

THESIS

REMOTE LEARNING: THE IMPACT OF THE COVID-19 PANDEMIC ON MUSIC
THERAPY STUDENTS' PERCEIVED SKILLS AND CONCERNS REGARDING
INTERNSHIPS

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ABSTRACT

REMOTE LEARNING: THE IMPACT OF THE COVID-19 PANDEMIC ON MUSIC THERAPY STUDENTS' PERCEIVED SKILLS AND CONCERNS REGARDING INTERNSHIPS

The purpose of this study was to examine the self-perceived skills and concerns of music therapy (MT) undergraduate and graduate equivalency students, who studied in the United States during the COVID-19 pandemic. This study implemented a cross-sectional survey design, using Likert scale questions from Clements-Cortés's 2019 study about music therapy students' self-perceived skills and concerns regarding internship, published in the *Journal of Music Therapy*. The researcher used validation measures to condense the original survey from 53 to 25 questions. Participants were also asked to indicate the amount of remote learning (high, medium, or low), student level (graduate equivalency or undergraduate) and their current internship status. A Qualtrics survey link was sent to students via music therapy student organizations' social media pages, and resulted in a sample of fifty-two student participants. Data were analyzed using descriptive statistics and a Kruskal Wallis H test with Bonferroni correction was used to determine significant differences between perception of skill or concerns and the amount of remote learning or student level (graduate equivalency or undergraduate). The highest self-perceived skill of undergraduate (UG) participants was *Professional Relationships* and the lowest was *Piano Improvisation*. The highest self-perceived skill of graduate equivalency (GE) students was *Creative MT Technique Knowledge and Use* and the lowest was *Handling Stress*. The highest self-perceived concern of UG was *Making Spontaneous Adaptations* and the lowest

was *Handling Session Unpredictability*. The highest self-perceived concern of GE was *Finances* and the lowest was *Handling Session Unpredictability*. Results indicated that participants perceived benefits and drawbacks of remote learning. The amount of remote learning (high, medium, low) showed significant differences were found for perception of skills among high-remote internship students, and for skills and concerns among students with high in person internship and high-remote practicum categories. The majority of significant results were found in the high-remote practicum category. There were no significant differences found within the in-person practicum category. As compared with pre-internship undergraduate MT students in Clements-Cortés (2019) study, pre-interns in the current study rated themselves as more skilled on 9 of 12 items. However, post-interns in the current study rated themselves as less skilled on all 12 items. Pre-interns in the current study rated themselves as less concerned than pre-interns in Clements-Cortés (2019) study on 9 of 13 items. However, post-interns in the current study rated themselves as less concerned on all 13 items. In MT students' written responses about the impact of remote learning, the most frequently reported disadvantages included fewer in-person experiences and technological difficulties. The most frequent advantages reported included learning (specifically an increase in knowledge) and convenience. Individual perspectives appeared to impact whether certain elements of remote learning were seen as positive or negative thing. At present, the COVID-19 pandemic is ongoing and remote learning technology will likely continue to be used. Further research about the use of remote technology in music therapy education can help to gain insight on how to make the internship and profession more accessible for students.

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TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	viii
LIST OF FIGURES	ix
Chapter 1 – Introduction.....	1
Research Questions	4
Chapter 2 – Literature Review	5
COVID-19 and College Education.....	5
Distance Learning & Health Professional Students	8
Experiential Learning	10
Virtual Experiential Learning	13
Impact of COVID-19 on Internships	15
Virtual Internships & Student Perceptions	16
COVID-19 and Music Therapy	17
Music Therapy Education	19
Fieldwork	20
Internship	20
Music Therapy Training Challenges.....	21
Instructors’ & Internship Supervisors’ Perspectives	21
Interns’ Concerns	21
Music Therapy Training Needs during the COVID-19 Pandemic	24
Chapter 3 – Method	26
Participants	26
Materials.....	27
Procedure	28
Data Analysis	28
Chapter 4 – Results	31
Research Question 1: Highest and Lowest Self-Perceived Skills	34
Research Question 2: Highest and Lowest Self-Perceived Concerns	36
Research Question 3: Rating Differences with Remote Learning	38
Research Question 4: Clements-Cortés (2019) Data Comparison Pre-Pandemic	41
Research Question 5: Benefits and Drawbacks of Remote Learning	45
Chapter 5 – Discussion	49
Research Question 1	49
Rankings of UG & GE Students’ Self-Perceived Skills	49
Research Question 2	50
Rankings of UG & GE Self-Perceived Concerns	51
Research Question 3	52
High In-person Internships	53
High Remote Internship	54
High In-person Practicum	55
High Remote Practicum	55

Research Question 4	59
Pre- to Post-Internship	59
Mean Rating Differences	60
Skills/Concerns Ranking Differences	61
Research Question 5	64
Limitations	65
Sample Size	66
Data Analysis	67
Conclusion	68
Future Directions	70
Research on Increasing Skills and Decreasing Concerns	70
Gaining Future Insight from Remote Learning	72
Gaining Future Insight from MT Professionals	73
References	75
Appendices	83
Appendix A	83
Appendix B	88
Appendix C	94
Appendix D	97

LIST OF TABLES

TABLE 1 – SURVEY PARTICIPANTS DEMOGRAPHICS	32
TABLE 2 – SURVEY PARTICIPANTS INTERNSHIP DEMOGRAPHICS	33
TABLE 3 – SELF-PERCEIVED SKILLS	35
TABLE 4 – SELF-PERCEIVED CONCERNS	37
TABLE 5 – HIGH IN-PERSON LEARNING: SIGNIFICANT DIFFERENCES IN SELF- PERCEIVED SKILLS & CONCERNS	39
TABLE 6 – HIGH REMOTE LEARNING: SIGNIFICANT DIFFERENCES IN SELF- PERCEIVED SKILLS	40
TABLE 7 – UNDERGRADUATE PRE-INTERNSHIP SELF-PERCEIVED SKILLS & CONCERNS BOTH PRE-COVID-19 PANDEMIC (2019) & MID-COVID-19 PANDEMIC (2022)	42
TABLE 8 – RANKING OF UG PRE-INTERNSHIP MT SKILLS & CONCERNS	43
TABLE 9 – RANKING OF UG POST-INTERNSHIP MT SKILLS & CONCERNS	44
TABLE 10 – ANALYSIS OF MT STUDENTS’ COMMENTS ABOUT REMOTE LEARNING	46

LIST OF FIGURES

FIGURE 1 - RETAINED SURVEY RESPONSES	31
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CHAPTER I

COVID-19 is a respiratory virus spread through droplets and physical contact (Qian & Jiang, 2020; Yang et al., 2020). The virus began impacting countries throughout the world in 2020. In an effort to stop the spread of COVID-19, the United States began imposing restrictions on in-person activities starting in March 2020 (Han et al., 2020). These restrictions led to significant changes in health professional education programs including music therapy, as clinical and educational instructors had to quickly pivot to an online platform (AMTA, n.d.-c; Gaddy et al., 2020; Gillis & Krull, 2020). However, the extent to which this change in experience impacted students' education is unknown and continually evolving. This study will examine the perceived skills and concerns of music therapy undergraduate and graduate equivalency students, who studied in the United States during the COVID-19 pandemic and compare their responses by amount of remote learning and internship status.

The COVID-19 pandemic changed learning modalities in universities throughout the United States. In response to imposed restrictions, universities began employing the use of remote learning technology (Gillis & Krull, 2020). Instructors taught remotely, allowing courses to continue, but university students attending both synchronous and asynchronous virtual courses reported barriers to learning including technological difficulties and lack of motivation (Gillis & Krull, 2020). Despite these barriers, the implementation of remote learning technology became a standard procedure.

Health professional students also experienced changes in their experiential training, with imposed restrictions leading to reductions in training hours and cancellations at various facilities (Day et al., 2021). According to both the American Music Therapy Association (AMTA, n.d.-a) and American Occupational Therapy Association (AOTA, n.d.), health professional students

traditionally gain in person fieldwork experience. Fieldwork experience will be referred to as “practicum” for this study. Day and colleagues (2021) found that students engaging in virtual practicum had limited observations and face-to-face interactions with clients and staff. Additionally, virtual therapy sessions may require a third person to assist in conducting the interventions (Almathami et al., 2020), which could present additional challenges. Using virtual platforms may lead to decreased intelligibility of speech as well as variability of camera positioning, which may create difficulties in collecting accurate data (Malliaras et al., 2021). In 2020, students’ educational opportunities varied based on their university’s policies, with students engaging in varying amounts of remote learning (Davidson College, n.d.). In this study, high-remote learning is defined as having over 2/3 of educational experiences (the number of courses and practicum placements) conducted on a virtual platform. Medium-remote learning is defined as having between 1/3 and 2/3 of educational experiences being virtual. Low-remote learning is defined as having 1/3 or less of educational experiences being virtual. Students conducted virtual practicum sessions in 2020, and professionals in various health-related fields including music therapy provided telehealth through various online platforms.

Within the field of music therapy, many professionals began conducting sessions virtually in 2020 (AMTA, n.d.-b). Gaddy and colleagues (2020) found that many board-certified music therapists (MT-BCs) experienced reduced client hours, especially MT-BCs working in private practice. Music therapists canceled sessions due to varying factors including technological barriers and client, or facility, resistance to telehealth services (Gaddy et al., 2020). While educators and students may have new concerns related to remote learning and professional development, there are also existing concerns within student music therapy training.

Music therapy instructors, supervisors, and students have expressed specific concerns regarding professional internships. Engaging in an internship helps students transition to professionals (Knight, 2008). Student concerns related to music therapy internships include student finances, improvisation, verbal skills (Clements-Cortés, 2015, 2019) and musical skills (Knight, 2008). Additionally, pre-interns, or music therapy students nearing their internship start dates, have expressed concerns about their overall preparedness for internship (Clements-Cortés, 2015, 2019). Several professional music therapy researchers have suggested ways educators and internship supervisors can support students in their learning and development both prior to and during their internships (Clements-Cortés, 2019; Knight, 2008). Because the COVID-19 pandemic impacted the way music therapy internships were being conducted in 2020, there may be additional concerns related to remote learning and educational outcomes.

COVID-19 has impacted the mode of delivery of music therapy coursework, practicum, and internships through remote learning (AMTA, n.d.-b; Gillis & Krull, 2020). Music therapy internships are a critical component in preparing students to enter the professional field (AMTA, n.d.-c). Some students engaging in remote learning in 2020 reported challenges related to remote learning technology, and higher levels of overall stress (Day et al., 2021; Gillis & Krull, 2020). Remote learning is continuing to be used in educational settings, and little is known about its implications on students entering their professional fields. This study examines the self-perceived skills and concerns of undergraduate and graduate equivalency music therapy students studying during the COVID-19 pandemic by amount of remote learning. This study also compares the results of this study to similar data collected prior to the pandemic. This information could give AMTA policymakers, instructors, and internship supervisors insight on students areas of need related to remote learning. Questions on the survey regarding students'

perceptions may also help students become more self-reflective about their own skills. This study was designed to answer the following questions:

1. What are the highest and lowest self-perceived clinical, musical, and personal skills of undergraduate and graduate equivalency music therapy students studying in the United States during the COVID-19 pandemic?
2. What are the highest and lowest self-perceived concerns of undergraduate and graduate equivalency music therapy students studying in the United States during the COVID-19 pandemic?
3. Are there any differences between high and low-remote learners in terms of self-perceived clinical, musical, and personal skills, as well as their concerns?
4. How do these current data on self-perceptions about clinical, musical, and personal skills and concerns pre- and post- internship compare to Clements-Cortés (2019) data?
5. What do undergraduate and graduate equivalency music therapy students perceive are benefits and drawbacks of remote learning?

CHAPTER II

Literature Review

This literature review includes the impact of the COVID-19 pandemic on the delivery of educational training within health professions. This chapter also includes information on experiential learning as well as existing concerns regarding music therapy education.

COVID-19

COVID-19, or coronavirus, is a disease caused by the Severe Acute Respiratory Syndrome (SARS-CoV-2) virus. The spread of COVID-19 by respiratory droplets and physical contact quickly led to a pandemic in the spring of 2020, affecting individuals around the world with respiratory, digestive, and nervous system diseases (Qian & Jiang, 2020; Yang et al., 2020). To slow the spread of the virus and prevent deaths, lockdowns were initiated in 82 countries by September 2020, and included restrictions in professional settings (Han et al., 2020).

In 2020, individuals in all sectors including education and business extensively used the internet to conduct virtual meetings and services, and used digital technology including both hardware and software. Vargo et al. (2021) identified over 50 types of software used during the COVID-19 pandemic, with the most prevalent being video-based communication software. Healthcare and education in particular experienced a dramatic increase in their use of video-based communication.

COVID-19 and College Education

The impact of the COVID-19 pandemic on colleges and universities includes various restrictions on in-person meetings to conduct coursework, with many instructors employing remote learning technology beginning in 2020 (Vargo et al., 2021). University employees used remote learning technology in 2020 to conduct courses either asynchronously, meaning lectures

were pre-recorded for students to access with flexibility, synchronously with students meeting in an online classroom at a scheduled time, or a mix of both (Christian et al., 2020). Undergraduate, graduate, and PhD students studying in a variety of public health fields at a Georgia State University indicated a preference for asynchronous learning over synchronous learning, because it provided flexibility, they could learn at their own pace, and they did not experience technological difficulties (Armstrong-Mensah et al., 2020). Other students who preferred synchronous learning over asynchronous learning said they liked being held accountable with their scheduled presence in classes. While many universities employed remote learning in 2020, the shift in learning modalities impacted students with various learning styles.

Prior to the COVID-19 pandemic, students traditionally experienced education in the classroom setting. University students have a variety of learning styles, which can be classified using the Visual Auditory Read/Write Kinesthetic (VARK) model (Stamm et al., 2021). Stamm et al. (2021) found that occupational therapy (OT) students with a kinesthetic learning style experienced more difficulty developing their skills and retaining course material through remote learning than students with other learning styles. Some of the OT students surveyed found that learning therapeutic techniques that are traditionally taught hands-on in the classroom (or in a clinical setting) were the most difficult to learn remotely (Stamm et al., 2021). University students reported other difficulties related to remote learning, and more broadly the COVID-19 pandemic.

Increased overall stress was indicated with over 90% students surveyed fearing the effects of COVID-19 on family and friends, and 47.3% indicating changes in job status or hours, with many reporting reduced wages or working hours (Armstrong-Mensah et al., 2020). While some students experienced an easier shift to remote learning, other students found it more

challenging (Stamm et al., 2021). University students experienced difficulties with remote learning in 2020 including technological difficulties, anxiety, distractions, and lack of motivation as barriers to their learning (Gillis & Krull, 2020). Some students also reported an increase in workload with remote learning, as 65% of undergraduate, graduate, and doctoral students at Georgia State University's School of Public Health experienced more written assignments (Armstrong-Mensah et al., 2020). According to Gillis & Krull (2020), barriers to learning particularly impacted female, first-generation, and minority students. Minoritized students experienced greater impacts than their white peers on decreased motivation, difficulties due to less flexibility of coursework, and concerns about finances and access to medical care. First-generation students and women were more likely to have concerns regarding finances and finding a workspace. Additionally, those attending regional or community colleges were more likely to have concerns about housing, work conflicts, and accessing childcare. However, some students reported self-perceived benefits of remote learning.

At Georgia State University's School of Public Health, approximately 50% of undergraduate, graduate, and doctoral students surveyed said that they remained motivated while engaging in remote learning and 45% said they were able to find time for assignments (Armstrong-Mensah et al., 2020). University students also reported saving money and time with decreased commuting to work and school. This decrease in commuting led some students to also report having more time to complete assignments. While both benefits and drawbacks related to remote learning have been reported, some of the drawbacks reported were related to the lack of hands-on learning. Hands-on learning strategies are heavily implicated in health professional programs.

Distance Learning & Health Professional Students

There are upwards of 250 health care professions, and health professional students study in fields such as nursing, psychology, social work, and various therapies (Jensen, 2015). Health professional education is traditionally taught face-to-face, where students are immersed in labs, tutorials, and experiential learning including internships (Reyna, 2020). While online experiences have been blended into health professional education, many programs continue to employ a large number of face-to-face experiences. However, the COVID-19 pandemic caused many health professional programs to be taught exclusively online (Reyna, 2020).

While some courses are well-suited for an online format, others may be more difficult to instruct virtually. Anatomy and physiology are recognized as prerequisites in many health profession degrees, and students who engage in hands-on dissections gain a better understanding of the mechanisms and parts of the human body (Davis & Pinedo, 2021). Davis and Pinedo (2021) found that learning remotely is dependent on student self-efficacy, and they suggested that faculty could make classes more engaging by incorporating interactive videos and games to help students learn.

A comprehensive study of literature on health professionals engaging in continuing education found both limitations and benefits of remote learning, which was labeled e-learning (Lawn et al., 2017). The authors found that students experienced challenges including sustaining motivation, experiencing a lack of timely feedback from instructors, and limited peer feedback. Additionally, students dealt with unreliable technology and distractions, and were limited in their abilities to practice their skills. However, students also reported benefits to e-learning including self-paced learning, program flexibility, and decreased time and travel costs. Lawn and colleagues (2017) found that e-learning was geared towards independent and self-directed

learners with strong writing skills. The authors suggested that while e-learning may be useful in teaching certain skills, other skills, such as addressing clients' emotional needs, may be less applicable. Additionally, researchers have recently focused on learner's perceptions of their remote learning experience rather than the clients' satisfaction with the learner's skills (Lawn et al., 2017).

Souza and colleagues (2018) examined the academic performance or efficacy of a Family Health Course delivered in two forms with one group of participants engaging in face-to-face (FTF) education, and another group engaging in distance education. Similar academic performance was found between the two groups, however, the researchers found that the FTF group scored higher in self-regulated learning and lower in procrastination which they suggested being indicative of higher levels of motivation. There was a statistically significant difference between groups regarding procrastination studying for exams, as researchers found a negative correlation between self-regulated learning and procrastination meaning those that engaged in higher levels of self-regulated learning demonstrated less instances of procrastination. Self-efficacy is an important factor in the learning process (Souza et al., 2018). Although self-efficacy is an important factor for students themselves, instructors can play an important role in students' success through distance learning.

Reyna (2020) suggested 12 tips for effective educational strategies for university medical instructors teaching online during the COVID-19 pandemic. These evidence-based strategies were student-centered and aimed to enhance online learning experiences. One suggestion was to engage students as learning partners, allowing them to give feedback in structuring course content and activities. Additionally, Reyna suggested using visual aesthetics and interactive experiences. Another strategy emphasized is giving timely feedback, which increases student

motivation and has been found by researchers to be especially effective in an audio format by using voice recording on such programs as Turnitin or Vocaroo (Reyna, 2020). Additionally, instructors should look for opportunities to increase peer interaction among students, so they can learn from each other.

Some researchers have suggested strategies related to peer engagement and learning. Mintz and colleagues (2020) encouraged the use of breakout rooms, virtual subdivisions of a learning platform, for peer problem solving, active learning, and interprofessional collaboration. Within the counseling field, Christian and colleagues (2020) suggested using role play to have students practice varying roles in the therapy process (client and therapist) and to reflect on their reactions to each role. Strategies for improving the quality of remote learning have played a role in navigating the transition to online coursework in 2020.

Several researchers focused on the effective delivery of online coursework that has been traditionally taught in the classroom. Finding effective strategies to teach online is important for educators to support student success and self-efficacy. However, online coursework is only one aspect of health professional education. Health professional students develop their professional and clinical skills in real-world settings through experiential learning.

Experiential Learning

Dewey (1938) defined experiential learning as active engagement in the learning process, which leads to continuous growth and skill acquisition. Dewey's concept of experiential learning was foundational in the development of Kolb's theoretical model of learning called Experiential Learning Theory (ELT; 1984). ELT suggests that humans learn by doing. There are four stages in the ELT model including 1) concrete learning, 2) reflective observation, 3) abstract conceptualization, and 4) active experimentation (Kolb, 1984). Experiential learning and the

ELT framework have been implemented in various disciplines, including those that are health-related.

Experiential learning is often implemented in health professional degree programs as its use has been linked with enhanced relevance of students' acquired knowledge and in helping students develop clinical skills (Grace et al., 2017). By implementing experiential learning in their curriculum, instructors give students the opportunity to work through challenges they may not have faced in the classroom setting (Grace et al., 2017). Several researchers that have highlighted the importance of several types of experiential learning.

Walmsley and colleagues (2018) studied medical students engaging in experiential learning and found that experience in a clinical setting fostered their practical learning as well as their interprofessional communication and collaboration skills. Researchers found that live experiences (especially ones with more even student to staff ratios) allow students to gain clinical skills, develop relationships with patients, and become familiar with professional settings which creates a more effective learning experience, and prepares students for additional experiential training through their professional internship.

Leary and Sherlock (2020) studied exercise physiology students engaging in experiential learning, in the form of a professional internship and service-learning. Service-learning is a form of experiential learning in which a student serves their community to better understand how their discipline can benefit a population. Service-learning may include structured reflections which have been shown to enhance problem solving, critical thinking, and promote self-efficacy or the belief in one's own success. In a meta-analysis, researchers found that students showed a 53% improvement in learning outcomes after engaging in service-learning. Another popular form of experiential learning is a professional internship (Leary & Sherlock, 2020).

A professional internship is a form of experiential learning in which students enhance their skills through hands-on practice (Leary & Sherlock, 2020). Leary and Sherlock (2020) found that exercise physiology students believed that their internship experience was reinforcing their classroom learning. Additionally, students surveyed reported increased independence and self-confidence. Additional positive outcomes included increased communication skills, as well as increased educational and employment opportunities.

There are several similarities between the studies of Walmsley and colleagues (2018) and Leary and Sherlock (2020). Researchers in both studies used self-report surveys. There were similar sample sizes in both studies, with 19 participants in Walmsley and colleagues (2018) study and 16 participants in Leary and Sherlock's (2020) study. Both studies emphasized the importance of experiential learning for university health professional students. Additionally, both studies suggested the importance of gaining clinical skills through hands-on learning, and discussed how live experiences enhance classroom learning.

There are also differences between the two studies. The first difference is in regard to the population studied. Walmsley and colleagues (2018) studied 1st year medical students at a regional medical campus, who worked alongside nurses in community hospital in Canada. Leary and Sherlock (2020) studied undergraduate exercise physiology students on a main campus in U.S. The second difference includes the focus of the two studies. While both studies used self-report surveys, Walmsley and colleagues (2018) focused on students' interprofessional skills, while Leary and Sherlock (2020) focused on students' internal processes such as self-confidence and independence. A third difference is in regard to the methods used for the two studies. Walmsley and colleagues (2018) used paired t-tests to compare within group differences both pre- and post-experiential learning, whereas Leary and colleagues compared two forms of

experiential learning by analyzing the between group differences of interns and service-learners. The fourth difference between the two studies regards the findings. Walmsley and colleagues (2018) found an increase in self-reported confidence in interprofessional communication skills and enhanced classroom learning. However, Leary and Sherlock (2020) found that in their focus groups, only the internship group reported reinforced classroom learning, while interprofessional skills such as the ability to work with community members and different clinical populations was mentioned only in the service-learning group. Additionally, increased confidence in the form of self-efficacy was strongest in the internship group.

While researchers in both studies found that experiential learning was beneficial, there were differences in the ways it enhanced students' learning. Additionally, since there were differences in outcomes based on the type of experiential learning, it is unknown which aspect of each experience enhanced specific skills. Lastly, both of these studies were done prior to the COVID-19 pandemic, with both suggesting the importance of live hands-on experience. Because there have been changes in university policies due to the COVID-19 pandemic, some experiential learning experiences were moved to virtual platforms. It is unknown how changes to experiential learning have impacted students' self-reported skills.

Virtual Experiential Learning

Health professional students typically engage in experiential learning in professional settings such as hospitals. In-person interactions were significantly limited by the COVID-19 pandemic (Mintz et al., 2020). Students also struggled to accumulate the direct supervision hours required for professional certification. Students make emotional connections with patients during in-person interactions; connections which have been found to strengthen knowledge retention and are required to develop humanism and intercultural competency (Mintz et al., 2020). To

make up for limited in-person opportunities, some universities implemented virtual experiential learning.

While some experiential learning opportunities were canceled due to protective health measures to prevent the spread of COVID-19, some students engaged in virtual experiential learning in which their traditionally hands-on experiences occurred via internet platforms (Mintz et al., 2020). Researchers have reported both benefits and challenges of virtual experiential learning for university students. In a review of the literature, Bukas Marcus and colleagues (2020) found that researchers studying e-service learning primarily focused on design and development of electronic service learning curriculum, also known as e-service, however, few researchers focused on students' learning outcomes. The authors did find some literature which suggested that education students engaging in e-service learning gained skills such as teamwork and adaptability. Bukas Marcus and colleagues (2020) also reported challenges that students encountered including limited communication, confusion in expectations, and lack of orientation and support (Bukas Marcus et al., 2020). Professional organizations and universities in 2020 gave suggestions for professionals, instructors, and students to overcome potential barriers of remote or virtual experiential learning.

Several professionals have suggested specific ways instructors and internship supervisors can help promote students' academic growth and development while virtually implementing experiential learning, a required component of many health professional degree programs. Professionals at the Center for Integrative and Experiential Learning at the University of South Carolina (n.d.) suggested that it is vital for instructors to ensure the quality and availability of virtual experiential training for students, and enough opportunities to fulfill their professional requirements. In music therapy, the AMTA created a website listing resources related to distance

learning, including considerations for instructors and internship supervisors, and a list of tips for best practice (AMTA, n.d.-c). While some resources were created for instructors and supervisors, other resources were created specifically for students.

Researchers and professionals in health-related fields created several resources to help students navigate virtual experiential learning. Bukas Marcus and colleagues (2020) suggested that students engage in peer discussion to process experiential learning, and that they use reflection journals to make connections within their learning. The AOTA website addressed students' concerns related to the COVID-19 pandemic, such as canceled fieldwork placements, whether telehealth services fulfill professional requirements, and their eligibility to sit for the national exam (AOTA, n.d.). The AMTA provided a resource list for both professionals and students, which included information about telehealth, infection control, and self-care (AMTA, n.d.-b). Professional internships have been impacted by the COVID-19 pandemic, and students are having to navigate them virtually.

Impact of COVID-19 on Internships

After completing coursework, many health professional students are required to complete an internship or other forms of supervised independent fieldwork. Students may be required to complete internships to graduate or to sit for national certification exams in fields such as music therapy, occupational therapy, and speech therapy (AMTA, n.d.-a; AOTA, n.d.; American Speech-Language-Hearing Association, n.d.). Internships in 2020 were affected by the COVID-19 pandemic, with many students' prior-approved internships being postponed, moved to an online platform, or canceled until further notice.

One study that highlights the variety of internship changes in 2020, was conducted by the National Association of Colleges and Employers (NACE). This study presented an overview of

institutional and employer responses to the COVID-19 pandemic. It was reported that 80% of college internship programs (in a wide variety of industries) were going to be modified during the summer of 2020 (*NACE Report: COVID-19 Quick Poll Series*, n.d.). Modifications to internships included reductions in internship length and number of interns, delays in internship start dates, and internships being moved to a virtual platform. Over 50% of all internship programs transitioned to virtual platforms, with large companies heavily impacted; approximately 75% of large companies (over 20,000 employees) experienced internship transitions to a virtual platform.

Virtual Internships & Student Perceptions

Some resident-physicians who began their internship in 2020 in the United States (and Puerto Rico) reported that the COVID-19 pandemic had negatively affected their medical school training (Winn et al., 2021). Study participants reported that their connections with the medical school community and their preparation for internship had been the most adversely impacted areas, with 77% of those studied reporting impacted connections and 58% reporting impacted preparation. From April to June 2020, up to 52% of clinical experiences were canceled, only 2-6% of respondents reported in-person experiences, and 12-18% of patient experiences were virtual. As related to educational outcomes, approximately 50% of resident-physicians surveyed reported unfavorable changes in inpatient and outpatient clinical education and quality of educational conferences. Over 50% of respondents reported an unfavorable impact of the COVID-19 pandemic on wellness and overall quality of life. While this study provides insight into student concerns about the COVID-19 pandemic and virtual clinical experience, it does not provide insight into the self-perception of students' specific professional skills, specifically, music therapy students.

COVID-19 and Music Therapy

The COVID-19 pandemic in 2020 impacted both the delivery of services and educational training across fields, including in music therapy. Gaddy and colleagues (2020) conducted a survey of MT-BCs working in the U.S. to determine the impact of the COVID-19 pandemic on their professional work. The researchers found that a majority of MT-BCs in the U.S. were leading more virtual sessions and fewer in-person sessions than prior to the pandemic, with telehealth being the platform most frequently used. On average, the music therapists who responded reported higher stress scores and decreased pay as compared with pre-pandemic, with financial instability being a primary concern. However, the majority of music therapists surveyed reported feeling hopeful (Gaddy et al., 2020). While the researchers that conducted this study looked at changes to the delivery of music therapy services, other researchers focused on changes to the implementation of music therapy techniques.

Cole and colleagues (2021) conducted a survey of Neurologic Music Therapists (NMTs) practicing in the U.S. and Canada to examine the transition from in-person to telehealth services. The researchers found that the majority of survey respondents conducted both in-person and telehealth sessions, with all respondents reporting using the virtual platform Zoom for some of their sessions. There was a significant main effect of session format on clinical hours, with NMTs who conducted more in-person sessions having more working hours overall, which also impacted their income. Researchers also investigated whether the use of telehealth had impacted which therapeutic techniques NMTs were implementing. No significance was found between delivery methods and usage of cognition and speech and language techniques. There was, however, a significant relationship between delivery methods and use of the sensorimotor technique Rhythmic Auditory Stimulation (RAS), which was being implemented less in

telehealth sessions due to safety concerns. Some NMTs perceived accessibility as a benefit of telehealth, with clinicians who had gained additional clients reporting a higher chance of using telehealth in the future.

Music therapists reported a mix of advantages and disadvantages with telehealth (Cole et al., 2021). Music therapists reported that using a telehealth platform may be more advantageous for certain clients, including those with autism, aphasia, and mental health concerns. It was also reported that telehealth was more disadvantageous for individuals with cochlear implants. Increased caregiver involvement in sessions was reported as beneficial by some music therapists, as it helped in building relationships between the client and caregiver, and increased overall client engagement. However, some music therapists reported caregiver involvement as distracting and disruptive to client privacy (Cole et al., 2021).

In a scoping review, Kantorová and colleagues (2021) identified music therapists' adaptations to virtual sessions as well as perceived benefits and challenges of conducting virtual sessions. Some of the adaptations that music therapists reported included preparing clients for issues arising within virtual sessions, changing the length of sessions, and acknowledging "Zoom fatigue" (p.8) or exhaustion due to using a virtual platform. Other changes to sessions included adapting instruments (such as having clients use household items), altering client goals in therapy, and changing their use of technology. Music therapists reported adaptations to personal skills as well, including the need for increased flexibility, more interaction with colleagues, maintaining a work-life balance, and working hard to keep professional boundaries (including client privacy). Music therapists reported the benefits of virtual sessions as having the ability to continue working, accessing clients that were previously difficult to serve, getting a better understanding of the client's life, and accessing various interpreting services. Music therapists also reported

challenges related to virtual sessions including unfamiliarity with an online platform, salient inequalities for clients, internet difficulties, and lack of therapeutic sound quality and instruments. Music therapists surveyed also listed drawbacks including the lack of proximity to certain clients, telehealth not being appropriate for every client, and experiencing difficulty in maintaining professional boundaries.

While some music therapists reported adaptations within music therapy sessions (Kantorová et al., 2021), others reported changes in their responsibilities and duties within certain professional settings. In some hospitals, music therapists filled new roles including supporting hospital staff by decreasing their stress through music therapy (Giordano et al., 2020). Other music therapists reported being required to do tasks outside of music therapy and being moved to other areas within their facility (Agres et al., 2021). The impact of the COVID-19 pandemic on professional music therapists is starting to be understood from these studies, however, there is much more to learn about the impact of COVID-19 on music therapy students.

Music Therapy Education

Music therapy students studying in the United States complete undergraduate or graduate equivalency coursework and experiential learning through practicum and internship. Oftentimes, the majority of students' experiential learning occurs during a professional internship. After fulfilling these requirements, music therapy students are eligible to sit for the national board-certification exam (Certification Board for Music Therapists, 2020). Professional standards of practice are established through board-certification, and can be found in the Certification Board for Music Therapists (CBMT) candidate handbook (2020). While board-certification is (at present) not federally-required to practice music therapy in the United States, it is often advantageous or required when applying for jobs in the U.S. due to state laws and regulations

(AMTA, n.d.-c). Experiential learning required for CBMT certification and is also a beneficial educational experience for music therapy students.

Practicum

While completing coursework at a university, undergraduate and graduate equivalency music therapy students also engage in practicum. Practicum allows music therapy students to practice music therapy with three different populations at various facilities (AMTA, n.d.-a). In 2020, music therapy practicum was more likely to be conducted remotely due to the spread of COVID-19 through respiratory droplets. In addition to speaking, music therapists use singing within their sessions. Researchers found that personal protective equipment (PPE) did not decrease the potential for viral spread while singing (as compared with speaking), and that louder phonation increases aerosol generation (Naunheim et al., 2020). Health experts recommended social distancing, suggesting 1.5 meters of physical separation be maintained among individuals (Qian & Jiang, 2020), which led many clinical sites to discontinue in-person fieldwork (AMTA, n.d.-a). Despite obstacles in gaining practicum experience, music therapy students were required to fulfill practicum hours to graduate, and/or before applying for a professional internship.

Internship

Prior to entering the profession, the AMTA requires that music therapy students complete 1200 hours of fieldwork experience, with the majority of hours typically completed during an internship (AMTA, n.d.-a). While not required, internships allow students to get hands-on experience in their field of study and can be beneficial in transitioning from being a student to becoming a professional (McHugh, 2016). Internships are also required for students wanting to become board-certified (Certification Board for Music Therapists, 2020). Several studies

conducted prior to the COVID-19 pandemic have looked at perceived strengths and challenges within music therapy education, particularly in regards to professional internships.

Music Therapy Training Challenges

Instructors' & Internship Supervisors' Perspectives

Music therapy instructors and internship supervisors have emphasized strengths, and expressed concerns about current music therapy education and training. In terms of concerns regarding internship, Knight (2008) found that pre-interns and internship supervisors were both concerned with students' musical skills, and that internship supervisors perceived difficulty for interns in diagnosing clients' needs. In the study, there were discrepancies between music therapy pre-interns and internship supervisors perceptions concerns. Internship supervisors rated students' abilities to communicate with facility staff and maintain client confidence as a higher concern than the pre-interns themselves. While there were discrepancies in two of the survey items, similar ratings between internship supervisors and pre-interns were reported in the other 18 items. Other studies have focused more specifically on the self-perceived skills and concerns of music therapy interns.

Interns' Concerns

Music therapy students have several areas of need and concern regarding their education and training, including in their professional internships. Clements-Cortés (2019) surveyed 177 undergraduate music therapy students studying in the United States both pre- and post-internship. Survey participants were asked to rate themselves from one to five on their clinical, musical, and personal skills, with one being very poor and five being excellent. Survey participants were also asked to rate their professional concerns from one to five, with one being not concerned and five being extremely concerned (Clements-Cortés, 2019).

Pre-internship students rated their strongest clinical skill as therapeutic rapport, and their weakest as clinical piano improvisation (Clements-Cortés, 2019). Post-internship, the same students rated themselves strongest on therapeutic rapport, and weakest on knowledge of government policies. The largest difference in mean scores between pre-internship and post-internship students was in clinical improvisation on piano, and the smallest difference was found in therapeutic rapport and knowledge of government policies (Clements-Cortés, 2019). Survey participants were then asked to rate themselves on musical skills.

Pre-internship students rated their strongest musical skill as singing skills, and their weakest as guitar skills (Clements-Cortés, 2019). Post-internship, the same students rated themselves strongest on singing skills, and weakest on ear training. The largest difference in mean scores between pre-internship and post-internship students were in three areas: piano skills during music therapy sessions, current guitar skills, and guitar skills during music therapy sessions. The smallest difference was found in ear training (Clements-Cortés, 2019). Next, survey participants rated themselves on personal skills.

Pre-internship students rated their strongest personal skills as written communication and reliability/timeliness, and their weakest as insight into their own strengths and needs (Clements-Cortés, 2019). Post-internship, the same students rated themselves strongest on written communication, and weakest on maintaining their own well-being. The largest difference in mean scores between pre-internship and post-internship students was in their insight into their own strengths and needs, and the smallest difference was found in maintaining their own well-being (Clements-Cortés, 2019). Lastly, survey participants rated their professional concerns.

Pre-internship students rated their biggest concern as the amount of work their internship involved, and the smallest concern as working with other professionals (Clements-Cortés, 2019).

Post-internship, the same students rated their biggest concern as their adaptability/spontaneity, and their smallest concern as working with new populations or in new settings. The largest difference in mean scores between pre-internship and post-internship was in adaptability/spontaneity, and the smallest difference was found in anxiety beginning internship (Clements-Cortés, 2019). Follow-up interviews were conducted with 44 of the survey participants.

In follow-up interviews, Clements-Cortés (2019) gathered qualitative data related to survey participants' internship experiences. Some interviewees discussed their lack of confidence, particularly with musical improvisation. There were no statistically significant changes in survey participants' anxiety pre- and post-internship. Interviewees reported that their anxiety levels had stayed the same, but that the source of their anxiety that had changed. While many interviewees reported have pre-internship anxiety about finances, they reported having post-internship anxiety about finding employment. Interviewees also discussed frustrations in advocating for their role, questions about their career choice, feelings of loneliness, and concerns about developing professional boundaries with clients (Clements-Cortés, 2019).

While researchers have published insight regarding internships prior to the COVID-19 pandemic, less is known about the impact of the COVID-19 pandemic and remote learning on students and their internships. Both Knight (2008) and Clements-Cortés (2019) gave suggestions for educators and internship supervisors to support students in skill development. Knight reported discrepancies between supervisor ratings and students' ratings of certain skills, including in general professional skills and issues regarding confidentiality, and suggested that supervisors emphasize these skills. Clements-Cortés (2019) suggested that music therapy educators and supervisors provide students with opportunities to practice music and clinical

improvisation as well as verbal skills. Educators and supervisors were recommended to discuss future career paths both prior to and during internship. Lastly, educators and supervisors can help students feel connected and supported during internship through peer interaction either virtually or in-person.

Several needs regarding students' self-reported skills are highlighted in Clements-Cortés (2019) study, particularly with regard to musical and clinical improvisation. Musical skills are traditionally taught in-person and assessed in fieldwork settings. Since this study was published, the COVID-19 pandemic has impacted the delivery of students' educational experiences. Therefore, it is important to look at ways remote learning may have impacted music therapy students' self-perceived skills and concerns both pre- and post-internship.

Music Therapy Training Needs during the COVID-19 Pandemic

The COVID-19 pandemic has impacted the delivery of coursework and experiential learning, with many professional internships being conducted virtually. A review of the literature indicates the importance and benefits of professional internships. Internships are also required for music therapy board-certification and specific jobs. Prior to the COVID-19 pandemic, several studies indicated concerns related to music therapy internships. Clements-Cortés studied the self-perceived skills and concerns of music therapy students both pre- and post-internship in 2019. However, there is little known about the impact of virtual learning during the COVID-19 pandemic on students' self-perceived skills and concerns both pre- and post-internship. This study aimed to answer the following:

1. What are the highest and lowest self-perceived clinical, musical, and personal skills of undergraduate and graduate equivalency music therapy students studying in the United States during the COVID-19 pandemic?

2. What are the highest and lowest self-perceived concerns of undergraduate and graduate equivalency music therapy students studying in the United States during the COVID-19 pandemic?
3. Are there any differences between high and low-remote learners in terms of self-perceived clinical, musical, and personal skills, as well as their concerns?
4. How do these current data on self-perceptions about clinical, musical, and personal skills and concerns pre- and post- internship compare to Clements-Cortés (2019) data?
5. What do undergraduate and graduate equivalency music therapy students perceive are the benefits and drawbacks of remote learning?

CHAPTER III

Method

Study Design

This study used a cross-sectional survey design created on Qualtrics, an online survey platform. The survey employed questions related to music therapy students' concerns and perceived preparedness for internship. Ethical approval for the survey was provided by the Institution Review Board (IRB) at Colorado State University.

Participants

This study had 277 respondents, of which 225 were found to be Artificial Intelligence (internet bots) and were excluded, resulting in a sample of 52 participants (see Figure 1). These Artificial Intelligence (AI) responses were identified through the two open-ended comments, which included repeated answers, non-English answers, and answers that were unintelligible. It was then discovered that there were a multitude of repeated IP addresses. To maintain data accuracy, these responses were omitted. Participants included current or recently graduated music therapy undergraduate and graduate equivalency students studying at American Music Therapy Association (AMTA) approved programs in the United States. Students who took a break in coursework for a semester or more after March 2020 were retained for the study. Participants were contacted via regional AMTA and music therapy student social media pages, including Facebook, Twitter, and Instagram. Participants included music therapy students who engaged in practicum and/or completed their internship between March 2020 and August 2021 (pre-interns, interns, and post-interns). Exclusion criteria included not engaging in practicum or internship experience between March 2020 and August 2021.

Materials

The self-report survey for this study was created using Qualtrics. The survey was designed based on a previous survey containing 54 five-point Likert scale questions about self-perceived skills and concerns of music therapy interns (Clements-Cortés, 2019). To condense the survey, six board-certified music therapists working with interns were contacted. These music therapists were asked to determine which survey items were most pertinent to students engaging in remote learning. The music therapists' feedback was used to establish validity for the shorter survey, which was then used in a pilot study. The pilot study survey consisted of 25 five-point Likert-scale questions and eight demographic questions, and was completed by 10 undergraduate and graduate equivalency students in the music therapy program at Colorado State University. All students surveyed were pre-interns, meaning they had not begun an internship. For the initial condensed survey used in this study, four demographic questions were omitted due to redundancy, three were modified for clarity, and nine were added to make it a retrospective survey due to the changing nature of the COVID-19 pandemic. An additional pilot study was conducted in December 2021 after modifications were made to the survey. The final survey included 13 demographic questions, 25 Likert-scale survey items, and 2 narrative questions (see Appendix B). There were 12 questions about skills and 13 questions about concerns. On the survey, students rated their perceived skills in various domains with 1 being "very poor" and 5 being "excellent" and concerns with 1 being "not concerned" and 5 being "extremely." Participants completed the survey using internet links to Qualtrics on their mobile devices or computers. The full survey is available in Appendix A.

Procedure

A link to the survey in this study was sent to participants through music therapy student social media pages, along with a description of the study. By clicking on the link, participants were sent to Qualtrics and provided with instructions on how to complete the survey. Following ethical guidelines, participants provided informed consent by pressing “next” and “submit.” The survey was available between February 21st, 2022 and March 4th, 2022, during which time data was collected via Qualtrics. Following completion of the survey, respondents who indicated they wanted to be considered for an incentive were randomized and four were given \$25 gift cards for completing the study.

Data Analysis

Data was collected after March 4, 2021, compiled and analyzed through Qualtrics and with statistical assistance and expert-recommended statistical program(s). Demographics are presented in Table 1 and Table 2. Research questions one and two were analyzed by separating the data between graduate equivalency and undergraduate students, and by calculating averages and standard deviations for each Likert-scale question. Dividing data by this demographic allowed the researcher to identify potential similarities or differences in perceived skills and concerns based on the students’ degree path. The original survey by Clements-Cortés (2019) only included undergraduate students. Therefore, by splitting the data, closer comparisons could be made between undergraduate students in both studies. The Likert-scale responses were ranked individually from highest to lowest perceived skills and highest to lowest perceived concerns.

Research questions three and four were analyzed using Mann-Whitney U tests for each Likert-scale survey item in order to examine the data for between-group differences in students’ level of remote learning (independent variable) and their perceived skills and concerns

(dependent variable). An analysis was done by splitting the data according to high, medium, and low levels of in-person and remote learning, and by using Kruskal-Wallis tests to compare the impact of the level of remote learning (independent variable) on Likert-scale responses (dependent variable). Survey participants who completed 67-100% of their practicum or internship experiences in-person and on-site were labeled high-level in-person learners, 34-66% in-person and on-site were labeled medium-level in-person learners, and 0-33% in-person and on-site were labeled low-level in-person learners. Survey participants who completed 67-100% of their practicum or internship experiences remotely were labeled high-level remote learners, 34-66% remotely were labeled medium-level remote learners, and 0-33% remotely were labeled low-level remote learners.

For research question four, undergraduate survey participants were labeled as pre-interns if they engaged in practicum but did not start an internship between March 2020 and August 2021, and post-interns if they completed an internship between March 2020 and August 2021. The self-perceived skills and concerns of pre- and post-interns in the current study were compared with those of pre- and post-interns in Clements-Cortés (2019) study, which was published before the pandemic. This analysis was meant to provide insight on potential similarities or differences in pre- and post- interns' perceived skills and concerns prior to the COVID pandemic and during the COVID pandemic.

For research question five, the fill-in-the blank responses were examined using content analysis, in which the researcher coded responses and divided them into themes and subthemes (Gaddy et al., 2020). After gathering and analyzing the qualitative data and identifying representative quotes, emerging themes were labeled and evaluated using intercoder reliability. The coders in this study were the researcher and two masters-level MT-BCs with experience

supervising practicum students. After reaching a professional consensus on each unique theme, these qualitative data were analyzed in context with the quantitative data and discussed in the results section. Figures displaying results from all research questions and analyses were created using Microsoft Word and Microsoft Excel.

CHAPTER IV

Results

There were a total of 52 participants in this study, including 39 undergraduate and 13 graduate equivalency students. After examination and expert insight, it appeared that Artificial Intelligence (AI) or “bots” may have interfered with the survey responses, including responses with repeated verbatim comments that went along to different IP addresses. To mitigate the impact of AI on survey responses, 130 of the 268 responses were omitted for repeated comments, 58 were omitted for duplicated IP addresses, 25 were omitted for being incomplete, two were omitted for duplicated Likert-scale responses, and one was omitted for being a non-English response (Figure 1). Out of the 52 survey participants, 34 participants (65%) submitted responses to the advantages question, and 36 participants (69%) submitted responses to the disadvantages question. See Appendix A for the full listing of items as written out in the original survey.

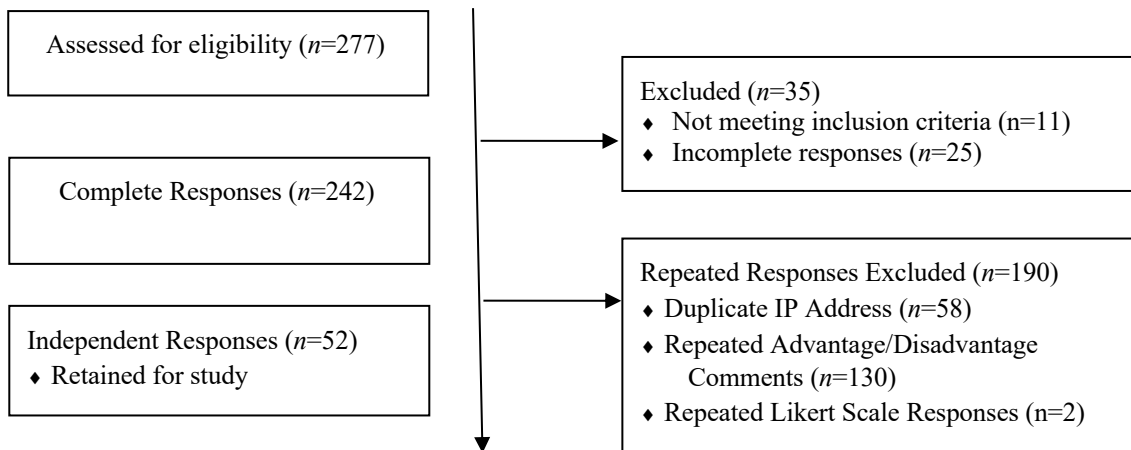


Figure 1. *Retained Survey Responses.*

The following tables for perception of skills and concerns uses abbreviations found in Appendix C. Table 1 includes survey participant demographics. These demographics were fairly typical within the field of music therapy with the majority of participants identifying as white females. However, the regions were unequally represented with the majority attending school in the Southeastern region. However, this was not expected to impact survey results as the whole U.S. was impacted by the COVID-19 pandemic. There were three times as many UG than GE, with 39 UG and 13 GE. This led to unequal representation, which likely impacted the statistics related to differences between UG and GE in this study.

Table 1. *Survey Participants Demographics (N=52).*

Baseline Characteristics			
Age			
	Mean (sd)	24.57 (4.42)	
		<i>n</i>	%
Gender			
	Female	33	64
	Male	15	29
	Transgender	0	0
	Gender Variant/Non-conforming	3	6
	Not listed	0	0
	Prefer not to answer	1	2
Ethnicity			
	White (non- Hispanic)	41	79
	Hispanic/Latino	3	6
	Black/African American	4	7
	Native American/American Indian	1	2
	Asian/Pacific Islander	0	0
	Other	0	0
	Prefer not to answer	3	6
MT Region			
	Great Lakes	5	10
	Mid-Atlantic	3	6
	Midwestern	12	23
	New England	5	10
	Southeastern	18	35
	Southwestern	7	14
	Western	2	4

Table 2 details survey participant internship demographics. Although there were similar numbers of pre-interns ($n=19$) and post-interns ($n=21$), there were far fewer interns ($n=12$) surveyed, leading to unequal representation.

Table 2. *Survey Participants Internship Demographics (N=52).*

Baseline Characteristics	<i>n</i>	%
Took a Break in Coursework		
Y (Fall 2020)	4	8
Y (Spring 2021)	11	21
Y (both Fall 2020 & Spring 2021)	3	6
N	30	58
No Response	4	8
Internship Status (Between March 2020 and August 2021)		
Started an internship and finished it (post-intern)	13	25
Finished an internship I had started before March 2020 (post-intern)	6	12
Started an internship but did not finish it before August 2021 (intern)	12	23
Did not start or finish an internship between these dates (pre-intern)	21	40
Other	0	0
Percentage of Internship in-person/on-site (out of 34)		
0-33%	6	18
34-66%	18	53
67-100%	10	29
n/a	18	
Percentage of Internship remote (out of 33)		
0-33%	14	42
34-66%	14	42
67-100%	5	15
n/a	19	
At present, have you completed internship?		
Yes	32	62
No	20	38
Did you engage in practicum between March 2020 and August 2021?		
Yes	48	92
No	4	8
What percentage of your practicum experiences were in-person/on-site? (out of 49)		
0-33%	30	61
34-66%	14	29
67-100%	5	10
n/a	3	
What percentage of your practicum experiences were in-person/on-site? (out of 49)		
0-33%	15	31
34-66%	12	24
67-100%	22	45
n/a	3	

Note. Percentages have been rounded up, therefore, totals may be greater than 100%.

Research Question 1: Highest and Lowest Self-Perceived Skills. UG and GE students were compared on their average self-perceived skill ratings. In Table 3, skill items that are rated higher indicate that the respondents believed they were more skilled on that item. Items are listed from highest to lowest self-perceived skills based on undergraduate student (UG) or graduate equivalency student (GE) status. Both UG and GE had a small range in the skill means, from 3.08-3.97 and 3.46-3.92 respectively. This means that UG and GE self-perceived all their skills to be between satisfactory and good. The highest self-perceived skill of UG participants was *Professional Relationships* and the lowest was *Piano Improvisation*. The highest self-perceived skill of GE students was *Creative MT Technique Knowledge and Use* and the lowest was *Handling Stress*. UG and GE both ranked *Interdisciplinary Teamwork* as their second highest skill. UG and GE also both ranked *Therapeutic Rapport* in the top half of their skills. Both UG and GE ranked the following skills in the lower half of their respective charts: *Maintaining Your Wellbeing*, *Piano Improvisation*, *Handling Stress*, and *Piano Skills*. (These items are in the lowest third of UG rankings).

Table 3. *Self-Perceived Skills* (N= 52; UG= undergraduate MT student, GE= graduate equivalency MT student).

UG Students (<i>n</i> = 39)			
Rank	Item (item no.)	<i>M</i>	<i>SD</i>
1	Professional Relationships (#6)	3.97	0.93
2	Interdisciplinary Teamwork (#10)	3.90	0.97
3	Re-creative MT Technique Knowledge & Use (#4)	3.90	0.97
4	Therapeutic Rapport (#5)	3.82	1.23
5	Educating Others About MT (#7)	3.79	0.83
6	Insight Into Your Own Strengths & Needs (#11)	3.72	0.89
7	Receptive MT Technique Knowledge & Use (#2)	3.69	0.80
8	Creative MT Technique Knowledge & Use (#3)	3.38	0.94
9	Maintaining Your Wellbeing (#12)	3.36	0.96
10	Current Piano Skills (#8)	3.26	0.94
11	Handling Stress (#9)	3.23	0.87
12	Piano Improvisation (#1)	3.08	0.98

GE Students (<i>n</i> = 13)			
Rank	Item (item no.)	<i>M</i>	<i>SD</i>
1	Creative MT Technique Knowledge & Use (#3)	3.92	0.95
2	Interdisciplinary Teamwork (#10)	3.92	0.95
3	Educating Others About MT (#7)	3.92	1.04
4	Insight Into Your Own Strengths & Needs (#11)	3.85	0.80
5	Receptive MT Technique Knowledge & Use (#2)	3.85	0.69
6	Therapeutic Rapport (#5)	3.85	0.80
7	Maintaining Your Wellbeing (#12)	3.77	1.01
8	Piano Improvisation (#1)	3.77	1.17
9	Current Piano Skills (#8)	3.77	1.01
10	Professional Relationships (#6)	3.69	1.11
11	Re-creative MT Technique Knowledge & Use (#4)	3.69	0.95
12	Handling Stress (#9)	3.46	0.97

Note 1. Skill items that are rated higher indicate the respondents believed they were more skilled on that item.

Note 2. See Appendix C for abbreviations.

Research Question 2: Highest and Lowest Self-Perceived Concerns. UG and GE students were compared on their average self-perceived concern ratings. In Table 4, concern items that are ranked higher indicate that the respondents were more concerned about that item. Items are listed from highest to lowest concern based on UG or GE status. Both UG and GE had a slightly larger range in the concern means as compared with the skill means, from 2.46-3.33 in UG and 2.77-3.62 in GE. This means that UG and GE self-perceived all their concerns to be between somewhat concerned and very concerned. The highest self-perceived concern of UG was *Making Spontaneous Adaptations* and the lowest was *Handling Session Unpredictability*. The highest self-perceived concern of GE was *Finances* and the lowest was *Handling Session Unpredictability*. Both UG and GE ranked *Burnout*, *Finances*, and *Internship Anxiety* within the top third of their concerns. *Finances* was ranked the number one concern for GE and the number two concern for UG. Both UG and GE had the same rankings for their lowest self-perceived concerns, that being the *Supervision Process* (number 11), *Interdisciplinary Teamwork* (number 12), and *Handling Session Unpredictability* (number 13).

Table 4. *Self-Perceived Concerns (N= 52).*

Rank	Item (item no.)	M	SD
UG Students (<i>n</i> = 39)			
1	Making Spontaneous Adaptations (#12)	3.33	1.11
2	Finances (#1)	3.23	1.18
3	Internship Anxiety (#13)	3.10	1.12
4	Burnout (#7)	3.08	1.09
5	Workload (#2)	2.95	1.12
6	Fitting Into a New Workplace (#4)	2.82	1.07
7	Fulfilling Direct Client Hours in Time (#8)	2.77	1.27
8	Working With New Populations and in New Settings (#6)	2.77	1.14
9	Making Creative/Effective Session Plans (#10)	2.69	1.08
10	Addressing Clients' Varying Needs (#9)	2.67	1.08
11	Supervision Process (#5)	2.51	1.23
12	Working with Other Professionals (#3)	2.46	1.12
13	Handling Session Unpredictability (#11)	2.46	1.07
Rank	Item (item no.)	M	SD
GE Students (<i>n</i> = 13)			
1	Finances (#1)	3.62	1.04
2	Workload (#2)	3.38	0.87
3	Burnout (#7)	3.31	1.03
4	Internship Anxiety (#13)	3.31	1.10
5	Fitting Into a New Workplace (#4)	3.23	1.24
6	Making Creative/Effective Session Plans (#10)	3.08	1.19
7	Addressing Clients' Varying Needs (#9)	3.00	1.23
8	Making Spontaneous Adaptations (#12)	3.00	1.08
9	Fulfilling Direct Client Hours in Time (#8)	2.92	1.19
10	Working With New Populations and in New Settings (#6)	2.92	0.86
11	Supervision Process (#5)	2.85	1.21
12	Working with Other Professionals (#3)	2.77	1.09
13	Handling Session Unpredictability (#11)	2.77	1.01

Note 1. Concern items that are rated higher indicate the respondents were more concerned about that item.

Note 2. See Appendix C for abbreviations.

Research Question 3: Rating Differences with Remote Learning. All research participants were divided into high, medium, and low levels of in-person and remote learning to determine if the amount of remote learning impacted participants self-perceived skills and concerns. They were also divided base on whether they completed practicum or internship experience (or both). A high in-person label meant 67-100% of the participant's time in their practicum/internship experience was spent in-person, medium was 34-66% in-person, and low was 0-33% in-person. A high-remote label meant 67-100% of their time of the participant's time in their practicum/internship experience was spent remote, medium was 34-66% remote, and low was 0-33% remote. Because some participants may have conducted experience through recorded videos or other means, it cannot be assumed that someone spending 33% of their time in-person also spent 67% of their time remote. Table 5 and Table 6 outline the items that were found to have a significant Kruskal-Wallis H test. Although there were also non-significant results, only the significant results are shown in the tables. These tables highlight significant differences among the mean ranks of the three levels of in-person learning: low, medium, and high. The alpha level (p) for each H test is included. Bonferroni corrections were performed to account for multiple tests, therefore, only adjusted significant differences at $p < 0.05$ are reported. Table 5 pertains to interns self-reporting as "high in-person" by category and Table 6 pertains to high remote learners, including both interns and practicum students. Because some students completed both internship and practicum experience, the total N is more than 52. The population of interns is labeled as 34 in Table 5 and 33 in Table 6. This is because one respondent selected and answer for the amount of time spent in person in their internship, but did not mark the amount of time spent remotely.

Table 5. *High In-Person Learning: Significant Differences in Self-Perceived Skills & Concerns of Interns (N= 52).*

Survey Item	<i>H</i>	<i>p</i>	<i>n</i> = 34	Mean Rank	Percentage of Time Spent In Person
Skills					
4. Re-creative MT Technique Knowledge & Use	6.21	.045			
			6	15.58	Low In Person
			18	14.64*	Medium In Person
			10	23.80*	High In Person
Concerns					
6. Working With New Populations and in New Settings	6.86	.032			
			6	23.92*	Low In Person
			18	18.64	Medium In Person
			10	11.60*	High In Person

* These items had a significant ANOVA value at $p < 0.05$.

Note 1. Only interns in the “high in person” category reported significant differences in Kruskal-Wallis analyses.

Note 2. High mean ranks on skills indicates that survey participants perceived themselves to be more skilled on that item. High mean ranks on concerns indicates that survey participants were more concerned about that item.

Table 6. *High Remote: Significant Differences in Self-Perceived Skills & Concerns.*

Survey Item	<i>H</i>	<i>p</i>	<i>n</i>	Mean Rank	Percentage of Time Spent Remotely
Interns (<i>n</i> = 33)					
Skills					
5. Therapeutic Rapport	8.89	.012	14	18.11	Low Remote
			14	12.43*	Medium Remote
			5	26.70*	High Remote
Survey Item	<i>H</i>	<i>p</i>	<i>n</i>	Mean Rank	Percentage of Time Spent Remotely
Practicum Students (<i>n</i> = 49)					
Skills					
4. Re-creative MT Technique Knowledge & Use	10.834	.004	15	17.47*	Low Remote
			12	21.92	Medium Remote
			22	31.82*	High Remote
Concerns					
1. Finances	6.883	.032	15	18.23*	Low Remote
			12	23.96	Medium Remote
			22	30.18*	High Remote
5. Supervision Process	9.399	.009	15	27.97	Low Remote
			12	33.04*	Medium Remote
			22	18.59*	High Remote
9. Addressing Clients' Varying Needs	7.276	.026	15	25.87	Low Remote
			12	33.21*	Medium Remote
			22	19.93*	High Remote
10. Making Creative/Effective Session Plans	10.832	.004	15	32.27*	Low Remote
			12	28.75	Medium Remote
			22	18.00*	High Remote
11. Handling Session Unpredictability	12.436	.002	15	28.43	Low Remote
			12	34.00*	Medium Remote
			22	17.75*	High Remote

* These items had a significant ANOVA value at $p < .05$.

Note 1. Total number of participants is higher than *N* due to some students participating in both internship and practicum experience.

Note 2. High mean ranks on skills indicates that survey participants perceived themselves to be more skilled on that item. High mean ranks on concerns indicates that survey participants were more concerned about that item.

Research Question 4: Clements-Cortés (2019) Data Comparison Pre-Pandemic.

Data in the current survey was compared with data from the original survey. This is not meant to be a statistical comparison, but rather looking at a glance. Because Clements-Cortés followed the same participants throughout their study, their N stayed consistent at 177 participants. Because the current study divided one group of participants into pre-interns, (interns), and post-interns, the n is different in pre-interns and post-interns. Additionally, because Clements-Cortés studied only UG students, only data regarding UG students was used for comparison (hence why the population is less than the total 52 participants). Table 7 lists the self-perceived skill and concern ratings for survey participants in the original Clements-Cortés (2019) study (pre-COVID-pandemic) as well as the current 2022 study (mid-COVID-pandemic). Mean ratings of skills and concerns are listed for both pre-internship and post-internship students.

Table 7. *Undergraduate Pre-Internship Self-Perceived Skills & Concerns both Pre-Pandemic (2019) & Mid-COVID Pandemic (2022).*

Rankings	2019 pre-internship (<i>N</i> = 177)	2022 pre- interns (<i>n</i> = 17)	2019 (post- internship (<i>N</i> = 177)	2022 post- interns (<i>n</i> = 13)
SKILLS				
Clinical				
1. Piano Improvisation	2.87	2.94	4.29	3.23
2. Receptive MT Technique Knowledge & Use	3.73	3.76	4.47	3.23
3. Creative MT Technique Knowledge & Use	3.03	3.35	3.85	3.15
4. Re-creative MT Technique Knowledge & Use	3.57	4.24	4.49	3.46
5. Therapeutic Rapport	3.92	4.24	4.54	3.39
6. Professional Relationships	3.14	4.00	3.99	3.92
7. Educating Others About MT	3.29	3.88	4.29	3.46
Musical				
8. Current Piano Skills	3.46	3.00	4.24	3.39
Personal				
9. Handling Stress	3.37	3.12	4.18	3.46
10. Interdisciplinary Teamwork	3.36	3.94	4.22	3.85
11. Insight Into Your Own Strengths & Needs	3.31	3.65	4.29	3.54
12. Maintaining Your Wellbeing	3.37	3.24	4.04	3.39
CONCERNS				
1. Finances	3.31	3.71	3.92	2.62
2. Workload	3.67	3.41	3.99	2.62
3. Working with Other Professionals	2.82	2.35	3.57	2.85
4. Fitting Into a New Workplace	3.36	2.88	3.54	3.08
5. Supervision Process	3.00	2.35	3.41	2.77
6. Working With New Populations and in New Settings	3.00	2.76	3.33	3.08
7. Burnout	3.02	3.35	3.63	3.00
8. Fulfilling Direct Client Hours in Time	3.03	2.59	3.45	3.08
9. Addressing Clients' Varying Needs	3.02	2.77	3.75	2.69
10. Making Creative/Effective Session Plans	2.83	2.65	3.48	3.15
11. Handling Session Unpredictability	3.01	2.35	3.86	2.77
12. Making Spontaneous Adaptations	3.14	3.18	4.11	3.46
13. Internship Anxiety	3.66	3.24	3.67	3.23

Note 1. The 2019 study surveyed the same students. The current 2022 study surveyed one set of pre-interns and another set of post-interns, therefore, each *n* is different. Nine current interns were omitted from the total 2022 survey participants, leaving *N*=30.

Table 8 lists pre-interns' rankings of the current survey items in both Clements-Cortés's (2019) study and the current (2022) study. Clements-Cortés's (2019) study is highlighted. Skills that are ranked first indicate that the participants perceived themselves as most skilled on that item pre-internship. Skills that are ranked last indicate that participants perceived themselves as

least skilled on that item. Concerns that are ranked first indicate that participants perceived themselves as most concerned about that item, whereas concerns that are ranked last indicate that participants perceived themselves as least concerned about that item.

Table 8. *Ranking of UG Pre-Internship MT Skills & Concerns.*

Skills		
Rank	2019 (<i>n</i> = 177)	2022 (<i>n</i> = 17)
1	Therapeutic Rapport	Re-creative MT Technique Knowledge & Use
2	Receptive MT Technique Knowledge & Use	Therapeutic Rapport
3	Re-creative MT Technique Knowledge & Use	Professional Relationships
4	Current Piano Skills	Interdisciplinary Teamwork
5	Handling Stress	Educating Others About MT
6	Maintaining Your Wellbeing	Receptive MT Technique Knowledge & Use
7	Interdisciplinary Teamwork	Insight Into Your Own Strengths & Needs
8	Insight Into Your Own Strengths & Needs	Creative MT Technique Knowledge & Use
9	Educating Others About MT	Maintaining Your Wellbeing
10	Professional Relationships	Handling Stress
11	Creative MT Technique Knowledge & Use	Current Piano Skills
12	Piano Improvisation	Piano Improvisation

Concerns		
Rank	2019 (<i>n</i> = 177)	2022 (<i>n</i> = 13)
1	Workload	Finances
2	Internship Anxiety	Workload
3	Fitting Into a New Workplace	Burnout
4	Finances	Internship Anxiety
5	Making Spontaneous Adaptations	Making Spontaneous Adaptations
6	Fulfilling Direct Client Hours in Time	Fitting Into a New Workplace
7	Burnout	Addressing Clients' Varying Needs
8	Addressing Clients' Varying Needs	Working With New Populations and in New Settings
9	Handling Session Unpredictability	Settings
10	Working With New Populations and in New Settings	Making Creative/Effective Session Plans
11	Supervision Process	Fulfilling Direct Client Hours in Time
12	Making Creative/Effective Session Plans	Working with Other Professionals
13	Working with Other Professionals	Handling Session Unpredictability
		Supervision Process

Note. See Appendix C for abbreviations.

Table 9 lists post-interns' rankings of the current survey items in both the Clements-Cortés (2019) study and the current (2022) study. Skills that are ranked first indicate that

participants perceived themselves as most skilled on that item post-internship. Skills that are ranked last indicate that participants perceived themselves as least skilled on that item. Concerns that are ranked first indicate that participants perceived themselves as most concerned about that item, whereas concerns that are ranked last indicate that participants perceived themselves as least concerned about that item.

Table 9. *Ranking of UG Post-Internship MT Skills & Concerns.*

Skills		
Rank	2019 (<i>n</i> = 177)	2022 (<i>n</i> = 39)
1	Therapeutic Rapport	Professional Relationships
2	Re-creative MT Technique Knowledge & Use	Interdisciplinary Teamwork
3	Receptive MT Technique Knowledge & Use	Insight Into Your Own Strengths & Needs
4	Educating Others About MT	Educating Others About MT
5	Insight Into Your Own Strengths & Needs	Handling Stress
6	Piano Improvisation	Re-creative MT Technique Knowledge & Use
7	Current Piano Skills	Maintaining Your Wellbeing
8	Interdisciplinary Teamwork	Current Piano Skills
9	Handling Stress	Therapeutic Rapport
10	Maintaining Your Wellbeing	Piano Improvisation
11	Professional Relationships	Receptive MT Technique Knowledge & Use
12	Creative MT Technique Knowledge & Use	Creative MT Technique Knowledge & Use

Concerns		
Rank	2019 (<i>n</i> = 177)	2022 (<i>n</i> = 39)
1	Making Spontaneous Adaptations	Making Spontaneous Adaptations
2	Workload	Internship Anxiety
3	Finances	Making Creative/Effective Session Plans
4	Handling Session Unpredictability	Fulfilling Direct Client Hours in Time
5	Addressing Clients' Varying Needs	Fitting Into a New Workplace
6	Internship Anxiety	Working With New Populations and in New Settings
7	Burnout	Burnout
8	Working with Other Professionals	Working with Other Professionals
9	Fitting Into a New Workplace	Handling Session Unpredictability
10	Making Creative/Effective Session Plans	Supervision Process
11	Fulfilling Direct Client Hours in Time	Addressing Clients' Varying Needs
12	Supervision Process	Finances
13	Working With New Populations and in New Settings	Workload

Note. See Appendix C for abbreviations.

Research Question 5: Benefits and Drawbacks of Remote Learning. This survey contained two open-ended questions regarding the perceived advantages and disadvantages of remote learning. Two MT-BCs with master's degrees, and experience supervising practicum students, independently read participants' comments. After reading the comments, each expert created a list of themes and subthemes in which to group comments. The researcher and experts discussed discrepancies in the themes and subthemes until they reached an agreement.

Participants' comments that included multiple themes or subthemes were divided into different parts, therefore, the total number of comments is greater than the total number of respondents. There were 34 survey participants (65.4%) that responded to the advantages question, with a total of 46 advantage comments. The most frequently cited theme for the advantages was *Learning*, with a total of 18 comments. The largest *Learning* subthemes was *Increase in Knowledge*, with 50% of the *Learning* advantage comments (Table 10). Many of comments discussed learning how to use remote technology. Other comments touched on how remote learning had helped them practice flexibility and adaptability.

The disadvantages question had a similar number of respondents as the advantages question with 36 respondents (69.2%). However, there were 62 disadvantage comments about disadvantages. The most frequently cited theme was *Less In-person Experiences* which had 24 related comments. The largest subthemes of *Less In-person Experiences* were *Client-Therapist Interaction*, which had nine related comments, and concerns about *Clinical Development*, which also had nine comments (Table 10). Many participant comments on disadvantage discussed the negative impacts of remote learning on students' relationships with clients.

Table 10. *Analysis of MT Students' Comments about Remote Learning (N= 34 participants, 47 comments).*

Theme (number of related comments)	Subtheme(s)	Frequency	Example Quote(s)
Advantages			
Learning (18)	Increase in Knowledge	9	“It is the responsibility of a music therapist to learn and adapt with technological changes. Learning remotely taught me that and let me advance and figure things out in this arena.” “It was good to have to learn to adapt to remote learning since we now need to know how to structure and execute telehealth sessions.”
	Teaching Methods	4	“The one semester we did remote practicum I really liked it because our professor showed us examples of interventions. Before that they would talk about it and we’d have to research it on our own.”
	Environment	2	“There were often minimal distractions from the environment or other group members. These factors helped me focus more on what I was doing musically to work towards the goal and related objectives.”
	Learner Autonomy	1	“The learning method is mainly based on students' independent learning.”
	Level of Difficulty	1	“Also, other non-music therapy classes were made easier so I could really focus on music therapy.”
	Reflection/ Experiences	1	“Remote learning was my first practicum experience where I was the SMT and it was a very good learning experience but I’m glad at (<i>university name omitted for anonymity</i>) we are back to in person for the most part.”
Convenience (8)	Time	4	“I think I’m some ways remote learning can be really convenient as it is generally more flexible for schedules.”
	Location	3	“Being able to see clients in any location” “As a disabled music therapist in training, I realized telehealth is a successful accommodation not just for me but for my clients. I was successful in administering MT and they still met their goals and objectives. I could also decrease the anxiety of being unable to show up physically due to symptoms I cannot control.”
Music Therapy Skills/Perspective (7)	Environment	3	“Being able to be in a space you feel comfortable.”
	Music	2	“Sometimes more intentional and purposeful use of music. Instead of worrying about non-music therapeutic facilitation techniques, I could think more about what I was doing musically”
	Clinical	1	“I’ve learned to be more creative with my assignments and session planning.”
	Scope of Practice	1	“Expanded my perception of what music therapy can look like”
Increased Wellness (4)	Mental and Physical Health	4	“Distance learning can help outsiders and more people to understand in time, pay attention to their physical

More Flexibility (3)	Schedule	3	and mental health and remain optimistic. Enrich oneself"
Engagement with others (2)	Virtual	2	"It was a lot more flexible and easier to get ready for because it was online"
Finances/Saving Money (2)	Transportation	2	"See clients during a pandemic."
MT Profession (2)	Access	1	"It also adds some accessibility in that it doesn't require transportation/gas money to travel to practicum sites."
	Quality of Services	1	"Helps create a wider reach for services (as technology and someone who can operate the technology are available)"
Misc. (1)		1	"At the same time, it can broaden the scope of recruitment and recruit high-quality talents from different places more flexibly." "Industrialization advantage"

Theme	Subtheme(s)	Frequency	Example Quote(s)
<i>Disadvantages (N= 36 participants, 61 comments)</i>			
Less In-person Experiences (23)	Client-Therapist Interactions	9	"The lack of in person connection that comes from all being there together."
	Clinical Development	9	"Less practice and opportunity with assessing and adapting for non-music behaviors related to behavior management, communication (e.g. Wi-Fi connection, distortion of voice or instrument sounds, overlap of multiple participants on a zoom call), and emotional affect."
	Building Rapport	6	"It was more difficult to gain rapport with my clients who were strictly virtual, and it took longer for the online clients to become comfortable with me."
Technological Difficulties (12)	Sound	5	"Sound quality and video lapse often got in the way of effective delivery."
	Visual	4	"Often my clients were off screen and it was challenging to assess and adapt, let alone take days."
	General	2	"increased unpredictability of sessions and classes due to technical difficulties."
	Data Collection	1	"client responses affected both delivery and data collection."
Isolation (8)	Clinical	5	"Loss of quality social interactions from classroom experience."
Wellness (8)	Personal	3	"Socially isolating"
	Emotions	5	"bad for my mental health"
	Engagement	2	"It is less engaging and not having hands on experience was less fun."
Changes in Academic Rigor (4)	Energy	1	"Greater fatigue from increased screen time."
	Institutional	2	"It's hard to choose a quality educational program."
	Personal	2	"I had more concern about how we got used to turning things in late, but now I'm getting back into the rhythm of in person school."
Decreased Access (4)	Music	2	"Instrument play was also difficult to adapt and change in the moment to, but I ended up doing sessions where we created our own instruments with things around the house to aid this."
	Technology	2	

Atmosphere (2)	2	“If the client did not have someone who was versed in technology available, it was difficult giving them the opportunity to be interactive.” “Hard to focus, too many distractions.”
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Note 1. Some comments have been duplicated for different parts, or longer responses have been divided. Therefore the total will equal more than N.

Note 2. See Appendix C for abbreviations.

CHAPTER V

Discussion

The purpose of this study was to learn more about the impact of remote learning during the COVID-19 pandemic on music therapy (MT) students' self-perceived skills and concerns regarding internship. Due to the small sample size, these findings represent this sample only. This study aimed to answer the following research questions denoted previously in this paper. Each question will be answered separately below.

Research Question 1

1. What are the highest and lowest self-perceived clinical, musical, and personal skills of undergraduate and graduate equivalency music therapy students studying in the United States during the COVID-19 pandemic?

Rankings of UG & GE Students' Self-Perceived Skills

The range of Likert scale averages for self-perceived skills was small for both UG and GE. Although the following skill rankings indicate that some skills were ranked higher, they were not much higher in terms of their mean scores. MT undergraduate student respondents (UG) may have listed maintaining *Professional Relationships* highest due to increased involvement of caregivers, and opportunities to develop professional relationships with remote learning (Table 3). Even though Walmsley and colleagues (2018) found that live clinical experiences helped foster medical students' professional relationships, the current study found that this can also be true of remote learning. The potential reasons for the low self-perceived skills in *Piano Improvisation* will be mentioned in the later discussion of statistically significant results.

For MT graduate equivalency respondents (GE), the highest skill was tied among three items: *Creative MT Technique Knowledge & Use*, *Interdisciplinary Teamwork*, and *Educating Others About MT* (which were ranked in alphabetical order; Table 3). The high ranking of *Creative MT Technique Knowledge & Use* for MT GE may have been due to being more comfortable than MT UG with improvisation overall. For example, MT GE respondents also rated their skills in *Piano Improvisation* as four ranks higher than MT UG respondents, with a general mean rating that was 0.69 higher than MT UG respondents. MT GE respondents may have ranked *Interdisciplinary Teamwork* and *Educating Others about MT* as one of their best skills due to having held work positions before graduate school in which they fostered these skills, or while working as a teaching assistant at their university (Bal et al., 2020). *Interdisciplinary Teamwork* was previously found to be fostered in live clinical experiences (Bukas Marcus et al., 2020; Walmsley et al., 2018), however, the current study found that remote learning can also foster these skills. However, these skills were self-reported to rate between a three and four on self-perceived skills, meaning that they were perceived to be between satisfactory and good. *Handling Stress* may have been ranked last because of difficulty responding to the COVID-19 pandemic and troubling world events, as well as potentially balancing family life, remote thesis work, etc. As previously mentioned, increased stress was reported in several studies of university students during the COVID-19 pandemic (Armstrong-Mensah et al., 2020; Day et al., 2021; Gillis & Krull, 2020).

Research Question 2

2. What are the highest and lowest self-perceived concerns of undergraduate and graduate equivalency music therapy students studying in the United States during the COVID-19 pandemic?

Several recent studies have examined mental health-related concerns of graduate and undergraduate students during the COVID-19 pandemic. Browning and colleagues (2021) found no differences between undergraduate and graduate students' mental health concerns, while Wang and colleagues (2020) found higher self-reported anxiety and depression in UG. In a more recent study, UG reported more days of poor mental health and more difficulty managing stress than graduate students (Liu et al., 2022). UG also reported more stressors than graduate students, except for in health and social-distance-related categories. Below are concerns reported by MT students in the current study.

Rankings of UG & GE Self-Perceived Concerns

For MT UG respondents, difficulty with spontaneously adapting (Table 4) may have been based on fewer resources and limited ways to implement MT methods in telehealth sessions, as was previously discussed by Kantarová and colleagues (2021). *Session Unpredictability* was likely rated as a low concern for both MT UG and GE respondents due to the wealth of experience students gained from the unpredictable nature of the COVID-19 pandemic, or because of highly controlled COVID-related safety measures. The nature of remote learning was mentioned by a student in the current study who reported “increased unpredictability of sessions and classes.” Precautionary measures have also been the subject of other studies (Day et al., 2021; Gaddy et al., 2020; Mintz et al., 2020).

MT GE respondents' high ranking of *Finances* may be due to the closure of many part-time jobs during the pandemic, as well as potentially having more expenses than UG. Graduate student debt was further examined by Pyne and Grodsky (2020), who reported that graduate students are responsible for 40% of all student loan debt and have less access to financial aid. Additional responsibilities, which may have been impacted by the COVID-19 pandemic, include

financially supporting children and/or working as a teaching assistant to cover tuition expenses (Bal et al., 2020). *Interdisciplinary Teamwork* was previously reported as something developed through live clinical experiences (Bukas Marcus et al., 2020; Walmsley et al., 2018). However, MT GE respondents may have ranked *Interdisciplinary Teamwork* as a lower concern because they may have had experience working with other professionals before graduate school and prior to the COVID-19 pandemic.

Research Question 3

3. Are there any differences between high and low-remote learners in terms of self-perceived clinical, musical, and personal skills, as well as their concerns?

For this research question, respondents were broken into in person interns, remote interns, in person practicum students, and remote practicum students. Because some respondents completed both internship and practicum experience, the total N is greater than 52. There were a total of 33 respondents who had engaged in internship experience and were labeled interns for this research question ($n = 33$). There were a total of 49 respondents who had engaged in practicum experience and were labeled practicum students for this research question ($n = 49$). From now on, post-interns that had a high-level in-person internship will be labeled High-IP interns, medium as MED-IP interns, and low as LOW-IP interns. Similarly, post-interns that had a high-level remote internship will be labeled High-REM interns, medium as MED-REM interns, and low as LOW-REM interns. Pre-interns (aka practicum students) that had high-level in-person practicum will be labeled as High-IP practicum students, medium as MED-IP practicum students, and low as LOW-IP practicum students. Pre-interns that had high-level remote practicum will be labeled as High-REM practicum students, medium as MED-IP practicum students, and low as LOW-IP practicum students. Out of all the respondents who engaged in

internship experience (interns), there were 6 LOW-IP interns, 18 MED-IP interns, and 10 High-IP interns. Out of the same population of interns, 14 reported being LOW-REM interns, 14 MED-REM interns, and 5 High-REM interns. One respondent who engaged in internship experience did not mark an answer to the question about how much of their internship experience was remote, hence why the population is 34 interns but is marked as 33 in the remote intern category. Out of all the respondents that engaged in practicum experience (practicum students), there were 30 LOW-IP practicum students, 14 MED-IP practicum students, and 5 High-IP practicum students. Out of the same population of practicum students, 15 reported being LOW-REM practicum students, 12 MED-REM practicum students, and 22 High-REM practicum students. Kruskal-Wallis tests were conducted to compare MT students' self-perceived skills and concerns based on their levels of in-person and remote learning.

High In-person Internships

High-IP interns rated themselves as significantly more skilled than MED-IP interns in *Re-creative MT Technique Knowledge & Use* ($p = .045$, Table 5). Re-creative MT can include the use of musical games or structured musical improvisation based on existing music (Silverman & Rosenow, 2013). While musical games can easily be suited for a virtual platform, improvisation is best conducted in person and in real-time. Because MED-IP interns did not get to delve fully into either type of intervention (remote or in person), they may have rated themselves significantly lower on this item.

High-IP interns also rated themselves as significantly less concerned than In-persIntern(l) on their self-perceived concern about *Working with New Populations and in New Settings* ($p = .032$). High-IP interns likely had more exposure to different populations, were able to visit various settings, and received hands-on experience with a range of clientele. In-persIntern(l)

were likely limited in which settings they could practice due to restrictions, as well as which facilities could engage in remote music therapy. This would lead to High-IP interns feeling more comfortable and confident (or less concerned about) *Working with New Populations and in New Settings*. This was consistent with Cole and colleagues' (2021) finding that a significant main effect of session format on music therapy clinical hours existed. These researchers also found that the virtual session platform was more advantageous for certain client populations. This finding in the current study is also supported by research on ELT which states that the fourth step, active experimentation, helps students feel prepared for working with different client populations (Kolb, 1984).

High Remote Internship

Kruskal-Wallis tests revealed that High-REM interns rated themselves significantly higher than MED-REM interns on the self-perceived skill of *Therapeutic Rapport* ($p = .012$; Table 6), indicating that they felt more skilled in this area. The literature has mixed findings on the impact of session format on therapeutic rapport. In ELT theory, active in-person experimentation is said to be necessary for developing rapport with clients (Kolb, 1984), with other researchers also reporting the benefits of in-person learning on building rapport (Mintz et al., 2020; Walmsley et al., 2018). This was consistent with the perspective of a student in the current survey, who stated that a disadvantage of remote learning was, "It was more difficult to gain rapport with my clients who were strictly virtual, and it took longer for the online clients to become comfortable with me."

However, in a more recent study, virtual learning was found to increase therapeutic rapport with clients as well as caregivers (Cole et al., 2021). Because MED-REM interns had a more equal mix of in-person and virtual experiences, they may have not developed consistency

or comfortability building rapport on either platform. There were no statistically significant differences in concerns between High-REM interns and RemIntern(1).

High In-person Practicum

There were no significant differences between high and low in-person practicum on self-perceived skills or concerns (Table 5). Because practicum is most often a students' introduction to working in the MT field (AMTA, n.d.-a), practicum students may have had fewer expectations regarding practicum.

High Remote Practicum

The largest number of significant results occurred between High-REM and LOW-REM practicum students (Table 6). High-REM practicum students rated themselves as significantly more skilled than LOW-REM practicum students on the self-perceived skill of *Re-creative MT Technique Knowledge & Use* ($p = .004$; Table 6). In one study on re-creative techniques, Silverman and Rosenow listed 10 re-creative interventions that could be used within MT sessions (2013). Out of the 10 interventions, only one (a structured improvisation) required being done in real-time. This would indicate that issues, such as sound lag on telehealth, would not be as negatively impactful on using this technique. Therefore, High-REM practicum students may have used this technique more frequently than others because it may have been easier to implement on an online platform. This would lead High-REM practicum students to have more experience than LOW-REM practicum students on this item.

High-REM practicum students rated themselves as significantly less concerned than other remote learners on five self-perceived items. First, High-REM practicum students rated their concern about *Finances* as significantly lower than MED-REM practicum students ($p = .032$). High-REM practicum students would have likely saved money and time from less commuting,

which has been reported in several other studies (Armstrong-Mensah et al., 2020; Lawn et al., 2017). A student in the current study also reported finances as an advantage of remote learning when they stated, "...it doesn't require transportation/gas money to travel to practicum sites."

LOW-REM practicum students may have had more confidence in finding an in-person music therapy job in the future. MED-REM practicum students may have been concerned about the unpredictability of their sessions (and financial implications), as well as the ability to find a good-paying in-person job in the future.

High-REM practicum students also rated themselves as having significantly less concern about the *Supervision Process* than MED-REM practicum students ($p = .009$). Although some students have reported concern about less supervision in remote learning (Mintz et al., 2020), this may have also been a relief for others. Similar to *Finances*, the unpredictability and inconsistency of modes or levels of feedback in medium-remote learning may have led to a greater degree of concern about this item. High-REM practicum students likely had more predictability and consistency in their supervision, even if it was remote.

Similar to concerns about *Finances* and *Supervision*, High-REM practicum students rated themselves as having significantly less concern about *Addressing Clients' Varying Needs* than MED-REM practicum students ($p = .026$). Several studies reported that adaptability and flexibility are skills gained by students engaging in remote sessions (Bukas Marcus et al., 2020; Kantorová et al., 2021). Additionally, Kantorová and colleagues found that remote technology allowed music therapists to access clients they previously could not. On the other hand, it has been reported that music therapists who have experienced fewer remote sessions (or more in-person sessions), have conducted more sessions overall (Cole et al., 2021). The high concern rating of MED-REM practicum students, therefore, may be due to partiality of experiences. For

example, if students engaged in high or low remote practicum, they were able to focus on addressing clients' varying needs through that specific modality. However, MED-REM practicum students had to split their attention between addressing clients' varying needs in-person and clients' varying needs remotely, with less time being devoted to learning how to do so on either platform.

High-REM practicum students rated themselves as having significantly less concern about *Making Creative/Effective Session Plans* than LOW-REM practicum students ($p=.004$). High-REM practicum students likely felt pressed to be creative during the COVID-19 pandemic, with traditional in-person sessions pivoting online. One student in the current survey reported, "I've learned to be more creative with my assignments and session planning." As previously mentioned, adaptability and flexibility were reported as skills developed from engaging in remote learning (Bukas Marcus et al., 2020; Kantorová et al., 2021). Additionally, while LOW-REM practicum students dedicated much of their time to developing their skills in-person skills, High-REM practicum students had more time dedicated to skill development outside sessions in areas such as session planning, since a higher amount of remote sessions was correlated with less clinical hours (Cole et al., 2021). Finally, certain traditional MT techniques were not conducive to virtual sessions, such as the NMT technique RAS (Gaddy et al., 2020). Therefore, students likely had to think outside the box when creating interventions to address clients' needs in their session plans.

Finally, High-REM practicum students rated themselves as having significantly less concern about the *Handling Session Unpredictability* than MED-REM practicum students ($p=.002$). Remote learning led to students' increased flexibility and adaptability (Bukas Marcus et al., 2020; Kantorová et al., 2021), as well as increased involvement of caregivers and other

professionals who know the client(s) well (Cole et al., 2021). Both of these factors may have led students to be less concerned about the unpredictability of sessions. MED-REM practicum students may have rated this as a higher concern due to the unpredictability of their weekly session(s) modality, and they had to learn how to handle issues that arose both in person and remotely. On the contrary, High-REM practicum students experienced more consistency and learned how to handle issues that arose within that specific modality.

The high-remote practicum category had the most statistically significant differences in self-perceived skills and concerns of all four categories (REM practicum students, REM interns, IP practicum students, IP interns). It is also notable that most significant differences in this category have particularly high significance, with four of five differences having p values less than 0.01. These p -values are higher than all p -values in the other three categories. For most students, their first experience engaging in music therapy is in practicum (American Music Therapy Association (AMTA, n.d.-a). Likely, the practicum students surveyed had pre-established expectations about practicum. They could have also experienced some practicum in-person, since in-person restrictions and the implementation of remote learning did not occur until March of 2020 (Gillis & Krull, 2020; Han et al., 2020). High-REM practicum students likely reported difficulty in certain skills since their supervisors, instructors, and peers likely had little to no remote experience to share with them or insight to help them prepare for virtual practicum. Other studies have reported professors' and students' high unfamiliarity and lack of orientation using a virtual platform (Bukas Marcus et al., 2020; Kantorová et al., 2021). Professors were likely learning how to modify instruction and music therapy on a virtual platform at the same time as their students.

Research Question 4

4. How do these current data on self-perceptions about clinical, musical, and personal skills and concerns pre- and post- internship compare to Clements-Cortés (2019) data?

Pre- to Post-Internship

It is important to keep in mind that the same students were followed in the 2019 study, whereas in the current 2022 study, pre-interns (PreIn22) and post-interns (PostIn22) were two separate groups. Additionally, the sample sizes were vastly different with a population of 177 participants in the original study and 52 in the current study. PostIn22 may have lower self-perceived skill ratings than PreIn22 due to immediate changes within internships, which impacted their skill development (Table 7). Many different internship alterations are found in the NACE report from 2020. PostIn22 may have also reported lower self-perceived skill ratings than PreIn22 because their internship supervisors may not have received training on how to modify their internship program. This lack of training and overall unfamiliarity with virtual platforms has been mentioned in several studies (Bukas Marcus et al., 2020; Cole et al., 2021). PostIn22 may have rated their skill of *Handling Stress* as higher than PreIn22 due to their success at having coped with general internship stress as well as the stress of the COVID-19 pandemic.

Pre-internship (PreIn19) and post-internship (PostIn19) students surveyed in 2019 reported increased concerns from pre- to post- internship on all items retained in the current survey (Table 8). This increase in concern may have been due to more exposure to the MT field, client populations, and related issues that occurred within their internship; this may have opened their eyes to concerns they had not previously thought about. After conducting interviews with survey participants and asking them about their increased concerns, Clements-Cortés (2019)

reported that students discussed concerns about finding work, verbal skills, their role as an MT, debt, and deciding whether to pursue graduate school.

There are only four concern items in the current survey that PostIn22 rated higher than PreIn22, which are *Finances*, *Workload*, *Burnout*, and *Addressing Clients' Varying Needs*. Burnout from the COVID-19 pandemic may have led to increased fears about *Workload* and *Burnout* in general. An increase in students' overall stress was reported to be both a result of the COVID-19 pandemic (Armstrong-Mensah et al., 2020; Day et al., 2021; Gillis & Krull, 2020), and because of an increased volume of written assignments due to remote learning (Armstrong-Mensah et al., 2020). *Finances* were listed as a high concern, as PostIn22 faced an unknown job market. They may have not been able to save money prior to their internship due to decreased part-time work, and they likely had fears about bills such as tuition costs and/or student loans that were coming due. Financial concerns related to the COVID-19 pandemic have been widely reported, including reductions in work hours (Armstrong-Mensah et al., 2020; Gaddy et al., 2020; Gillis & Krull, 2020). *Addressing Clients' Varying Needs* may have been listed as a high concern due to internship limitations on what could be done on a virtual platform, physical limitations in in-person settings, and ultimately a lack of exposure to certain client populations (Cole et al., 2021).

Mean Rating Differences

Lower skills ratings on all items were reported by PostIn22 (as compared with PostIn19); these ratings are likely be due to different experiences due to the COVID pandemic. Not only did the COVID-19 pandemic cause internships after March 2020 to be different than what many students were hoping for, but difficulties with modifications to internships may have affected the quality of internship programs. A decrease in internship quality was reported by medical students

across the United States (Winn et al., 2021). Most likely the focus during many MT students' internships was likely on surviving, rather than thriving, during the COVID-19 pandemic.

PreIn22 concerns about *Finances* were likely directly impacted by the COVID-19 pandemic, as these financial concerns were also discussed in other studies (Armstrong-Mensah et al., 2020; Gaddy et al., 2020; Gillis & Krull, 2020). Students were most likely concerned about the future job market as well as the present one, with many students' part-time jobs having reduced hours or being closed completely. There was emotional burnout from the COVID-19 pandemic itself, but many students also reported "Zoom fatigue" (Kantorová et al., 2021, p. 8). *Making Spontaneous Adaptations* was rated higher possibly due to limitations on what MT interventions students could modify for a virtual platform. Many of these adaptations were outlined by Kantorová and colleagues (2021). Some MT techniques and interventions may not have been adaptable for a virtual format such as those which provided hand-over-hand assistance or modified instruments. PostIn22 reported lower concern ratings on every item than the PostIn19 (Table 9), as there may have been more significant relief after completing one's internship during the COVID-19 pandemic. The lower concern could also be due to decreased overall distress after the discovery and distribution of a COVID-19 vaccine, as reported by Koltai and colleagues (2021).

Skills/Concerns Ranking Differences

There were similar high and low skill rankings among Pre-Interns in both studies. The biggest differences were that PreIn19 ranked *Piano Skills* as their number four skill, whereas PreIn22 ranked it as number 11. As previously mentioned, this is likely due to a lack of access to instruments, as reported by Kantorová and colleagues (2021). There was likely increased opportunity for engagement with other professionals as well as family or caregivers, as remote

sessions often occurred in clients' living environments. Cole and colleagues (2021) also found this to be true. PreIn22 may have ranked this skill higher due to more practice using it.

PreIn19 ranked their highest concerns as *Workload* and their lowest as *Working with Other Professionals* (Table 9). Clements-Cortés (2019) reported student concerns about *Workload* such as managing a large caseload. Changes to music therapy programs may have impacted the workload, potentially decreasing it for some students in the current study. *Working with Other Professionals* was rated as a similar concern in both groups, which aligns with previous studies that have reported mixed findings on which platforms are best to establish relationships with others. While some studies argue for in-person sessions (Kolb, 1984; Mintz et al., 2020; Walmsley et al., 2018), remote sessions have also been reported to be beneficial in establishing relationships and collaboration (Cole et al., 2021). PreIn22 in the current study ranked their highest concern as *Finances* and their lowest as *Supervision*. *Finances* were ranked similarly (high) in both studies, therefore, further research regarding MT students' concerns about finances and internship is warranted. Both groups' other concern items shared similar ranks.

Out of the retained items from the original survey, PostIn19 ranked their highest skill as *Therapeutic Rapport* and their lowest as *Creative MT Technique Knowledge & Use* (Table 12). Students reported a lack of confidence in their music skills, including improvisational skills, which are foundational to Creative MT (Clements-Cortés, 2019). Post-interns in both studies ranked skills related to relationships as high, possibly due to more time than pre-interns doing music therapy and developing one's clinical skills with clients and other professionals. PostIn22 likely ranked their highest skill as *Professional Relationships*, as these skills were seen to increase with remote learning in several studies (Almathami et al., 2020; Cole et al., 2021).

PostIn19 and PostIn22 ranked their lowest skill as *Creative MT Technique Knowledge & Use*, likely because it is an improvisation-based method which requires working in real-time and ideally in person. Creative Music Therapy is based on the work of Paul Nordoff and Clive Robbins and requires compositional and improvisational skills, as well as knowledge of various musical styles and scales (Ritholz, 2014). The experts chosen to condense this survey believed that most musical skill items listed on the original Clements-Cortés (2019) survey had not been impacted by the COVID-19 pandemic (other than *Piano Improvisation*). However, musical skills have been mentioned as a concern by MT professors and internship supervisors in several studies conducted before the pandemic (Clements-Cortés, 2019; Knight, 2008). Due to technological delays mentioned in previous studies (Gaddy et al., 2020; Lawn et al., 2017), improvisation becomes near impossible on a virtual platform.

Finances were ranked as a high concern in 2019, both pre- and post-internship (Clements-Cortés, 2019), as well as by PreIn22 in the current study. However, *Finances* was ranked second to last by PostIn22. In other words, *Finances* moved from being the first ranked concern in PreIn22, to the 12th ranked concern in PostIn22. This could potentially be due to more flexibility in internship programs, such as the ability to conduct it virtually, thus decreasing the cost of living and commuting as reported in several other studies (Armstrong-Mensah et al., 2020; Lawn et al., 2017). Flexibility was also reported by several students in the current study, including one who reported that an advantage of remote learning is “Being able to see clients in any location,” and another who wrote, “I think I’m some ways remote learning can be really convenient as it is generally more flexible for schedules.”

PostIn19 highest concern was *Making Spontaneous Adaptations*, which ranked highest for concerns in both PostIn19 and PostIn22 (Table 9). This is one of the skills that is learned

through practice rather than in the classroom. Therefore, because the students have had limited clinical experience, they likely have less confidence in this area, thus higher concern. Less clinical opportunities were reported by several researchers (Bukas Marcus et al., 2020; Kantorová et al., 2021).

PostIn22 ranked *Working With New Populations and in New Settings* as their number six concern whereas PostIn19 ranked it as their lowest concern. This may be due to COVID-19 restrictions leading to limited experiences in professional settings as was reported by Cole and colleagues (2021). PostIn22 ranked their lowest concern as *Workload*, whereas PostIn19 ranked it as number two. This may have been ranked last by PostIn22 because their other concerns took precedence, such as those reported by Armstrong-Mensah and colleagues (2020). Additionally, changes in hours and assignments, like those reported in the 2020 NACE Report (n.d.), may have meant a decreased workload for some 2022 internship students. One student in the current study reported that an advantage of remote learning was that their “other non-music therapy classes were made easier.”

Research Question 5

5. What do undergraduate and graduate equivalency music therapy students perceive are the benefits and drawbacks of remote learning?

Both advantages and disadvantages of remote learning were reported by students in the current survey, some of which have been reported throughout this paper (Table 8). Within students’ comments, a salient matter is the impact of individual experience and perspective on whether something is seen as an advantage or a disadvantage. While some students who wrote advantages listed “minimal distractions” and being able to be “safe” and “avoid close contact,” others wrote about distractions and decreased therapeutic rapport. Similar to Gillis and Krull’s

(2020) findings, those reporting disadvantages discussed a “disturbed work environment” and “not being in contact with other people.” The positive or negative views of these remote learning changes appear to be somewhat based on one’s home environment and views on social distancing. Another example of the impact of individual perspective is in terms of instruments. Those who discussed the advantages of remote learning listed “allows for use of instruments that may not be able to be used in in-person sessions,” whereas those who discussed disadvantages said, “lack of instruments available.” This diversity in perspective was alluded to by Kantarová and colleagues (2021) when they discuss music therapists comments about creating new instruments from homemade materials, while other comments are focused on the lack of instruments available. (See Appendix D for a listing of all comments).

Limitations

This study had several limitations including the difficulty survey participants may have experienced when reflecting on the COVID-19 pandemic. The survey was condensed with insight from five music therapy professionals working with interns in different settings. However, these experts’ insight on which items may have been impacted for students by the pandemic does not represent all music therapists’ perspectives.

The current survey only asked about students’ self-perceived musical skills on the piano. Because lack of access to piano may have impacted students’ perceived skills, it would be beneficial to ask how students perceived their skills on more accessible instruments, such as guitar or voice, during the COVID-19 pandemic. One student in the current study reported an advantage of remote learning to be, “Sometimes more intentional and purposeful use of music. Instead of worrying about non-music therapeutic facilitation techniques, I could think more about what I was doing musically.” Another student reported that “other non-music therapy

classes were made easier so I could really focus on music therapy.” There is the potential that remote learning may have had positive effects on musical skills aside from the piano.

Another limitation was the length of the survey. Although there were fewer questions than in the original survey, it was not short and it included two open-ended questions. Research has shown that shorter and faster surveys that allow you to quickly click on a choice tend to have a higher response rate (Wright, 2019). The attrition in this survey may be represented by the 25 respondents who started but did not complete the survey. Time was also a limitation of this study. The time the survey was available was limited to 11 days. Since two years have passed since the beginning of the pandemic, students’ responses may not accurately reflect how they felt at the time of their practicum and/or internship experience. Because this survey was specifically focused on practicum and internship experiences, participants who had no experience were omitted. Having no experience could have been due to canceled practicum or internship placements. There may have been additional insights by adding a question before participants were omitted from the survey, such as, “Were you supposed to engage in practicum/internship experience, but it was canceled?”

Sample Size

The largest limitation in this study is the small sample size. The original sample size appeared larger than the determined true sample size, with there appearing to be 278 respondents. Upon closer examination of the advantage and disadvantage comments, the researcher found responses and portions of responses that were repeated, responses in non-English, and responses that were unintelligible. The researcher and several music therapy professionals determined that most likely these responses were the work of artificial intelligence (AI). Additionally, the researcher found repeated IP addresses. Due to this, the majority of

respondents and their responses were omitted (226 of 278) from the survey data, leaving responses from 52 respondents. This not only led to a smaller sample size, there is the potential that some legitimate answers were thrown out based on factors such as a shared IP address. Lack of experimental control has been reported as a disadvantage of online surveys (Wright, 2019). Unfortunately in this case, the small sample size led it to not be generalizable, and required much more conservatism in the statistical analyses. Additionally, the sample size was much smaller than Clements-Cortés's sample size of 177 respondents in the original study, which impacted the ability to make comparisons between the two studies. Kern and Tague (2022) surveyed MT student in the U.S. about their perception of online learning during the COVID-19 pandemic. In this study, which is similar to the current one, there were 230 respondents. Even in their survey, the authors mentioned sample size as a limitation of their study. Because the current study has less than a quarter of the respondents of the Kern and Tague (2022) study, sample size is an even bigger limitation of the current study.

Data Analysis

For question three, the categories of high, medium, and low were arbitrary categories created by splitting the percentage of students in-person and/or remote experiences into thirds. It could be argued that there is a better way to divide these data. For question four, these data cannot be directly compared with the data of Clements-Cortés (2019). Clements-Cortés surveyed the same students for pre-internship and post-internship ratings and had a larger sample size. In this study, the participant group was broken up into pre-internship, internship, and post-internship categories, and the sample size of pre-internship students was three times that of post-internship students.

The themes and subthemes for the responses to question five were determined by the researcher and two experts. While these themes were agreed upon by these individuals, other music therapy professionals may interpret these data differently. Finally, not all original survey items were included in the current study, which would likely impact the item rankings discussed in this study.

Conclusion

The skills *Piano Improvisation* and *Current Piano Skills* were rated low overall in the current study. While these skills were rated lower during the COVID-19 pandemic than in the Clements-Cortés (2019) study, *Piano Improvisation* was also rated low in the original study. As remote learning technology continues to be used, there is a need to look at student accessibility to music resources to analyze whether increased access will impacts students' self-perceived skills. Additionally, future research on instructing effective improvisation skills is still relevant. MT students and supervisors alike have previously reported a lack of confidence in students' music skills (Clements-Cortés, 2019; Knight, 2008). Two skill areas respondents rated themselves having less skills on are items related to improvisation, including *Piano Improvisation* and *Creative MT Technique Knowledge & Use*. Ritholz (2014) discussed Creative MT as an improv-based method conducted in real-time and in person that is based on the work of Nordoff & Robbins. The author states that Creative MT requires compositional and improvisational skills and knowledge of various musical styles and scales, all which are considered more advanced musical skills (Ritholz, 2014). Additionally, technological delays mentioned in previous studies (Gaddy et al., 2020; Lawn et al., 2017) make improvisation near impossible on a virtual platform. In the current study, both Post-interns in the 2019 and 2022 studies ranked *Creative MT Technique Knowledge & Use* as lowest skill. This indicates that

post-internship students may not feel prepared to implement an improvisation-based technique in their professional practice. Because improvisation is a higher-level music skill, more research on students' music skills training would be beneficial. Because the only music skill retained for the current survey was *Piano Skills*, there was limited information on the impact of remote learning on other musical skills. More insight into students' perceived musical skills (aside from piano) during the COVID-19 pandemic may inform MT supervisors which specific musical skills need to be targeted.

Drawbacks of remote learning that were found in this study include a variety of limitations: one being fewer opportunities and variety than high in-person students, and another being technological issues. Increased stress has been reported by MT students, as well as in university students overall, indicating that more mental health resources are needed to support students. This also applies to undergraduates who have reported higher levels of anxiety and depression than graduate students, and lower skills related to confidence. Some of the benefits of remote learning are increased therapeutic relationships, flexibility and creativity, and saving money for some students. These findings indicate student growth in different areas can be gained through remote learning, and that there may be opportunities to help make MT programs more financially accessible for students.

Another important finding from this study is the impact of individual student differences on their responses to this survey, including their views of remote learning. In this study, students' commented that certain factors of remote learning, such as limited in-person interactions were seen as advantages due to increased safety from following COVID precautions. However, other students saw the same factors as disadvantages, stating that limited in-person interactions led to less therapeutic rapport. Other studies have found that female, first-generation, and minority

students experience more disadvantages related to remote learning (Gillis & Krull, 2020), as do kinesthetic learners (Stamm et al., 2021). Additionally, those engaging in a higher percentage of remote sessions may receive fewer total clinical hours and work with fewer client populations (Cole et al., 2021). Now that we have more insight into students' self-perceived skills and concerns of this sample, and because remote learning will likely continue to be implemented moving forward, more research needs to be done on how to implement MT techniques and make session adaptations on a virtual platform.

Future Directions

Research on Increasing Skills and Decreasing Concerns

One of the goals of the current study was to determine self-perceived skills and concerns of MT students studying remotely during the COVID-19 pandemic. What was not addressed in the current study is how to address low self-perceived skills and high self-perceived concerns. For this reason, low-rated skill areas or those with large discrepancies between MT UG and GE respondents should be investigated more in-depth. There are several areas of need that were salient in this study, including two skill areas both related to improvisation. The first skill area which was rated as low in both the 2019 and 2022 studies was *Piano Improvisation*. Additionally, in both the 2019 and 2022 studies, post-interns ranked *Creative MT Technique Knowledge & Use* as the lowest skill. This indicates that MT students may not feel confident in or prepared to implement improvisational MT techniques before entering the professional field. Future researchers could investigate improvisational teaching strategies, as well as ways in which improvisational techniques can be implemented over telehealth. One student in the current study reported, "I think that I was barely able to use the tools given to me for my practicum because it was not meant to be for online. I feel as a new student learning about music therapy, it

put me really behind and my confidence in my competence for my degree is very little.” In addition to a focus on improvisation skills, it may also be helpful to address psychological factors impacting confidence.

There were a variety of psychological implications of remote learning and the COVID-19 pandemic, making students’ mental health concerns a salient issue. In the current study, students ranked their abilities of *Handling Stress* and *Maintaining Your Wellbeing* as low. As mental health becomes a growing concern, especially among college students (Liu et al., 2022), it is important to dedicate time and research into how to support students in fostering good mental health.

Finances were rated as a high concern among pre-interns in both the 2019 and 2022 studies. PostIn22 concern rank for *Finances* dropped from first (in PreIn22) to 12th. It would be beneficial to investigate the reasons why this large change occurred, and why there was a large difference in rankings of *Finances* between pre-interns and post-interns in the current study, whereas this item was ranked as a high concern for both pre-interns and post-interns in the original 2019 study. Future research regarding equity in MT education may give professionals and leaders in the field insight on how to make the field of music therapy financially accessible for more students. For students who are disadvantaged, incorporating remote practicum and internship opportunities may be one such idea.

Remote learning may also be beneficial to other disadvantaged students. In the current study, one student reported their perceived advantage of remote music therapy. The student stated, “As a disabled music therapist in training, I realized telehealth is a successful accommodation not just for me but for my clients. I was successful in administering MT and they still met their goals and objectives. I could also decrease the anxiety of being unable to

show up physically due to symptoms I cannot control.” Therefore, remote learning may help create accessibility of MT education for students; accessibility that extends beyond socioeconomic boundaries.

Gaining Future Insight from Remote Learning

Some areas where remote learning may be beneficial include finances, accessibility, handling unpredictability, and professional relationships. As previously mentioned, potential financial benefits may include fewer costs associated with remote internship opportunities, such as money saved from less commuting. Advantages comments often discussed accessibility for both music therapists and clients, and mean concern ratings indicated a generally positive view about the effect of remote learning on *Handling Session Unpredictability*. Insights on these advantages may help inform future MT training and learning opportunities.

There may be additional benefits to remote learning that have not been discovered due to the unexpectedness of the transition to remote learning. Other potential benefits can be explored through further research. Research in this area would also help mitigate some of the reported disadvantages of remote learning through proper technological training. Training should also be developed specifically related to how to modify MT sessions on a virtual platform, and how to use virtual technology effectively. This will likely help students, professors, and supervisors to feel more comfortable and confident with remote learning technology.

Many students reported an advantage of remote learning to be the development of professional relationships, including other health professionals and family or caregivers. Interestingly, many of these students also said that a disadvantage of remote learning was decreased rapport with their client(s). Research should be done to see how these relationships

between the music therapist and other professionals or caregivers can benefit the client in therapy, and how to improve rapport with the client(s) specifically.

Gaining Future Insight from MT Professionals

In this study, data was collected on MT students' self-perceived skills and concerns. A future direction for this study would be to compare practicum or internship supervisors' perceptions of students' skills and concerns with their own. Doing this would help allow professional insight into students' self-awareness; an item included in the AMTA Professional Competencies.

Particularly interesting would be researching high remote students that rated their skills highest post-internship. Information could be gathered on where those students conducted their internships, and on what learning strategies their internship supervisors perceived as the most effective for remote learning. This research may lead to a better understanding of effective remote teaching and learning strategies. If there are to be remote internships offered in the future, these strategies will be imperative in training competent and skilled music therapists.

In this study, learners were categorized as high, medium, or low in-person/remote based on the percentage of time that they studied in-person or remotely, which was arbitrarily divided into thirds. If remote music therapy continues to be offered in the future, MTs may vary greatly by the amount of in-person and remote services that they provide. In conducting research, it would be important for researchers to have a demographic for volume of remote sessions. The amount of a clients' in-person and/or remote sessions will likely impact their responses to therapy, thus, established categories based on the volume of remote learning would be an essential comparative factor between clients.

At present, many health professions continue to implement telehealth and it is likely to continue to be implemented in music therapy practice. Therefore, this study can provide some preliminary analysis into the advantages and disadvantages of telehealth from students' perspectives, and also identify areas in which MT students and interns may need additional support and training. Future studies can help identify these strategies to help increase students' self-perceived skills and decrease their self-perceived concerns

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APPENDIX A (Clements-Cortés, 2019)

1(a). How would you rate your current level of comfort and implementation of clinical improvisation on piano?

1(b). How would you rate your current level of comfort and implementation of clinical improvisation on guitar?

1(c). How would you rate your current level of comfort and implementation of clinical improvisation on voice?

1(d). How would you rate your current level of comfort and implementation of clinical improvisation on percussion instruments?

2(a). How would you rate your knowledge of music therapy models and philosophical orientations? (i.e., Nordoff Robbins, Community Music Therapy, Neurologic Music Therapy, etc.)

2(b). How would you rate your knowledge and application of information and techniques from other disciplines? (i.e., psychology, social work, disability studies, etc.)

3a. How would you rate your knowledge and use of receptive music therapy techniques? (i.e., music listening, music for relaxation, song/ lyric discussion, music, and imagery)

3(b). How would you rate your knowledge and use of creative music therapy techniques? (i.e., lyric/theme composition, music composition, song stories, musical autobiographies/life reviews)

3(c). How would you rate your knowledge and use of re-creative music therapy techniques? (i.e., playing instruments, singing, structured music activities)

3(d). How would you rate your knowledge and use of improvisational music therapy techniques?

4(a). How would you rate your current level of comfort and use of verbal dialogue in music therapy sessions?

- 4(b). How would you rate your current ability to develop a therapeutic relationship/ rapport with clients?
- 4(c). How would you rate your current level of initiating and maintaining a professional relationship with families, caregivers, other professionals, and other music therapists?
- 4(d). How would you rate your current ability to appropriately conclude therapeutic relationships with clients when clients have achieved their goals or your placement finishes?
- 5(a). How would you rate your skill level of completing music therapy assessments, including searching for client information from a variety of sources?
- 5(b). How would you rate your skill level of completing music therapy treatment plans?
- 5(c). How would you rate your skill and comfort level of completing music therapy session plans for individual sessions?
- 5(d). How would you rate your skill and comfort level of completing music therapy session plans for group sessions?
- 5(e). How would you rate your skill level of completing music therapy session/progress notes?
- 5(f). How would you rate your skill level of writing music therapy treatment summaries/case studies?
6. How would you rate your knowledge and use of relevant music therapy literature?
7. How would you rate your knowledge of the professional association that you belong to? (i.e., role of the association, available information, professional education opportunities, etc.)
8. How would you rate your knowledge of your professional association's code of ethics, and your ability to practice under the code of ethics?
- 8.2. How would you rate your knowledge of government policies and how they affect your work?

9. How would you rate your current comfort and skill level of explaining and educating other staff members about the profession of music therapy?

Music Skills

10. How would you rate your current piano skills?

10(a). How would you rate your current piano skills when using piano in a music therapy session?

11. How would you rate your current guitar skills?

11(a). How would you rate your current guitar skills when using guitar in a music therapy session?

12. How would you rate your current singing skills?

12(a). How would you rate your current vocal skills when singing in a music therapy session?

13. How would you rate your current ear training skills?

13(a). How would you rate your current ear training skills when transposing, accompanying, composing harmonies, and/or sight reading during a music therapy session?

Personal Skills

14. How would you rate your current level of handling stress?

15. How would you rate your verbal communication skills?

15(a). How would you rate your written communication skills?

16. How would you rate your ability to manage a heavy work load (for example, administering multiple individual and group sessions each day, completing all preparation and documentation

on time, completing extra assignments and projects, completing additional work for studying for the CBMT exam, scheduling meetings and observation schedules, etc.)?

17. How would you rate your ability to work as part of an interdisciplinary team?

18. How would you rate your current level of insight into your own strengths and needs, and how they affect your clinical work?

19. How would you rate your current ability to be punctual, reliable, and effective in time management?

20. How would you rate your ability to maintain your own physical, mental, and emotional wellbeing?

Issues/Concerns

21. How concerned are you about financial issues regarding Internship? (i.e., Supervisor fees, unpaid Internship sites, moving away from home, losing scholarships/bursaries/loans, etc.)

22. How concerned are you about the amount of work that the internship involves?

23. How concerned are you about working with professionals in other fields?

23(a). How concerned are you about fitting in to a new workplace setting?

24. Do you have any worries or concerns about the supervision process?

25. Do you have worries or concerns about working with new populations or new settings?

26. How concerned are you about experiencing burnout or feeling overwhelmed by doing music therapy on a full-time basis for the extended time period?

26(a). How concerned are you about completing the amount of direct client contact hours in time?

27. How concerned are you about addressing multiple cognitive levels and varying needs of clients?
28. How concerned are you about making creative and effective session plans?
29. Do you find it difficult to handle the unpredictability of sessions?
30. How would you rate your ability to adapt and change spontaneously?
- 31(a). Do you feel anxiety towards beginning your Internship?

APPENDIX B

Survey Questions

Demographics

1. Did you engage in a direct (with clients, in real-time, whether virtual or in-person) clinical music therapy practicum experience or internship between March 2020 and August 2021?

Options: Yes, No
2. Are you an undergraduate or graduate equivalency student?

Options: undergraduate, graduate equivalency
3. In which music therapy region do/did you attend school?

Options: Great Lakes, Mid-Atlantic, Midwestern, New England, Southeastern, Southwestern, Western
4. To which gender identity do most identify?

Options: Female, Male, Transgender, Gender Variant/Non-conforming, Not listed, Prefer not to answer
5. Please specify your ethnicity:

Options: White (non-Hispanic), Hispanic/Latino, Black/African American, Native American/American Indian, Asian/Pacific Islander, Other, Prefer not to answer
6. What is your age?

Options: _____ (fill-in-the blank)
7. For pre-internship students (those completing practicum but not internship experience), did you take a break from coursework during the 2020-2021 school year?

Options: Yes (Fall 2020), Yes (Spring 2021), Yes (both Fall 2020 & Spring 2021), No, n/a (i.e. I was an intern during this time, I had completed all coursework, etc.)

8. Between March 2020 and August 2021, I:

Options: Started an internship and finished it, Finished an internship I had started before March 2020, Started an internship but did not finish it before August 2021, Did not start or finish an internship between these dates, Other (i.e. Started an internship but had to pause it due to COVID-19)

9. If you engaged in internship experience between March 2020 and August 2021, what percentage of your internship was completed in-person and on-site?

Options: 0-33%, 34-66%, 67-100%, n/a (I was not an intern between March 2020 and August 2021)

10. If you engaged in internship experience between March 2020 and August 2021, what percentage of your internship was completed remotely (via Telehealth)?

Options: 0-33%, 34-66%, 67-100%, n/a (I was not an intern between March 2020 and August 2021)

11. At the time of this survey, have you completed your internship?

Options: Yes, No

12. Did you engage in practicum between March 2020 and August 2021?

Options: Yes, No

13. If you engaged in practicum experience between March 2020 and August 2021, what percentage of your practicum experiences were completed in-person and on-site? (not via Telehealth)

Options: 0-33%, 34-66%, 67-100%, n/a (i.e. I did not engage in practicum between March 2020 and August 2021)

14. If you engaged in practicum experience between March 2020 and August 2021, what percentage of your practicum experiences were completed remotely? (via Telehealth)

Options: 0-33%, 34-66%, 67-100%, n/a (i.e. I did not engage in practicum between March 2020 and August 2021)

Instructions: For each survey item, click the corresponding circle indicating your current skill level by indicating 1 for "very poor", 2 for "poor", 3 for "satisfactory", 4 for "good" or 5 for "excellent".

Clinical Skills

1. How would you rate your current level of comfort and implementation of clinical improvisation on piano?
2. How would you rate your knowledge and use of receptive music therapy techniques (i.e., music listening, music for relaxation, song/ lyric discussion, music, and imagery)?
3. How would you rate your knowledge and use of creative music therapy techniques (i.e., lyric/theme composition, music composition, song stories, musical autobiographies/life reviews)?
4. How would you rate your knowledge and use of re-creative music therapy techniques (i.e., playing instruments, singing, structured music activities)?

5. How would you rate your current ability to develop a therapeutic relationship/ rapport with clients?
6. How would you rate your current level of initiating and maintaining a professional relationship with families, caregivers, other professionals, and other music therapists?
7. How would you rate your current comfort and skill level of explaining and educating other staff members about the profession of music therapy?

Music Skills

8. How would you rate your current piano skills when using piano in a music therapy session?

Personal Skills

9. How would you rate your current level of handling stress?
10. How would you rate your ability to work as part of an interdisciplinary team?
11. How would you rate your current level of insight into your own strengths and needs, and how they affect their clinical work?
12. How would you rate your ability to maintain your own physical, mental, and emotional wellbeing?

Instructions: For each survey item, click the corresponding circle indicating your level of concern for each item by indicating 1 for "not concerned", 2 for "somewhat", 3 for "moderately", 4 for "very", or 5 for "extremely".

Issues/Concerns

13. How concerned are you about financial issues regarding internship (i.e., supervisor fees, unpaid internship sites, moving away from home, losing scholarships/bursaries/loans, etc.)?
14. How concerned are you about the amount of work that the internship involves?
15. How concerned are you about working with professionals in other fields?
16. How concerned are you about fitting in to a new workplace setting?
17. How concerned are you about the supervision process?
18. How concerned are you about working with new populations or new settings?
19. How concerned are you about experiencing burnout or feeling overwhelmed by doing music therapy on a full-time basis for the extended time period?
20. How concerned are you about completing the amount of direct client contact hours in time?
21. How concerned are you about addressing multiple cognitive levels and varying needs of clients?
22. How concerned are you about making creative and effective session plans?
23. How concerned are you about handling the unpredictability of sessions?
24. How concerned are you about your ability to adapt and change spontaneously?
25. How concerned are you about anxiety towards beginning your internship?

Narrative Questions

1. Please add any thoughts on the benefits or advantages of remote learning from your perspective.

2. Please add any thoughts on the drawbacks or disadvantages of remote learning from your perspective.

APPENDIX C

Skill	Abbreviation	Concern	Abbreviation
1. How would you rate your current level of comfort and implementation of clinical improvisation on piano?	Piano Improvisation	1. How concerned are you about financial issues regarding internship (i.e., supervisor fees, unpaid internship sites, moving away from home, losing scholarships/bursaries/loans, etc.)?	Finances
2. How would you rate your knowledge and use of receptive music therapy techniques (i.e., music listening, music for relaxation, song/ lyric discussion, music, and imagery)?	Receptive MT Technique Knowledge & Use	2. How concerned are you about the amount of work that the internship involves?	Workload
3. How would you rate your knowledge and use of creative music therapy techniques (i.e., lyric/theme composition, music composition, song stories, musical autobiographies/life reviews)?	Creative MT Technique Knowledge & Use	3. How concerned are you about working with professionals in other fields?	Working with Other Professionals
4. How would you rate your knowledge and use of re-creative music therapy techniques (i.e., playing instruments, singing, structured music activities)?	Re-creative MT Technique Knowledge & Use	4. How concerned are you about fitting in to a new workplace setting?	Fitting Into a New Workplace
5. How would you rate your current ability to develop a therapeutic relationship/ rapport with clients?	Therapeutic Rapport	5. How concerned are you about the supervision process?	Supervision Process

6. How would you rate your current level of initiating and maintaining a professional relationship with families, caregivers, other professionals, and other music therapists?	Professional Relationships	6. How concerned are you about working with new populations or new settings?	Working With New Populations and in New Settings
7. How would you rate your current comfort and skill level of explaining and educating other staff members about the profession of music therapy?	Educating others about MT	7. How concerned are you about experiencing burnout or feeling overwhelmed by doing music therapy on a full-time basis for the extended time period?	Burnout
8. How would you rate your current piano skills when using piano in a music therapy session?	Current Piano Skills	8. How concerned are you about completing the amount of direct client contact hours in time?	Fulfilling Direct Client Hours in Time
9. How would you rate your current level of handling stress?	Handling Stress	9. How concerned are you about addressing multiple cognitive levels and varying needs of clients?	Addressing Clients' Varying Needs
10. How would you rate your ability to work as part of an interdisciplinary team?	Interdisciplinary Teamwork	10. How concerned are you about making creative and effective session plans?	Making Creative/Effective Session Plans
11. How would you rate your current level of insight into your own strengths and needs, and how they affect their clinical work?	Insight Into Your Own Strengths & Needs	11. How concerned are you about handling the unpredictability of sessions?	Handling Session Unpredictability
12. How would you rate your ability to maintain your own physical, mental, and emotional wellbeing?	Maintaining Your Wellbeing	12. How concerned are you about your ability to adapt and change spontaneously?	Making Spontaneous Adaptations

	13. How concerned are you about anxiety towards beginning your internship?	Internship Anxiety
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APPENDIX D

Q1: Please add any thoughts on the benefits or advantages of remote learning from your perspective.

- The one semester we did remote practicum I really liked it because our professor showed us examples of interventions. Before that they would talk about it and we'd have to research it on our own. Also, other non-music therapy classes were made easier so I could really focus on music therapy.
- Sometimes more intentional and purposeful use of music. Instead of worrying about non-music therapeutic facilitation techniques, I could think more about what I was doing musically. There were often minimal distractions from the environment or other group members. These factors helped me focus more on what I was doing musically to work towards the goal and related objectives.
- Save commutes and classes
- safe
- Remote learning was my first practicum experience where I was the SMT and it was a 4 learning experience but I'm glad at (*university name omitted for anonymity*) we are back to in person for the most part.
- People don't need to gather
- Looking back, I'm actually grateful for the chance to have completed practicum completely remote for two semesters (via zoom) because I now have full confidence that I can successfully accomplish any goals via zoom and no longer get scared at that potential but excited that it is a format I could offer for patients in the future.
- Learning how to navigate online platforms

- It was good to have to learn to adapt to remote learning since we now need to know how to structure and execute telehealth sessions.
- It was a lot more flexible and easier to get ready for because it was online
- It is the responsibility of a music therapist to learn and adapt with technological changes. Learning remotely taught me that and let me advance and figure things out in this arena.
- Increased flexibility in schedule; increased knowledge of how to utilize current technology in sessions
- I've learned to be more creative with my assignments and session planning.
- I think that having practicum online was very difficult. I had my three practicum during the pandemic. My first practicum was completely canceled and the last two were online. I had to volunteer in person, a semester before my internship to get experience with in person and I still feel like I am not fully prepared to handle my internship that I'm already 2 months in. I feel like I have imposter syndrome
- I liked that remote learning was more succinct in some ways. Also, it gave me an introduction to telehealth.
- Helps create a wider reach for services (as technology and someone who can operate the technology are available)

Learned how to have sessions on video and the phone and how to be flexible when PTs want to switch their session type

Expanded my perception of what music therapy can look like
- Distance learning can help outsiders and more people to understand in time, pay attention to their physical and mental health and remain optimistic. Enrich oneself
- Conducive to learning

- Completing internship during the height of the COVID-19 pandemic (July 2020-December 2020) gave me the added benefit of exponential exposure to TeleHealth sessions. Before completing internship, I had never observed or even heard of sessions being conducted virtually. After completing my internship, I now have experience implementing sessions virtually as well as adapting in-person sessions to fit a virtual format.
- Being able to be in a space you feel comfortable
- As a disabled music therapist in training, I realized telehealth is a successful accommodation not just for me but for my clients. I was successful in administering MT and they still met their goals and objectives. I could also decrease the anxiety of being unable to show up physically due to symptoms I cannot control.
- Allows for use of instruments that may not be able to be used in in-person sessions
- A benefit is that telehealth likely isn't going away, so I'm glad I have at least some experience with it. I also had to stretch myself to be more creative within the limits of telehealth.
- The learning method is mainly based on students' independent learning
- Provide students with the opportunity to learn at their own pace
- More freedom, easier and faster
- It saves us a lot of time doing other things
- Industrialization advantage
- In practicum: Was able to practice flexibility and adapting delivery methods both within the moment and over time. Was able to practice affect and use of physical cues for client engagement while having real-time feedback.

For other classes: Was able to avoid added stress of classroom environment. Schedule was more flexible without need to commute to campus. More ability to focus in comfortable home environment.

- I was not able to move far from home to start the degree at the time, so virtual learning was a huge help to me.
- Disengaged
- Avoid close contact
- At the same time, it can broaden the scope of recruitment and recruit high-quality talents from different places more flexibly.

Q2: Please add any thoughts on the drawbacks or disadvantages of remote learning from your perspective.

- Not being in contact with other people when you live on your own.
- Less practice and opportunity with assessing and adapting for non-music behaviors related to behavior management, communication (e.g. Wi-Fi connection, distortion of voice or instrument sounds, overlap of multiple participants on a zoom call), and emotional affect.
- Distance learning does not help develop oral skills and social interaction
- No working atmosphere
- I had more concern about how we got used to turning things in late, but now I'm getting back into the rhythm of in person school
- There is no systematic management

- I had a semester where I wasn't able to interact with any patients live, rather prerecord videos to be shown for a session. That was really stressful and would not recommend but doing it the next semester via zoom was a much better experience
- In person therapy is not the same as being on a screen
- Some people learning music therapy don't know how to work with people in person they just hide behind the computer. Especially in populations that are more spontaneous and more difficult to predict how they will react.
- I feel that most of my learning came from my practicum, which makes it hard to learn more when it was virtual
- Not being in person was difficult. Its harder to read clients, and people in general, online, and its hard to judge whats working and whats not. Remote learning was no different. Patience is low and motivation is low.
 - decreased ability to utilize a variety of instruments in sessions due to being in different locations
 - increased unpredictability of sessions and classes due to technical difficulties
 - decreased quality of sound
 - less spontaneity/improvisation in sessions
 - inability to use hand over hand assistance
 - inability to appropriately terminate therapeutic relationship with clients due to abrupt shift to online learning
 - inability to collaborate with co-treating student music therapist on interventions due to sound cutting out when multiple people are unmuted
- It is hard to stay on top of my work

- I think that I was barely able to use the tools given to me for my practicum because it was not meant to be for online. I feel as a new student learning about music therapy, it put me really behind and my confidence in my competence for my degree is very little.
- It's was a lot harder for me to build rapport with clients. And there are some TME I felt like I wasn't able to try because they maybe didn't work very well over Telehealth.
- It is less engaging and not having hands on experience was less fun.
- Technology access is very limited by most people for adequate technology to do remote mt experiences (microphones, good internet, etc)
some populations may need assistance like hand over hand that involves assistance from someone physically there
- Bad management
- It was more difficult to gain rapport with my clients who were strictly virtual, and it took longer for the online clients to become comfortable with me. There are also some skills that cannot be practiced virtually (Ex: during virtual session, aide moves client's muscles/does exercises rather than the intern working with the client)
- More limited client therapist relationship
Audio/ video and internet issues
Lack of instruments available
More difficulty with immediate positive or negative reinforcement
- Inability to adapt quickly to changing mood or questions in the class.
The lack of in person connection that comes from all being there together
- If the client did not have someone who was versed in technology available, it was difficult giving them the opportunity to be interactive. Instrument play was also difficult

to adapt and change in the moment to, but I ended up doing sessions where we created our own instruments with things around the house to aid this.

- hard to develop rapport with client, hard to make music with clients
- Often my clients were off screen and it was challenging to assess and adapt, let alone take days. My clients didn't have access to instruments which limited what we could do, and I felt like I developed no rapport when online.
- Very bad for my mental health
Socially isolating
Hard to focus, too many distractions
- There is no good supervision and management
- It's hard to choose a quality educational program
- Social recognition is not very common
- I can't discuss study with my classmates
- Teaching platform and other systems are single
- In practicum: Limits for applying methods, esp. improvisation. Sound quality and video lapse often got in the way of effective delivery. Inability to see client entirely or limited ability to hear client responses affected both delivery and data collection. Inability to use physical interaction to redirect or engage with client.

For other classes: Loss of quality social interactions from classroom experience. Greater fatigue from increased screen time. Potential for distraction in home environment or on a device.

- You don't get to know the others in your classes or get very good experience demonstrating for each other.

- Alone
- Unable to communicate face-to-face with colleagues
- A disturbed work environment (whether it's cats, dogs, family, children, and all the noise and distractions in an isolated space, the point is that many people don't have a comfortable study environment)