Notes

3. What was the strongest/most capable thing about the session?

4. What was most in need of improvement (i.e., the weakest/least capable thing)?

5. Compare your responses to questions 3 and 4 above to the learner/trainee's impressions of the same. *Before sharing your views* ask him/her to give you a verbal account of why he/she arrived at these

conclusions. Use this discussion, particularly any discrepancies between your views, to make a suggestion about how to think about the content being practiced (i.e., one that you believe will help the learner/trainee form a clearer mental construct).

6. After reviewing the session video and the learner's DMSR, construct one or more specific exercises for each of the following categories based on your observations.

	Deliberate Practice Exercise	Purpose of Exercise (in terms of practical skill improvement *and* enhancement of mental construct)
Non-optimal communication		
Analogies		
Checking patient understanding		
Getting off-track (and correcting)		
Effective session management		
Using strongest/most capable thing thematically		
Improving weakest/least capable thing		
Other		

7. What knowledge limitations do you perceive after watching the video and/or having a discussion about it? For each identified limitation give specific readings or topics for research that could help the learner/trainee improve gaps in knowledge.

8. Pick at least one topic from item 6 (above) and conduct several rounds of practice with the learner/trainee, offering brief, corrective feedback after each. Record any themes you notice in his/her attempt to improve, referencing what you have noted in previous feedback sessions.