Technology facilitated arts-based school counselling: A Scoping review of the literature

by

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Abstract

With the rapid change in technology and the increasing mental health needs of children, school counsellors have had to adapt their practices accordingly (Bang et al., 2021). Combining creative arts interventions and technology may be a viable and effective adaptation for school counsellors to meet the needs of their 21st century students (Zubala et al., 2021; Zeevi, 2021) and may also enhance student motivation for engaging in the counselling process. Integrating arts-based technological interventions into the school counselling context is a way that students' thoughts, emotions, and feelings may be accessed and/or expressed in different formats to assist school counsellors in supporting students' mental health. Incorporating technological tools into arts-based interventions adds another dimension to the school counsellor's role. To better understand how arts-based technological tools (ABTT) are being used by school counsellors, a scoping review was done to determine relevant themes in the existing research. Searches of APA PsycINFO, Web of Science and Scopus databases were done using keywords centering on school counsellors and interventions using the creative arts/arts-based interventions and technology. Supplementary articles were identified through reference lists and manual searching of relevant journals. 679 references were retrieved, with an additional 20 from handsearching other sources. 13 full-text articles met the inclusion and exclusion criteria. Findings of the scoping review indicated several benefits and challenges of ABTT, highlighting the need for professional development for school counsellors and an understanding of if and how an ABTT can really enhance their practice based on the students that they serve. Limitations of the review are identified as well as implications and future directions for research.

Keywords: school counsellors, arts-based technological tools, scoping review

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Dedication

I dedicate this work to those family and friends whom I have lost in the past few years. These include my angels Tegan and Nisa, my Tita Apen, Tito Babot, Tito Glenn, my father-in-law, Jack Stoeber, Dr. Romulo Magsino as well as my friends Dr. Yves Labrèche and Gemma Skelton. Through this work, I honor the memory of my grandmother, Victorina Alberto, the woman who inspired me to become a teacher.

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Chapter I: Introduction

The COVID-19 pandemic has affected the mental health of students profoundly (Naff et al., 2022) with school counsellors having to adapt quickly to new technologies and interventions to support students while adhering to public health measures, such as distancing. School counsellors also struggled with the confines and demands of their new reality (Savitz-Romer et al., 2021). These technologies may continue to be of service for school counsellors in their work supporting both teachers and students as part of their role in schools. As new technologies are developed, it becomes increasingly important for school counsellors to stay current to keep up with students' needs. "The use of advanced technology has clearly affected counselling services provided to students by school counsellors, as well as how counsellors communicate with and support students" (Bang et al., 2021, p. 167). One of the key developments in counselling is incorporating creative arts in technology (Shojaei et al. 2024, World Economic Forum, 2023). To clarify what is meant by this, arts-based interventions in counselling and arts-based technological tools are defined later in this paper. The difference between counsellors working outside and within the school system is also described given that while many studies have been conducted on the use of arts-based technological tools in counselling, especially in art and expressive arts therapies, the question is whether this is the case in the school context. There is also much information available regarding the benefits and challenges associated with the use of technological arts-based tools in counselling which may be of use to school counsellors. This thesis explores possibilities for integrating arts-based technological tools into the school counsellor's role. The specific focus of this study combines both arts-based interventions and technology integration and seeks to understand the current state of the literature regarding how school counsellors are using technology in their arts-based interventions, individually (intensive), in groups (targeted) or in large group/whole class (universal) contexts. Conducting a scoping

review provides more information on this topic by identifying research on arts-based technological tools in school counselling currently being done, directions for future research and the professional development needs of school counsellors to effectively integrate arts-based technological tools to support and enhance their work with students. The literature explored in the following sections will delineate different types of arts-based technological interventions including, but not limited to digital art, virtual reality, and multimedia applications used for either online, in-person school counselling, or both.

Arts-Based interventions in School Counselling

Arts-based approaches refer to creative arts interventions that can be used by school counsellors to address social-emotional needs of students (especially for those who have challenges expressing themselves in words) or as a means of creating connections with students. For this review, an arts-based intervention is defined as any activity or activities that incorporate an art form or discipline with the primary purpose of enhancing the emotional, psychological, physical, and/or mental well-being of an individual or group (Motta-Ochoa et al., 2024). These types of activities are also integrated into arts and expressive arts therapies. The Canadian Art Therapy Association (n.d.) defines art therapy as combining "the creative process and psychotherapy, facilitating self-exploration and understanding. Using imagery, color, and shape as part of this creative therapeutic process, thoughts and feelings can be expressed that would otherwise be difficult to articulate" (para.1). According to the International Expressive Arts Therapy Association (n.d.), a sense of community and deep personal growth can be supported using creative processes such as drama, writing, movement, and visual arts-based interventions or activities. The activities used within arts and expressive art therapies can be integrated into the

school counselling context, and activities may be counsellor or student generated or created by other individuals such as those used in social media, video games or in other applications (apps).

While the boundaries of art forms are blurry, for the purposes of this study, three generalized forms will be considered: visual, literary, and expressive arts. Examples of visual arts include painting and drawing. The creation of poetry and stories are part of the literary arts while the use of music, dance, theatre, and film are found in the expressive arts. Potential core benefits of using an arts-based approach, such as increased self-expression, contemplation, and meaning making, can result in higher self-esteem, socialization, cooperation, and stress reduction in children (Coleman & McIntosh, 2015). According to Newcomb and Centeno (2020) many counsellors are already using art-based interventions in their practice but "may not consider this to be part of 'the arts,' thinking it is merely another tool for expression during the therapeutic journey" (p. 189). The authors provide the example of giving a student paper and markers and asking them to draw what they remember, using poetry to deal with a student's grief or using a student's favorite song to create rapport. While traditionally done in analogue spaces, many of these arts-based interventions may also be done using electronic means.

Description of Arts-Based Technological Tools

The infusion of digital technologies into these interventions is defined in this paper as the use of arts-based technological tools by school counsellors to support student mental health and wellbeing. These tools may include remote art interventions, phototherapy, animation, augmented and virtual reality (VR) using computer programs. Apps such as those used for digital drawing and painting, visual journalism, storytelling, animation, and multimedia and others may also be considered arts-based technological tools (Kim & Chung, 2023). Video games that have pertinent artistic creation may be used for achieving therapeutic, social or education outcomes

and in doing so, can be considered arts-based interventions. These games can consist of four categories: social interaction, emotional venting, cognitive education, and intellectual enhancement (Ganter-Argast et al. 2024). Social media platforms can also be considered as tools for creative expression (Hidayatulloh & Hartanto, 2024). As Zoller (2017) suggests, "social media is the digital intersection of art and expression—photography, writing, video, music—the restrictive formats of each platform providing important creative boundaries" (para 1). Despite the potential benefits of digital arts-based counselling, there seems to be a resistance to the use of the digital arts in counselling by some counselling professionals who question the qualities and benefits of digital tools as compared to traditional art tools and the addictive quality that some digital tools may have. Adequate training and lack of knowledge may also be factors contributing to this resistance (McAdams, 2021).

Technological tools can be integrated into different aspects of the counsellor's role. Cleveland and Sharp (2019) state that "educating in the twenty-first century, isn't simply about preparing students for work in the digital age but rather connecting with the whole student and transcending educational barriers from the past" (p. 1). They have identified more than 50 technological tools that school counsellors can use in their roles and have categorized them into five broad groups: (1) applications for groups and lessons, (2) data collection tools, (3) organization tools, (4) program tools, and (5) collaboration tools and resources. This thesis focused on the digital (computer-based) applications that can be used for arts-based interventions, especially those that pertain to the first category, groups, and lessons and the fifth category, collaboration tools and resources. While these tools are not described as arts-based by Cleveland and Sharp (2019), many of these may contain creative arts aspects which can contribute to connecting with students in authentic and meaningful ways. For example, Nearpod

(https://nearpod.com) is an interactive presentation tool that can be used in a counselling lesson incorporating creative arts. Nearpod, like other programs such as PowerPoint, facilitates the creation of slides using images, audio, and videos. However, it has added features such as interactive polls and quizzes that can be integrated directly into a school counsellor's presentation which can be used to assess student understanding of wellness concepts in small or large group contexts. The "Draw it" feature allows students to respond with drawings, text, or images during a counselling lesson presentation. The use of Nearpod as part of a school counsellor's psychoeducation lesson is described by Cleveland (2018) in which grade 6 students respond to questions and prompts within a presentation on conflict resolution. Polls and quizzes foster student engagement, and the "Draw it" feature is used to access their thoughts and understandings about concepts related to active listening and conflict resolution. This also helps the school counsellor determine which elements of the presentation resonate most with them.

Other examples of arts-based technological tools for school counsellors include using interactive story tools such as StoryBoardThat (https://www.storyboardthat.com/) which can help students explore their emotions, social-emotional concepts, and possible solutions by creating characters and stories that mirror their personal issues. Examples of this include students creating storyboards of a main character in a particular setting overcoming a personal challenge after having practiced pertinent skills with the counsellor. Thoughts and feelings of the character are communicated through thought bubbles and other visual modes of communication in which characters, objects and settings are customized. Facial expressions, body language and colors can convey emotions and moods without words (Storyboard That, n.d.). Personal social stories may also be created by students in this manner (Cleveland & Sharp, 2019). An example would be

inviting students to create a storyboard about becoming organized, the journey from disorganization to organization according to their context.

Moreover, the creation of video including devices such as green screen or stop motion can also be empowering for students. With videos using green screen, students can either appear in the videos themselves or use puppets, figurines, or clay creatures for role play. The creation of such videos can nurture critical thinking, planning, and collaboration skills (Kary, 2019). Creating animations using apps such as stop motion has the potential for increased psychological well-being and therapeutic healing through the power of storytelling. It offers a visual representation of concepts or emotions that can be challenging to express by words alone (Ito-Jaeger, 2022, Tabana, 2024).

Mindfulness practices as part of school counselling practices are considered therapeutic and their therapeutic value can be strengthened when combined with creative arts (Coholic et al., 2020; Hinchey, 2018; Jones & Lee, 2022). Arts-based mindfulness-based interventions (MBIs) can be mindfulness-based interventions when considered as a form of meditative therapy, for example, when it is a form of practicing mindfulness to reduce the fear of judgement, and lead to creative thinking and achievement (Houston, 2019). Digital mindfulness apps such as Calm (https://www.calm.com/), Headspace (https://www.headspace.com/), and Smiling Mind (https://www.smilingmind.com.au/) for example, can support students to become more resilient by developing their concentration, kindness, compassion, and emotional regulation (Raso, 2020). Other possibilities include using apps like QuiverVision (https://quivervision.com) which uses augmented reality to help students manage their stress or anxiety by providing a space for free thinking and problem solving as the mind drifts during the coloring process (Cleveland & Sharp,

2019). In QuiverVision, the colored image comes off the page in 3D. For example, students can also draw their fears or frustrations on a banner to visualize these flying away.

The use of artificial intelligence (AI) for creative and non-creative purposes is also starting to increase in schools (Hamilton, 2023) and is increasingly becoming more prevalent in school counselling (Francisco, 2023). AI powered educational games, AI enabled learning platforms, and AI generated art are some examples. Generative AI tools such as Microsoft Copilot (https://copilot.microsft.com) can be used to stimulate and enhance artistic processes and can offer creative assistance (PwC, 2024). In addition to AI, augmented and virtual reality applications can help students navigate scenarios in a controlled environment. Using apps like CoSpaces (https://www.cospaces.io/), students can create virtual and augmented reality worlds that can provide scenarios to help them understand and deal with their problems (Cleveland & Sharp, 2019) as content can be personalized to the student's needs and demographics.

Arts-Based Technological Tools and the School Counsellor

The use of technological arts-based tools by school counsellors responds to the needs of students in two ways. First, it provides another form of self-expression to make students' thoughts and feelings known to the school counsellor, and second, it is a means of student engagement using the technological tools that are so much part of their world today (Miller, 2020). Increasing the range of therapeutic tools by incorporating digital arts media can be beneficial for clients or for the school context with students (Tabana, 2024). Bang et al. (2021) note the importance of school counsellors using technologies when working with students to support their social and emotional well-being and to address the needs of students from multicultural backgrounds.

This thesis examines how arts-based technological tools are used by school counsellors, identifies pertinent research literature that supports its use and highlights potential limitations of using such tools. It is important to note that research literature may not necessarily make the distinction between counsellors and school counsellors when it comes to the use of arts-based technological tools; however, there are differences between the two. A counsellor outside the school system can provide more intensive and ongoing support for individuals and groups of all ages. They may provide therapy with individuals or with caregivers and families to help find solutions, explore options, identify strengths, develop coping strategies, locate information as well as provide resources (Strides Toronto, 2023).

The school counsellor's first professional responsibility is to students from kindergarten to Grade 12 to support them in their personal/social, educational, and career development needs. They make referrals to outside agencies when long-term, specialized, or intensive counselling is required for students (Manitoba Education and Early Childhood Learning, n.d.). This thesis specifically focuses on studies that included counsellors who work in K-12 schools as participants and the arts-based technological tools that was used to support their work in schools. These tools may involve art consumption, where students experience art created by others or art creation in which students are active participants in the art making. The choice of a particular tool is dependent on the school counsellor’s purpose, which could be for example, to enhance a presentation, elicit student responses or to encourage the application of concepts using student creativity. The different purposes of using a digital tool in school counselling can be mapped on a technology integration model, namely PIC-RAT (Passive, Interactive, Creative, Replacement, Amplification and Transformation) (Kimmons et al. 2020). For instance, with the goal of enhancing a presentation, the use of a digital tool can be categorized as Passive, whereas

incorporating an app to encourage application of concepts can be categorized as Transformation. The PIC-RAT model and the rationale for its use will be described in more detail in Chapter 2.

There can be challenges in incorporating arts-based technological interventions in school counselling especially in terms of implementation and usage. Issues have been raised regarding excessive screen time use by students, the lack of knowledge and experience with using technological tools by educators or in this case, school counsellors, as well as the cost of technological tools (Haleem et al., 2022). Time can also be a factor as the school counsellor to student ratio may be large and a school counsellor may be struggling to "put out the fires" related to student behavior in several classrooms. Learning to use and prepare arts-based technological tools may be a challenge in terms of time. Moreover, some students may not be comfortable using creative using arts-based technologies for self-expression. This may be due to inhibition, lack of motivation, or shyness with regards to their creativity (Beloyianni & Zbainos, 2021). Physical abilities/limitations may also make it challenging for school-aged children to use these tools and may require accessibility modifications (TechOWL, 2023). Those that have experienced trauma may feel ashamed, stressed, or triggered by certain topics or arts-based prompts, especially if they do not feel safe in the environment (Kukkonen, 2021). The school counsellor still needs to use proper judgement and knowledge of students to determine the best strategy in working with them.

Focus of the Study

Much research has been conducted on technology-based counselling, art-based counselling, and a combination of both. However, little is known about how school counsellors incorporate technological arts-based tools into their practice and the effectiveness of these tools in supporting students in K-12 schools. To better determine how arts-based technological tools

are being used by school counsellors, a scoping review was done to determine relevant themes. Conducting a scoping review provides a preliminary map as to what research already exists on a topic (Mak & Thomas, 2022). This map can be referenced to make recommendations and identify areas for future research. The overarching question of this research is: How are arts-based technological tools used for school counselling? This will be answered through the exploration of specific sub-questions:

1. According to the literature, what arts-based technological tools are currently being used by school counsellors?
2. How are arts-based technological tools used in online and in-person contexts in school counselling according to the literature?
3. What benefits and challenges of using arts-based technological tools in school counselling are reported in the literature?

To get a more in-depth understanding of arts-based technological tools and school counselling, chapter 2 examines some of the research literature pertaining to arts-based interventions for school-age children in general (which may also pertain to school counselling), technological tools used by school counsellors, and literature that incorporates the two. The challenges and ethical concerns pertaining to these topics are also discussed. Chapter 3 provides information about the scoping review methodology used in this research while chapter 4 describes the results from the scoping review. These results are discussed in chapter 5 and conclusions about the study are found in chapter 6.

Chapter II: Literature Review

With the rapid change in technology and the increasing mental health needs of children after the pandemic crisis, school counsellors have had to adapt their practices accordingly (Bang et al., 2021). Combining creative arts interventions and technology may be a viable and effective adaptation for school counsellors to meet the needs of their 21st century students (Zubala et al., 2021; Zeevi, 2021). Integrating arts-based technological interventions into the school counselling context is a way that students' thoughts, emotions, and feelings may be expressed in different formats. Incorporating technological tools into arts-based interventions adds another dimension to the school counsellor's role and may enhance students' motivation for participating in the counselling process. To clarify how arts-based interventions can be used with students and the potential benefits that technology can add to these interventions, the first section of this chapter explains what is meant by arts-based interventions in school counselling and their benefits, risks and limitations when working with school age children. The next section will review research regarding use of technology arts-based interventions while the last section addresses challenges and ethics of using arts-based technology tools in the role of school counsellors.

Benefits of Arts-Based Interventions

In general, the benefits for incorporating the creative arts in therapeutic interventions include the promotion of self-determination, a sense of agency and self-empowerment (Van Lith & Ettenberger, 2023, Jean-Berluche, 2024), as well as an enhanced social connection, self-expression, and cultural identity (Golden et al., 2024). Benefits specific to school age children are described in the studies below.

Moula's (2020) research specifies some arts-based interventions and their benefits for school-age children. The author conducted a systematic review on school-based arts therapies

studies to determine their effectiveness in preventing and mitigating emotional difficulties for children aged 5-12. From the search of ten electronic databases, art therapy-specific journals and books, and consultation with experts from the field, the author included six completed and two ongoing studies that met their specified criteria. In these studies, children who received art therapy were those exhibiting disruptive behaviors, separation anxiety, oppositional-defiant, learning disorders, and behavioral disorders. The interventions were delivered over 7-25 sessions for 40-60 minutes per session in either a school clinic or in the school. The designs of studies selected for inclusion included those with randomized controlled trials (RCTs), quasi-RCTs, and controlled before and after studies measures and data collection scales, (CBAs). Outcome measures and data collection from the different studies included scales, inventories, and checklists. The results from the selected studies indicated that children's anxiety, quality of life, attitudes towards school, problem-solving skills, emotional and behavioral challenges as well as self-concept were improved using arts-based interventions. Decreases in disruptive behaviors, symptoms of oppositional defiance disorder, and symptoms of separation anxiety disorder were observed in these studies. Moula, in the article's conclusion also comments states "that conducting studies in school settings is not an easy task due to implementation and funding challenges" (p. 97) and concludes that it is encouraging that rigorous experimental studies are now being conducted to build the evidence base for art therapy. However, the author does not elaborate further on these implementation and funding challenges. Having art therapists collaborating with the school counsellor and supporting them in integrating more art-based interventions into their current school counselling practice might be a way to mitigate implementation challenges. School counsellors could continue to work with and support students with interventions after sessions with art therapists. Moreover, some of the art-based

interventions mentioned by Moula (2020), such as mask-making, making angry volcanoes, sun/dream catchers, sculptures, poems, storytelling, dance, and drama can be done in collaboration with school counsellors and classroom teachers to benefit all students and not just those experiencing mental and physical challenges in school.

Given that school counselling is to support all K-12 students, the use of arts-based interventions can facilitate school counselors' work with refugee students. Specifically, Quinlan et al. (2016) evaluated the effectiveness of school-based creative arts interventions with refugee students. Using a controlled trial of creative arts therapy with forty-two students over an approximately ten-week period, they found that the emotional symptoms and behavioral difficulties of these students were significantly reduced when measured at post-intervention as compared to the control group. The arts-based interventions were delivered through an in-school creative therapies program, Home of Expressive Arts and Learning (HEAL), a service staffed by arts psychotherapists and music therapists, which used interventions incorporating visual arts and music with the students. Examples of these art-based interventions included creating masks and puppets, sculptures, sand play, collage and group murals, digital art and photography, and storytelling and drama. Music therapy interventions such as lyric analysis and sharing songs and dances from students' cultural background were done with students. Researchers used a narrative approach to identify strengths and target self- and cultural identities and other approaches in its arts-based interventions during individual and group sessions. Limitations of the study included different therapists working with students, which created variability within the interventions. Having the counsellor and teacher work with the students in collaboration with the art and music therapists could help support the delivery of interventions as counsellors and teachers can be more accessible to students in the school before, during, and after interventions.

Considering that refugee students benefited from arts-based interventions, such benefits may extend to other students who have experienced other challenging life events. The study by Adibah and Mohamad (2015), for example, describes the benefits of expressive arts therapy in the release of emotion or catharsis for adolescent girls involved in juvenile delinquency. Interventions were provided through eight group counselling sessions (ninety minutes each). The qualitative study used a phenomenological approach in which participants worked through interventions such as creating a name or photo collage, sketching a map of life, expressing negative thoughts and feelings in an artistic creation, using butterfly stories (stories of change in the face of obstacles), listening to wave music, and creating sketches, and expressive writing reflections. Analysis of the data collected from interviews, observations, and document analysis indicated that there was a "profound effect" (Adibah & Mohamad, 2015, p. 305) on participants in respect to their stress levels and stabilization of their emotions. This effect was seen, in marked decrease in stress levels by most of the participants, and the stabilization and reduction of emotions and the triggering of self-acceptance and change. The authors further emphasized that that the use of the expressive arts by counsellors can "help individuals who are in crisis and various psychological issues to achieve catharsis" (Adibah & Mohamad, 2015, p. 305). While the authors make no mention of any limitations of their study, further research would be helpful in supporting their conclusions, given the small sample size of 7 participants. By extension, the interventions described in this article could be used to support the traditional training and practices of school counsellors in promoting student well-being especially for those students experiencing behavioral challenges.

Arts-based Interventions as a Preventive Intervention

Arts-based interventions may also be beneficial in preventing mental health issues in children, which is another focus for school counsellors. A study by Moula et al. (2022) examined the impact of arts-based interventions on the mental health and well-being of sixty-two children aged 7-10 in four primary schools. In a cross-over design process, half of the students were randomly assigned to arts-based interventions and were moved to the control group afterwards while the other half of the students were in the control group at the beginning and received the interventions later. Each school received a different arts therapy intervention, that is, art, music, dance, or drama. All arts therapies were considered as one research domain. According to the results from the mixed methodology used for the study (qualitative, quantitative, and arts-based), the use of these interventions assisted students with expressing complex feelings and emotions and improved their sense of safety, hope, empowerment, and optimism for the future, thus contributing positively to their overall mental health. The art therapists in the study used a therapeutic model: creation of a warm, trusting, and psychologically safe space; exploration of strengths and supporting resources; discovery and working with painful experiences; understanding and acceptance of feelings; encouragement of optimism; and the generation of dreams and hopes for the future. The authors also describe a) the most helpful elements of art therapies, b) those elements that should be addressed in future practice, and c) research on elements which encouraged self-expression, the development of coping mechanisms, and promoted stress-relief, safe spaces, and empowerment. Examples of interventions that promoted this included storytelling, story enacting, the use of puppets in dramatherapy, using sand trays, music making, and song writing. The importance of confidentiality and having a psychologically safe space was discussed and explored in the different modalities. Recommendations related to

this type of work included allowing time for developing trusting relationships and providing an arts therapies workshop to educational stakeholders (including parents, guardians, and staff) so that there is clear understanding of this type of work. Should school counsellors choose to integrate arts-based interventions into their practice, delivering this type of workshop or information session would be important to get buy-in and to avoid future misunderstandings. Moreover, as they are already in school, the development of trusting relationships with students would be easier and they can help with the creation of relationships with specialists with whom they work in collaboration. Limitations of the study included the hesitation of some children in sharing their perspectives, which could be related to researcher relationships, the consideration of arts therapies as being one research domain, and the limitation regarding the reliability of arts-based findings.

Embedding Arts-based Interventions in the School Context

A study showing how arts-based interventions may be embedded into a school's existing organizational systems is described by McDonald et al. (2019). They studied effects of school-based art therapy from the point of view of 45 students and 5 teachers in an elementary school. The authors outline an intervention treatment pathway that can be used by schools when working in consultation with an art therapist. The student art creation process was recorded with photographs and used to facilitate student mentalizing, that is, thinking and self-reflection, regarding representing, and naming feelings to decrease undesirable behaviors. Using student interviews, teacher questionnaires and a teacher focus group, the authors concluded that in general there were positive changes to student conduct, overall stress, prosocial behavior, and hyperactivity. Students stated that they enjoyed the sessions and found that mentalizing their thoughts and feelings, expressing these in art, and thinking about art, were aspects of the art

therapy session that they valued. The study highlights a possible benefit of integrating art-based practices in schools, and how this could be beneficial for the mental health and well-being of students. It shows how art therapies can be incorporated in regular educational experiences offered in schools. The study participants were individual students who were referred to art therapy by school administration, special educational needs coordinator, teachers, or by self-referral. While these individual students did benefit from arts-based interventions, having a more universal approach incorporating a more coherent collaboration with the school counsellor can benefit a greater number of students in a co-teaching context with classroom teachers. The art therapist or creative specialist could work with the school counsellors and teachers to implement art-based interventions for classes or groups of students. The school counsellor and teacher could then continue to support students post-intervention.

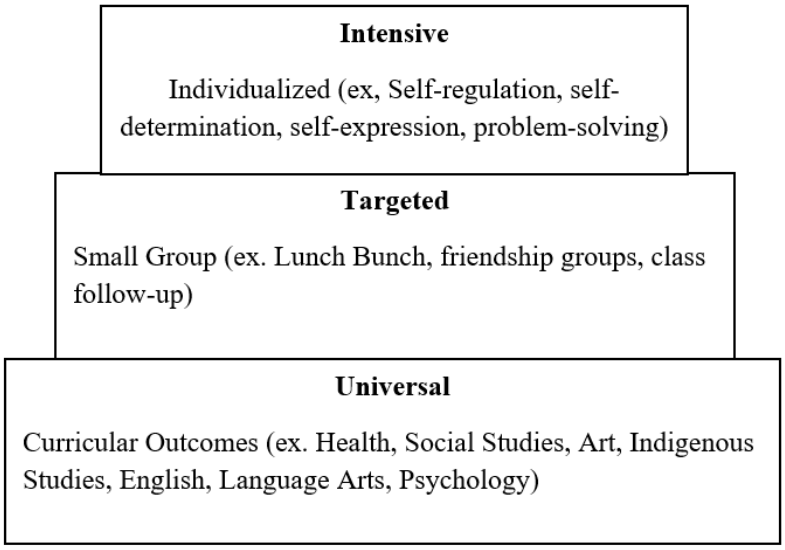
Furthermore, a study by Abramovski and Simhony (2019) explores the integration of art therapy and the variety of interventions in schools through a systematic review of the literature. They initially identified 45 studies and after applying their inclusion and exclusion criteria, ultimately reviewed 4 studies. The intervention programs in these studies ranged from those that focused on therapeutic goals for a defined time, to the ones that spread over many years in a variety of populations and challenges, From the results of the studies, they ascertained that there seems to be a significant relationship between the arts-based interventions provided to students and improvements in their overall functioning at school with regards to behavioral, emotional and academic aspects. Another significant finding identified from the studies, was the importance of multisystemic collaboration with educational stakeholders including teachers, counsellors, psychologists, administration, and parents to support advancement of student well-being.

The authors also recognize that the small sample of studies may indicate a penury of evidence-based research related to the integration of art therapy in schools. They hypothesize that the small number of articles identified could be a result of the heterogeneity of the concept of art therapy where terms such as creative art therapy expressive therapy and art psychotherapy may be used depending on the study. Moreover, according to the authors, the use of arts-based interventions tends to be a lot less prevalent in schools than other types of interventions, probably related to resources and financial considerations.

While it is important to have empirical evidence showing how arts-based interventions support students in the school context, it is equally important to discuss how arts-based intervention may be conceptualized as a school-based intervention model. Stoeber's (2021) conceptual model for arts-based interventions in the school setting as depicted in Figure 1 encourages an inclusive approach to the integration of therapeutic creative arts and may support school counsellors in their planning and negotiation of resources and finances for their particular context. Yu et al. (2023) discuss "Modifying presentation adaptations" (p. 2) of evidence-based practices (EBP), which include innovative use of activities and materials, language adjustments, and tailoring EBP content to address the diverse needs of clients. These adaptations could be relevant for applying Stoeber's model to the use of arts-based technological tools by school counsellors. The model depicts the different levels of intervention that may be relevant to the school counselling context, including at the classroom level where all students may benefit.

Figure 1

Proposed model for Arts-Based Interventions in Schools



Note: This model was adapted from the original. From "*A Model of Arts-Based Interventions in the School Setting*" by R. Stoeber, 2021, Integrative Project, Copyright 2021 by Winnipeg Holistic Expressive Arts Therapy Institute (WHEAT).

The model was conceptualized from Stoeber's personal school experience, review of the literature and based on elements from the Response to Intervention (RTI) and the Universal Design for Learning (UDL) educational models. It considers the challenges of integrating arts-based interventions into schools. The focus of the RTI model is to support improvement in the academic achievement of students through early identification and intervention. According to the document, *Supporting Inclusive Schools: A Handbook for Resource Teachers in Manitoba Schools* (2014), "The RTI model uses a three-tier service delivery model that represents a continuum of increasingly intense interventions that correspond to the responsiveness of students in both academics and social and emotional learning" (p. 74).

The lowest tier, Tier 1 is linked to the differentiated instruction of curricula and emphasizes benchmark assessments and universal screenings. Students performing below grade level curricular outcomes are placed into Tier 2. In this tier, students receive small group instruction and core instruction and are monitored more frequently. When they meet grade level expectations, they are returned to Tier 1 and if not, are referred to Tier 3. It is in Tier 3 that instruction becomes individualized and is usually provided by the resource teacher. The student's progress is also monitored more frequently and may be assessed using an individualized educational plan (IEP).

The UDL model developed by Katz (2012, 2015) emphasizes creating an inclusive, compassionate, learning environment in which all students can learn optimally. The approach applies to classroom management, planning, instruction, and assessment. The model is comprised of 3 blocks, social and emotional learning, inclusive instructional practice, and systems and structures. The first block dealing with social and emotional learning supports the use of the conceptual model for arts-based interventions in schools in which the purpose for integrating arts-based interventions into school structures is to develop compassionate learning communities that value diversity, the development of self-concept and democratic classroom management, as described by Katz (2015). This block of Katz's model provides a structure within which all students can have access to classroom learning and instruction for identified social-emotional elements. Katz (2018) further differentiates the structure of the block on social and emotional learning into three tiers where the bottom tier refers to social and emotional programming done with all students in the classroom, the middle one pertains to additional social skills and strategies, and the top tier addressing individualized mental health supports. The use of arts-based interventions can be utilized within each of these tiers. Katz (2015) states "we must

find inclusive pedagogies that improve engagement, in and enjoyment of teaching and learning" (p. 3). The use of arts –based interventions may provide a way in which all students can participate and feel included. Given that students spend a lot of time in school, providing arts-based interventions during the school day can support students in reaching behavioral, emotional, social, and academic goals (Como, 2019).

As with the RTI and UDL models, the proposed conceptual model for arts-based interventions advocates for a three-tiered approach, with the universal arts-based interventions forming the base, followed by the targeted ones and finally the intensive arts-based interventions. The model seeks to incorporate, the "essence" of art therapy that is, "helping people find their own imagery and in so doing to find their authentic selves" (Rubin, 2011, p. 5). This is done by "working artistically, helping people through art in an aesthetically and humanly sensitive way" (Rubin, 2011, p.xv). People in this case would refer to children. The model also considers the goals of therapeutic artmaking in schools as described by Adam (2020) and can be directly linked to Manitoba curricular outcomes. These include:

1. Feeling Safe, Supported and Capable – Incorporating art into classrooms, for example through collaborative art projects and daily emotional check-ins can foster positive social behaviors (sharing, respect, honesty, etc.)
2. Expressing and Containing Feelings – Students can create art to express feelings in a socially accepted manner which may support personal insight and satisfaction.
3. Building Sense of Community and Belonging while also Problem Solving – Using arts-based interventions can promote a sense of inclusion by fostering communication, interaction and negotiation and understanding.

4. Strengthening Unique Sense of Self – Arts-based interventions can reinforce self-esteem and resilience in students.

5. Connection to the Collective Unconscious: Sharing archetypal aspects of what it means to be human through non-directive creative expression - Using arts-based interventions, students can be exposed to experiences that encourage awareness of different cultures, of humanity's interconnectedness to the world, as well as from an Indigenous world view, as animate beings.

The Universal tier of Stoeber's model found at the bottom of Figure 1 advocates for linking arts-based interventions to school curricular outcomes to encourage teachers to integrate these interventions more fully in their classrooms as they can assess and report on curricular outcomes. According to Garth (2021), "introducing creative expression into lessons can help students process their emotions and strengthen relationships in the classroom" (para.1). Arts-based interventions could be cross-curricular and address several different outcomes. The idea is that arts-based interventions are integrated into instruction and not perceived as something extra for teachers to take on their already overloaded day. Ideally teachers and school counsellors work in collaboration or in a co-teaching context with someone trained in arts-based interventions. Together they can identify students in further need of more intensive interventions.

The second tier of Stoeber's model, Targeted, references students identified by teachers, resource teachers, school counsellors, and/or school administration as needing more targeted interventions. This may take the form of lunch groups, friendship groups or follow-up sessions before or after an arts-based intervention in class. In this small group setting, students can create art and use it to address conflicts, express feelings to one another, and teach about

friendships. They also learn to negotiate and collaborate. This process of shared art making can help foster a sense of belonging.

It is in the top tier, Intensive, that therapeutic arts-based interventions are delivered to individual students. While students with more intensive needs can participate in arts-based interventions at any of the other two tiers, it is at the Intensive tier level that the school counsellor or creative arts therapist works with the student on identified, specific goals. As in the RTI model, there may be more frequent progress monitoring and intensive individualized instruction with arts-based interventions that may delve more deeply into feelings, addressing personal conflicts and traumas as well as creating meaningful and authentic resources to become more resilient.

The proposed model considers the benefits of arts-based interventions as described in the research and highlights the role of school counsellors within the different tiers. More extensive research is needed to support its use in school counselling. Still, while the school counsellor is not a therapist, knowledge, and use of arts-based interventions, especially in collaboration with creative arts specialists can prove beneficial to the mental health and wellbeing of students.

Research conducted by McKay and McKenzie (2018) evaluated how an integrated arts-based program, EYE BELONG improved well-being in students using creativity. Students explored issues connected to their mental health and social well-being by developing solution focused artwork, multimedia, written products, and performance pieces. This program was integrated into regular school programming and facilitated by teachers in collaboration with local artists, Indigenous Elders, and health, youth, and welfare professionals. Eighty students from 4 schools (2 elementary, a secondary and one specialist school) participated in one workshop a week over a six-week period. Participants were chosen according to their school schedule and

whole classes participated when possible. A mixed-methods approach using a student pre- and post-program survey and a photovoice activity was used to evaluate the impact of the program on student perceptions around mental health and their overall experiences. The use of photovoice, as both an intervention and an evaluation tool, is interesting as the use of this type of technology can be a powerful way of expressing student feelings, ideas, and goals. “Photovoice puts cameras in the hands of people with valuable lived experience so they can explore and share their perspectives on health, family, community, and their futures” (Photovoice Worldwide, 2024, para. 1). Photos were taken before and after with students adding captions to these. The captions aided in categorizing photos thematically and provided insight into the activities that had a positive effect on student health and well-being. Based on this and the surveys, the authors conclude that arts-based approaches integrated in the school setting for promoting health and well-being were beneficial for students and for fostering relationships with both families and other sectors of the community.

While McKay and McKenzie (2018) do not focus specifically on arts-based technological tools, their writing demonstrates how arts-based interventions can be integrated into school curricula as per the Universal tier of Stoeber’s model (2021). The limitations regarding small sample size, the subjectivity of the qualitative data analysis, and possible bias in the design of the survey instrument indicate the need for more research in this area. Despite these limitations, an arts-based integrated program that includes arts-based technological tools, such as photovoice, can be used by counsellors in collaboration with parents, other health care professional, and community members to promote student health and wellness.

Arts-based interventions, as demonstrated in the research literature above, can be conducive to supporting student mental health and well-being in students. School counsellors can

incorporate these interventions in different ways into their practice, that is, universally with whole classes and large groups, in a more targeted manner with smaller groups, or more intensively with individual students. The use of technological art-based tools provides an added dimension to how arts-based interventions are delivered by counsellors and have the potential to promote engagement for students who thrive in today's technological society. The next section explores some of the research literature related to the use of arts-based technological tools.

Arts-based Technological Tools in School Counselling

Technology can be a tool and platform for self-expression and communication. By combining technology with the creative arts, counsellors can strengthen therapeutic relationships and create comfortable, psychologically safe spaces for school-age children to make sense of their world and promote student wellness. Psychological safety with arts-based interventions creates conditions in which students are more likely to express and normalize their feelings and emotions within an art therapy or counselling session (Moula et al., 2023). Although counsellors are not necessarily creative digital art specialists, research related to the use of digital creative arts when working with children and adolescents can provide insight into how this may be applicable to the school counsellor role and context.

Technology can be used to facilitate collaboration between creative arts therapists and educators. Grasser and Javanbakht (2021) discuss how they used online formats to deliver art and movement therapies to refugee youth and to students in high-risk, low resource areas. The team that worked with the participants included certified art and dance/movement therapists (who also had master's degrees in counselling) and a psychiatrist. The participants' case managers and educators shadowed sessions and were given the opportunity to learn and adapt arts-based interventions from the therapeutic space after the end of programming for their

students. Programming was run using the existing school's organizational structures, that is, by leveraging technology already used by the students such as Google Classroom as well as the presence of non-therapeutic facilitators who could deal with technological issues and participant attendance. Data were generated through the observations made by art therapists, case managers and educators, previous in-person implementations and ongoing data collected pertaining to changes in trauma-related psychopathology over intervention. Art therapists and case managers surmised that the virtual context increases the comfort and feeling of psychological safety of refugee youth in sharing and discussing their art, in comparison to in-person sessions done in the past. Educators noted that the interventions promoted student self-esteem and increased engagement in academic post-session programming. The program had a significant increase in participants, from 15 students in a group session over an 8-week period to 150 students over the same period. This type of research provides an example of how case managers, counsellors, and educators can work remotely with creative art specialists to support student mental health needs.

Arts-based Technological Tools and Considerations

Zubala et al. (2021) completed an integrative review of the literature (over 400 records and 12 articles) regarding current use of digital technology as a medium for therapeutic art making and for remote delivery. They grouped their results according to art therapists' views and experiences, the use of digital arts media, and online art therapy, and identified recurring themes related to the potential benefits and risks of incorporating digital technology in client sessions, ethical concerns, resistance toward incorporating digital arts media, technological limitations as well as implications for therapeutic relationship and therapy process. The authors' review highlights growing research that shows art therapists are increasingly using digital technology for both online sessions and creating digital art. One benefit of online art therapy included increased

access for clients who are unable to receive interventions because of geographical location, stigma, or disability. Their research also suggests that the use of online therapy could have an equalizing effect in a group therapy setting, may increase a sense of privacy, and promote community involvement and social engagement. General concerns about integrating digital technology in art therapy practice included the high cost of equipment advanced enough to allow for true emotional expression, the extra time involved in learning and implementing the technological tools, specialist training in the use of digital technology, technical issues and the learning needed on the client side. Other concerns to online art therapy were raised, such as confidentiality and safety and technological limitations.

Moreover, Zubala et al.'s integrative review of the literature specifies participants other than just art therapists. Two of the articles reviewed include practitioners in art therapy, one article includes counsellors and educators as co-researchers and another identifies 61.5% of their participants as being art therapists. While it is unclear if these participants worked in schools, some of the identified trends may be applicable to the work of school counsellors. For example, the use of technological tools by school counsellors has also increased because of the need for mental health support where face-to-face interactions have become restricted. Technology continues to be used by counsellors in many ways to enhance the counselling process. These include web-based programs, social media, and virtual counselling programs (Steele et al., 2020). Concerns such as the cost of technological tools, technological issues, and time could also be factors in the school context. Besides the focus on online therapy, this article discussed the use of technological tools for digital art making which could also be used by school counsellors.

As art-based technological tools gain more popularity, the utility of these tools also starts getting more attention. Storjohann (2019) conducted the critical review of sixteen articles that

address the integration of digital applications (apps) within traditional expressive arts therapy for children and adolescents. According to Storjohann (2019), "Accessibility, flexibility, and general acceptance of digital app technology as a facet of everyday life in present-day society imbue these artistic tools with the unique opportunity to support and facilitate healing for heretofore inaccessible and underrepresented segments of the population" (p. 29). Storjohann assessed the use of technological apps in expressive arts therapies in relation to the change process as described by Prochaska and Velicer (1997), that is, Precontemplation (not thinking seriously about change), Contemplation (thinking about the pros and cons of change), Preparation (planning for change), Action, Maintenance, and Termination. According to Storjohann (2019), there is a "plethora" (p. 7) of research that falls under the Contemplation state exploring the advantages and challenges of using digital technology in the expressive arts, sometimes supported by specific case studies, but not necessarily concrete empirical data.

More recent research demonstrates movement towards the Preparation stage which includes app development and the enumeration and assessment of resources. However, in comparison to other mental health related fields, there seems to be limited progress towards the Action stage, which would involve more empirical research, and more intensive expressive arts app development and integration. Based on the evaluation of the research, the author advocates for more extensive research, both qualitative and quantitative, with larger sample sizes representing diverse child and adolescent populations as well as the creation and research related to expressive arts apps that consider emerging technologies (three-dimensional printing, avatars, virtual reality, etc.). Ethical considerations such as specifying limits and boundaries when using digital applications, instituting specific precautions including firewalls and secure data storage, were also identified as being important factors. The articles specified in Storjohann's research

pertain to school-age students and although the evaluation was limited to sixteen articles, the premise of viewing the use of arts-based technological tools by practitioners through the lens of the change process is interesting and could be applied to school counsellors to determine where they are in the integration of these tools in their current practice according to the research.

Kozlowski et al. (2014) provide another example of the incorporation of arts-based technological tools into school counselling. They state that to keep current with the students that they serve, counsellors should increase their technology skills by using Web 2.0 applications to modernize group counselling. Despite the article being published in 2014, it still has importance in that it describes some apps that may be used in schools today with relevant suggestions on how to integrate apps into school counselling. Many of these apps can also be considered arts-based tools. For example, students can create an interactive collage that incorporates text, pictures, sound, and video using Padlet. This app can also be used to share stories. The example is given where students who are grieving can write letters to individuals that they have lost using the app Storybird (https://www.storybird.com/), which provides artwork to support stories, and then using Padlet (https://padlet.com/) to share stories and vignettes about these loved ones. Kozlowski et al. also describe how six different apps were used to enhance traditional group sessions for a body image psychosocial group focusing on self-esteem. In the first session, students learned how to create an electronic journal using inspirational artwork from Storybird to support their daily entries. In the second session, Mind42 (https://mind42.com) was used for students to collaborate in creating a mind map that incorporated multimedia (text, online video, music, photos, etc.) representing their concepts of body image. Padlet was used to create a virtual collage to critically examine the portrayal of women in the media. Multimedia used also included links, virtual commercials, ads, and songs. Technology was used in the form of an inspirational

video to explore student beliefs about their appearance and bodies in the fourth session. In the fifth session, students used a Fakebook template (http://www.classtools.net/FB/home-page) to create a Fakebook page for someone they admired and is a good role model. In the last session, Tagxedo (http://www.tagxedo.com/) was used to create a word cloud image using positive encouraging words that students gave about a student in the group. The student could then post it on social media or print it.

Kozlowski et al. (2014) demonstrate how arts-based technological interventions can be used successfully in school counselling to meet the needs of students in a meaningful and authentic way. However, there are considerations and ethics involved when using online apps to support counselling practices. These are described later in this chapter.

Categorization of Arts-Based Technological Tools

Arts-based technological tools for the context of this thesis refer specifically to digital (computer-based) technology which can be used for artistic creation and sharing, for example, painting, drawing, storytelling, poetry, music, and movement which can be integrated into counselling lessons and sessions. Some of these tools were described in chapter 1. The selection of art-based technological tools will depend on the school counsellor's purpose for using it with students. The model PICRAT (Passive, Interactive, Creative, Replacement, Amplification and Transformation) (Kimmons et al., 2020), a technological assessment framework can be used by school counselors in their practice. Evidence-based practices (such as PICRAT) can be tailored and extended to alternate contexts (Yu et al., 2023), in this case school counselling. The core theoretical principles of the model are not changed but rather may be integrated into the current practice of school counsellors. PICRAT focuses on the student's relationship with technology and the impact of technology on the teacher's practice. Other technology models tended to focus

more on lesson design or evaluation of the technology use. For example, the SAMR (Substitution, Augmentation, Modification Redefinition) model categorizes the level of technology use and focuses on how technology can transform educational practices while the TPACK (Technological, Pedagogical, and Content Knowledge) model provides a framework for the types of knowledge needed by educators for technology integration (Tunjera & Chigona, 2020). Moreover, for SAMR, the objective is the evaluation of student use of technology for learning while TPACK's objective is the integration of technology into lesson design (Croupe, 2023). Kimmons et al. (2020) describe the difficulties, limitations, and criticisms of other technological integration models. The advantages of using PICRAT are that it is student focused, emphasizes technology as a tool to achieve a goal, can prescriptively guide practice, and encourages reflection (Kimmons et al. 2020). With so many technology options available for school counsellors, a consideration could be the choice of those that are more creative, interactive, and engaging for students while enhancing or modifying their own practices.

In addition, Bloom's taxonomy, a hierarchical classification of the different levels of thinking is loosely aligned with the first part of the acronym, PIC (Passive, Interactive, Creative). Passive learning interventions can correspond to remembering, a lower-level cognitive objective in which the student is passively receives the content. Interventions that apply knowledge could be considered more mid-level. Here, students are interacting with the content presented or with other students. The higher-level objectives require more creative interventions by the student where they are constructing knowledge by creating digital artifacts. The RAT (Replacement, Amplification, or Transformation) refers to how counsellors would use the technologies (Kimmons et al., 2020). Replacement occurs when technology substitutes for an activity previously done. A previous activity can be enhanced through amplification and transformation

happens when the previous activity is changed into something completely new. A combination of an element from PIC and one from RAT depicts students' use of the technology and how the technology can affect the counsellor's traditional practice (Curry et al., 2022). The PICRAT model can help counsellors reflect on their current or future uses of technology to improve student engagement and learning outcomes.

Curry et al. (2022) provides an example of how the PICRAT matrix could be used to categorize the technology used in an activity. For example, a lecture with a PowerPoint presentation (PPT) would be considered passive with regards to the student and replacement since the PPT replaces notes. Digital flash cards, journaling on blogs and student PPT presentations are also considered replacement although they are categorized differently for student use. Explanatory videos and a Skype expert chat enhance or amplify a lecture, but students are still passive receivers of the information. Interacting with a video game and creating a video documentary would be considered more high-level use of technology by students. All the technological activities just described can apply to technological interventions that the counsellor can do with students and can be categorized in this manner. However, there are limitations to the model and limited research on its use. For example, the terms Amplification and Transformation are not well defined, and the hierarchical structure of the model can be misleading as it could be seen as diminishing the value of some technology practices (Kimmons et al., 2020). What is important is the counsellor's purpose in using the technology to promote student learning and understanding.

Challenges of Integrating Arts-based Technological Tools in School Counselling

The integration and implementation of arts-based technological tools by counsellors requires knowledge of both arts-based interventions suitable for the student clientele and the

technologies that can support these in a particular school context. With regards to integrating creative arts in counselling, Sehenuk (2022) states:

> While counselors by no means must identify as artists, there is a natural connection between the innate creativity of the counseling field and the use of expressive and creative arts in the counseling room. Despite the inherent connections between creativity and counseling, counselors can be hesitant to connect with creative arts-based work with clients due to lack of knowledge and limited experience, as well as personal concerns around ability. (p. 1)

The author describes a workshop implementing strategies to mitigate some of the factors inhibiting counsellors in training from using the expressive arts with their clients. For example, counsellors who felt they lacked artistic skill, reestablished their artistic identity by reflecting on past experiences with art and explored how using art as an intervention differs from producing art as a polished product. To familiarize themselves with arts-based interventions, workshop participants worked through experiential activities which included creating body scans and outlines, scribble drawings, finger painting, and self-trees. For the self-trees, participants drew a tree that they felt were representative of them and then wrote specific attributes in the roots, trunk, branches, and leaves.

> Roots: Where we come from (e.g., values, history, family)
>
> Trunk: What we care about and our skills (personal strengths, what makes you "you")
>
> Branches: Where we are growing (hopes, dreams, growing edges)
>
> Leaves: What we are holding on to and letting go of (achievements, reminders, losses, hurts) (Sehenuk, 2022, p.18)

These types of activities can increase counsellor comfort with using the creative arts as well as encourage growth and self-reflection. Sehenuk also emphasizes the importance of the development of counsellor knowledge pertaining to the identification of possible sensory concerns and trauma sensitive practices.

In addition to self-confidence in incorporating arts-based technological tools, challenges to use them in the educational context should also be considered. In particular, Snir and Regev (2021) describe challenges associated with integrating arts therapy in the education system. Their research focusing on the role of arts therapy in fostering students' social inclusion outlines the benefits of art therapist collaboration in the school space. These include increased accessibility, opportunities for the sharing of pertinent student information, and working with students in their natural environment. The authors also identify several significant challenges which include misunderstandings related to expectations and therapeutic versus educational language. Other challenges included the lack of an appropriate safe and secure therapeutic space to do the arts-based interventions, insufficient budgets, and difficulties maintaining confidentiality and privacy. Art therapists also experienced challenges with time and scheduling because of the school context. While the challenges identified by the authors pertain specifically to art therapists, some of these may also apply to school counsellors who want to integrate art-based technologies in their practice. For example, finding a space to do arts-based technological interventions with students, having a budget to buy computers, tablets, and the appropriate apps, maintaining confidentiality and privacy are all applicable to school counsellors. Staff education as to the purpose of these interventions and the benefits for students can become the responsibility of the school counsellor.

Pertinent Ethical Considerations

With regards to the use of technology by counsellors, the Canadian Counselling and Psychotherapy Association (CCPA) code of ethics maintain that besides the foundational ethics for all counsellors, additional considerations need to be taken into account when it comes to the use of technology. When using arts-based technological tools with students, the following ethical considerations from CCPA should be considered. These are interpreted below by the principal author as it relates to the use of arts-based technological tools.

H1. Technology-Based Administrative Functions – Counsellors should ensure that digital security measures are in place to protect student privacy and confidentiality when using arts-based technological interventions and Internet platforms. This information should be indicated in the informed consent process.

H2. Permission for Technology Use – Counsellors should obtain informed consent from parents and ascent from students regarding student use of Internet-based communication and arts-based technological applications. Both parents and students need to be aware of associated risks related to technology use and the possibility of accidental breaches of privacy or confidentiality.

H3. Purpose of Technology Use – Parents, administrators, teachers, and students should be made aware of the circumstances and the purpose for the use of arts-based technological tools by school counsellors.

H4. Technology-based Service Delivery – When arts-based technological applications are used by school counsellors, they need to be competent in the use of the application; confident that the necessary digital measures for protecting privacy and confidentiality are in place; convinced that the applications chosen are developmentally appropriate for

the student needs addressed; cognizant of the research that supports the use of a given application; confident that students are prepared to use the application and have provided the necessary information in the informed consent.

H5. Technology-Based Counselling/Therapy Education – Counsellor competency in the use of Internet communication and arts-based technological applications, obtained through experience, education, and/or training, is important.

H6. Personal Use of Technology – As models for students, school counsellors need to demonstrate "ethical congruity and professionalism. They attend to privacy/security features, continue to honour client confidentiality, demonstrate respect for and valuing of all individuals, and represent themselves with integrity" (CCPA, 2020, p. 29).

H7. Jurisdictional Issues – School counsellors who use Internet communications and arts-based technological apps in the school context need to be aware of the policies, laws, and regulations of the school, school division and province.

It is essential that school counsellors be aware of the above ethical codes when integrating and implementing arts-based technological apps into their practice, for their protection and that of students they work with. Besides the ethical codes pertaining specifically to technology, CCPA's codes that address counselling in general may also be applicable to arts-based counselling and include

A3. Boundaries of Competence,

A11. Extension of Ethical Responsibilities,

B2. Confidentiality,

B4. Client's Rights and Informed Consent,

B6. Maintenance of Records,

B7. Access to Records,

B16. Computer Use,

B17. Delivery of Services by Telephone, Teleconferencing, and Internet, and

D5. Use of Technology.

However, specific ethical regulations for one association may not be sufficient and may address a limited range of situations especially related to arts-based interventions within the arts and expressive arts therapies.

Both the Canadian Art Therapy Association (CATA) and the International Expressive Arts Therapy Association (IEATA) have ethical standards that may apply to the use of arts-based interventions with individuals, some of which overlap with CCPA but others more specific to the use of the arts. Consulting these resources may be beneficial as the complexity surrounding an individual's self and worldview, including culture and characteristics, may not be covered enough by one association's ethical guidelines. For example, section A2 of Standards of Practice CATA (2003) specifies the importance of not practicing, condoning, facilitating, or collaborating with any form of discrimination such as age, religion, national origin, socioeconomic status, or mental or physical handicap. Under section VI Welfare of the Client in the Code of Ethics of REAT (Registered Expressive Arts Therapists, n.d.) importance is placed on the societal dynamics of privilege, oppression, and power that may impact an individual's behavior and experience during counselling.

For example, Kozlowski et al. (2014) describe several ethical considerations involved in counsellor use of online applications into group counselling sessions (described earlier in this chapter). These considerations are still applicable to arts-based applications used in school counselling today. Time is one of the challenges to integrating these technologies into

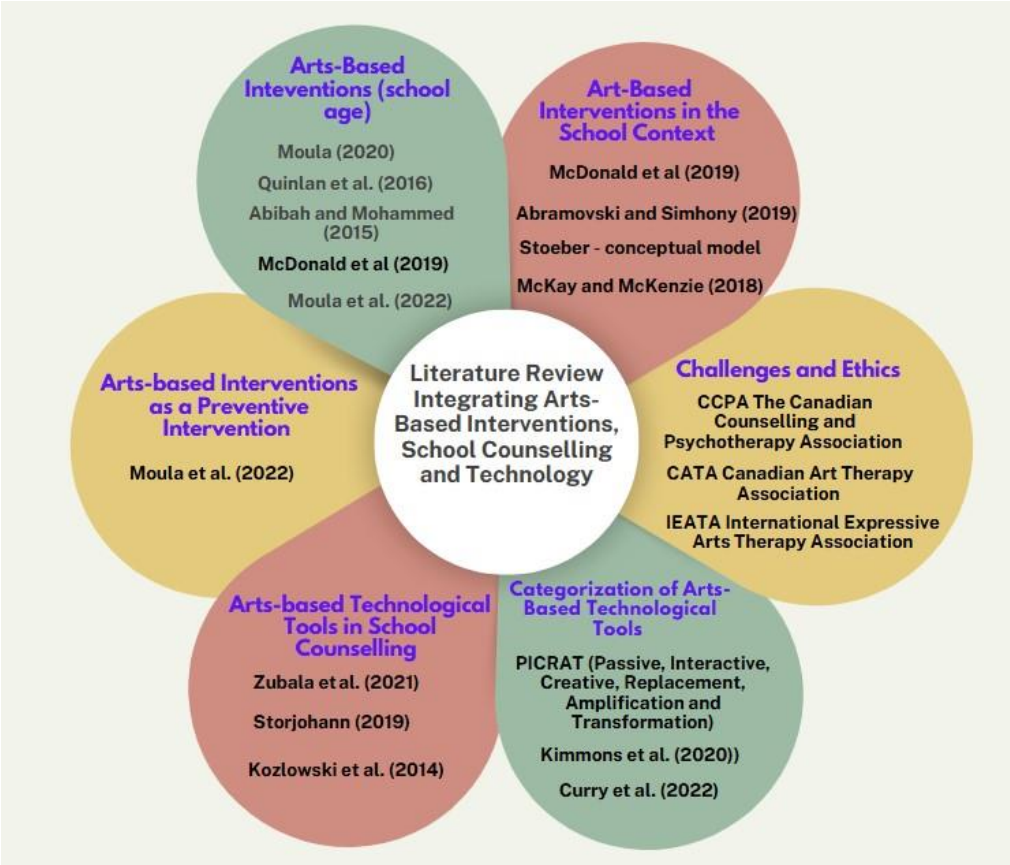
counselling practice. To use apps effectively in a session, both the counsellor and the students need to be familiar with the arts-based technological tools which require learning time, ideally outside of the session. Web sites need to be tested beforehand to ensure that they are viable, and counsellors will need to have an alternate plan should this not be the case. Access to computers and tablets that can support the apps may also be a challenge. The authors suggest that students bring their own devices, if possible, or use portable school laptops. Technological knowledge may also be required for tasks such as clearing the cache or downloading apps and plug-ins. Moreover, access to certain apps may be blocked by the school division or school and may need prior permission to bypass firewalls. They also suggest that counsellors integrate technology gradually into their practice to avoid becoming overwhelmed.

Ethical practices are important considerations when integrating any technology into school counselling. Any student information and work must be monitored and protected, and privacy options must be strictly followed with students understanding the limits of privacy settings. Students and parents need to be educated about safe Internet use outside school walls and the negative things (cyberbullying, exposure to pornography, etc.) that may occur with unsupervised Internet use. Informed consent, parental permission to use technology, participation in group sessions, and adherence to school or division policies are also important.

The research described in this chapter is depicted in Figure 2: Literature Review Flower. The next chapter will provide further rationalization for a scoping review that may answer the research questions proposed in the introduction. It will also outline the scoping review methodology used.

Figure 2

Literature Review Flower



Chapter III: Methodology

Introduction

To be current in best practices related to the use of arts-based technological tools, counsellors are encouraged to keep up with changing trends in technology and look for evidence-based practices grounded in research. As the use of arts-based technological tools and apps constantly evolves with societal needs and interests, it can be challenging for school counsellors to stay current. Indeed, to understand, connect with, and fully support students, school counsellors are encouraged to be more digitally literate (Suryahadikusumah, & Nadya, 2020). Discussions on integrating technology-based counselling need to focus not solely on technology but also on its potential to enhance efficacy of holistic school counselling programs as well as challenges that such counselling may create (Goodrich et al., 2020; Steele et al., 2020). This applies to the inclusion of arts-based technological tools as well. Using a scoping review methodology, this thesis describes some of the current trends and evidence-based practices related to their use by school counsellors.

This chapter describes the scoping review process used to examine the research literature from relevant databases and counselling journals. In the first section, the scoping review process is defined, and a rationale is provided for its use for this study. Relevant studies that demonstrate the scoping review process are also reviewed. Subsequent sections will focus on the different elements of the scoping review pertaining specifically to the exploration of arts-based technological tools as used by school counsellors.

Scoping Review Description and Rational

Conducting a scoping review provides a preliminary map as to what research already exists on a topic (Mak & Thomas, 2022). It is a form of knowledge synthesis and a tool to

determine the volume of literature and studies pertaining to a particular topic and can provide a broad overview of its focus (Colquhoun et al., 2014; Munn et al., 2018). Six indications for doing a scoping review are:

1. as a precursor to a systematic review;
2. to identify the types of evidence available in a given field;
3. to identify and analyze knowledge gaps;
4. to clarify key concepts and definitions in the literature;
5. to examine how research is conducted on a certain topic or field;
6. to identify key characteristics or factors related to a concept (Peters et al., 2020, p. 2122).

A scoping review methodology is suitable for the topic on arts-based technological tools in school counselling, as the scientific evidence regarding intersections of art and use of technology in the counselling process is determined (Indicator 2) and key factors in the process are identified (Indicator 3). Identification of knowledge gaps is a precursor to the development of future research. A scoping review of current research regarding this topic can support school counsellors by identifying pertinent trends that can be used to inform practice that best support student mental health and well-being and help make evidence-based decisions regarding the choice, allocation, and integration of arts-based technologies. Exploring the breadth of literature on the use of arts-based technological tools may reveal innovative approaches and areas for continuous development and professional development. A scoping review can also identify gaps in the literature that could guide future research. Presently, and to the best of this author's knowledge, there have been no scoping reviews specifically done to study the use of arts-based technological tools by school counsellors.

Scoping Review Protocol

The scoping review for this study utilizes Arksey and O'Malley's (2005) framework which is comprised of the following five stages:

> Stage 1: identifying the research question
>
> Stage 2: identifying relevant studies
>
> Stage 3: study selection
>
> Stage 4: charting the data
>
> Stage 5: collating, summarizing, and reporting the results (p. 22).

These stages for the present scoping review are outlined in this chapter. To illustrate the use of scoping review protocols, the methodology of relevant articles is reviewed in the next section. Review of these articles provided direction and helpful information for conducting the present review.

Relevant Scoping Review Literature

One scoping review relevant to the present study looks at the literature related to the possibilities of immersive virtual reality (VR) in the context of traditional practices of art therapy and therapeutic art making. Although this article does not refer to school counsellors, it addresses an arts-based technological tool that may be used by them in their practice. Hadjipanayi et al. (2023) identify the eligibility criteria (inclusion and exclusion) used to filter articles related to their research objective and questions, that is, determining how VR has been integrated into art therapy practices and therapeutic artmaking, and how applicable are VR art-related interventions to achieving therapeutic goals. They chose peer-reviewed academic manuscripts published between 2011 and November 2022 focusing on VR interventions, art therapy, well-being, and therapeutic artmaking. They excluded those articles describing VR therapy techniques

exclusively, those that dealt with passive participation of VR, non-immersive VR, and articles that did not make the association between VR and art therapy. Their initial search involved four databases - Scopus, Web of Science, PubMed, and ScienceDirect - and a second search using Google Scholar. Data from 26 studies were organized in two tables, the first indicating the author, participants, research field, and research design, and the second indicating the author, research field, and description. Synthesis of the data to identify pertinent themes based on the research questions followed PRISMA-ScR checklist guidelines (Tricco et al., 2018). Of consideration for the present study, is the observation by the authors that the keyword "art" resulted in many irrelevant publications and is also seen as an acronym by some search engines.

Caholic et al. (2020) in their scoping review, examined articles pertaining to arts-based mindfulness interventions for children and youth, aged 8-18 years old, some of which pertain to students in the school system. but not specifically to school counsellors or the use of arts-based technological tools. The authors were interested in identifying mindfulness-based interventions (MBI) that used the arts for mindfulness with children and youth, the reason for the art-based focus, and the key findings from programs incorporating these. Their inclusion criteria were comprised of research literature in English from January 2000 to March 2017; MBI with the focus on arts-based interventions; group delivery, all types of challenges and rationales regarding participation in the MBI, and the inclusion of all cultures, geographical locations, and practitioner types. Of interest for the current study is the table of database keyword search terms demonstrating the use of synonyms for children/youth, arts-based/creative interventions, and groups, as well as the list of the 22 databases listed in the second table of the article. In the end, the authors reviewed 27 articles and extracted the data to table form according to author (year), gender, age, population, creative intervention components, sample size, study design,

quantitative measures, and findings. The categorization of the creative intervention components found in table 3 of their study (list of included articles and extracted data) is also pertinent for the present study. Examples include “Journaling, mindful movement, and photo elicitation” for a study involving sixth-grade students, and “Expressive arts including writing, drawing, imagery, genograms, spoken word, and dance” for students with PTSD (Caholic et al. 2020, pp. 516 - 517).

Caprara and Caprara (2021) is another scoping review that has relevance to the present study. School counsellors were mentioned specifically in the article as one of the beneficiaries of the results of their study the purpose of which was to review research related to effects of the real time-visual presence of a teacher in a virtual learning environment (VLE) on student metal health and well-being. Their scoping review focused on two questions: “1. Does the synchronous face-to-face and interactive presence of a teacher in a VLE contribute positively to student learning and mental health and well-being? 2. What are the characteristics of a VLE that meets the social-emotional care requirements and needs of the student?” (Caprara & Caprara, 2021, p. 3688). To answer these questions, they limited their search to peer reviewed articles in English over an 11-year period (January 2010 to January 2021) that pertained to the holistic effects of VLEs and online teaching on students. They used the terms virtual learning environment, online instruction, and mental health to search in four education-related databases: ProQuest, ProQuest/ERIC, APA Psych INFO, and SAGE Journals Online. Initially, the focus was on high school settings, but these terms did not get the desired results, so the search terms were broadened to also include younger school age children as well as post-secondary students in their first year. Moreover, the authors chose to include articles obtained in manual searches conducted prior to and after their review of the databases. Forty-two articles were identified for final review. Articles were

excluded if they did not address the contexts of VLEs and student experiences in these contexts. The results were then analysed and organized in a table with the following headings: Author(s), Year, Country; Aim, Research Design, and Intervention Program, if any; Participant Profile (number of students; age; control and intervention groups, if applicable); Data Source(s), and Timeline of Data Collection, if applicable; Statistical Significance (if reported or applicable), Findings, and Conclusions. In organizing the results in this way, Caprara and Caprara (2021) state they have created "an informational narrative" (p. 3692) and have identified important themes found within the research.

Participant profiles from the selected articles varied from school faculty, school-aged children, undergraduate and graduate students, and student family members and were from studies conducted in location across the world except for South America and Antarctica. One of the pivotal themes that the authors noted was the self-admission within many of the articles as to the lack of sufficient data regarding VLEs, their benefits, the elements of the ideal VLE, and the challenges related to VLE readiness.

From this analysis, the authors identified several central concepts from the research including benefits, challenges, and the effectiveness of some elements of VLE, student readiness (technological, socio-emotional, academic), the students' mental health in VLE, experiences and perception of participants, as well as current policies and infrastructure.

This section explored the methodologies of some of the relevant scoping review literature for the present study. This exploration provided greater understanding and insight as to the use and organization of scoping reviews. Using the information gleaned from the review of the scoping review process as described earlier in this chapter as well the protocols for a scoping

review, as described in the above articles, the following scoping review process was created for the present study.

The Scoping Review Process

Stage 1: Identifying the Research Question

The objective of this study is to gain a better understanding of how arts-based technological tools are being used for school counselling. To explore this objective and guide the scoping review, the research questions are as follows:

1. According to the literature, what arts-based technological tools are currently being used by school counsellors? This study seeks to determine how school counsellors may be using arts-based technological tools in their counselling practice and, if so, to identify those tools being used. Answering this first inquiry can give an idea how school counsellors are incorporating arts-based technological tools into their counselling role.
2. How are arts-based technology tools being used in online and in-person contexts in school counselling according to the literature? A scoping review may reveal the prevalence of use of art-based technological tools in school counselling for the two different contexts and provide insight on who is benefiting best in each context and why.
3. What are benefits and challenges of using arts-based technological tools in school counselling? Findings may provide insight into the rationale for using these tools in the school counselling role and how they may support student mental health and well-being. This inquiry can be viewed from the perspective of the different educational stakeholders such as students, teachers, and counsellors to also identify challenges and limitations.

Stage 2: Identifying Relevant Studies

The data search was guided by the identified research questions. Before database searches began, an education librarian was consulted to assist in identifying pertinent databases and search terms. The APA PsycINFO, Web of Science and Scopus databases were chosen to cover counselling, creative interventions, and technological research. The goal was to be highly inclusive with these terms before selectively decreasing the range of articles in the next steps. The final search terms were determined after several test searches to broaden the search. Alternate terms were also discussed with the thesis advisor. The terms "arts-based interventions" was substituted for creativity to yield more results in the Web of Science database. The terms in the Scopus database were based on the query in MacRitchie et al. (2022). There were minor variations for each database as appropriate as depicted in Table 1. (See appendix B for the search strategy applied in each database). An additional search was done to take into account the alternate spelling, that is, school counselling and school counsellor. This resulted in no additional articles being added as there were either zero results or the results did not meet the inclusion criteria (See appendix C).

Table 1

Database Search Terms

Database	**Key words**	**Search terms**
APA PsycINFO	Creativity	exp Psychodrama/ or exp Arts/ or exp Music Therapy/ or exp Creativity/ or exp Dance Therapy/ or exp Art/ or exp Art Therapy/ or exp Creative Arts Therapy/ or exp Movement Therapy/ or exp Trauma/
	School counsel*	exp School Counselors/ or exp High School Students/ or exp Junior High School Students/ or exp Middle School Students/ or exp School Psychology/ or exp Elementary School Students/ or exp School Counseling/ or exp Primary School Students/
	Technology	exp Digital Technology/ or exp "Information and Communication Technology"/ or exp Technology/ or

		exp Human Technology Interaction/ or exp Sensor Technology/ or exp Streaming Technology/ or exp Touchscreen Technology/
Web of Science	school counsel* technolo g* arts based interventions	**school counsel*** (Topic) and **School Counselor** (OR – Search within topic) and **School Counselors** (OR – Search within topic) **TS=(technolog*)** and **Technology** (OR – Search within topic) and **New Technology** (OR – Search within topic) and **Innovation** (OR – Search within topic) and **Digital** (OR – Search within topic) and **Artificial Intelligence** (OR – Search within topic) and **Apps** (OR – Search within topic) and **Virtual Reality** (OR – Search within topic) and **Augmented Reality** (OR – Search within topic) **arts based interventions** (Topic) and **Arts** (OR – Search within topic) and **Intervention** (OR – Search within topic)
Scopus	Creativity Technology school counsel*	(school OR elementary OR "middle years" OR "high school" OR adolescents) AND (counselling OR counsellor OR "school counsel*") AND (technolog* OR digital OR "digital technolog*" OR "artificial intelligence" OR ai OR "generative ai" OR "augmented reality" OR "virtual reality") AND (creativ* OR art OR arts OR "arts-based" OR "art-based" OR "arts based" OR video OR drama OR storytelling OR dance)

Supplementary articles were identified through reference lists and manual searching of journals pertaining to the research topic. These included the following journals: Counseling and Educational Technology, Creativity in Mental Health, Journal of Professional Counseling, Journal of School Counseling, Professional School Counseling and Research on Technology in Education. The searches via database and supplementary searches were completed on June 15, 2024.

There were 1679 references collectively identified in the databases which were then uploaded to Covidence, an online program that supports the organization, screening, and data extraction of research literature for systematic or scoping reviews. Duplicates were removed

through automatic detection by Covidence and manual identification by this author during the screening process. Following duplicate removal, 1108 references were retained for title and abstract screening. Thirty-five articles were selected for eligibility assessment based on their titles and abstracts. Fifteen articles were then identified for review by the principal author based on her interpretation of the inclusion and exclusion criteria. The author independently reviewed 100% of these reports and the thesis advisor reviewed 66.7% of the references. Upon further discussion of the reviewed articles, the author and the thesis advisor came to the agreement that two of the articles did not fully meet the inclusion/exclusion criteria as one of them described the use of a digital app to promote self-expression and reflection using rating scales rather than arts-based interventions. The other article was a study of perceptions of the school counsellor's role with regards to the challenges of adolescent digital use and did not specify arts-based interventions. These two articles were removed resulting in 13 articles chosen for final review.

Stage 3: Study Selection

Inclusion Criteria

This scoping review of arts-based technological tools for school counselling focused on English-only peer reviewed articles published after and including 2019. The start date of 2019 was chosen to capture contemporary data and developments. This review can help identify new tools and applications in school counselling, provide insights into effective practices as well areas for improvement and further study. Limiting the search to only English-only peer reviewed articles or to those that have already been translated into English eliminates the need for translation and can ensure a higher standard of accuracy and quality as more rigorous evaluation of a study's methodology, results, and conclusions can be done. In doing so however, may result in limitations as to the number of studies found. Also, as peer review requires experts in the field,

the inclusion of such articles contributes to the credibility and reliability of the scoping review and can be used to inform practice. With regards to participants, this scoping review specifically looks at studies that explore counsellors' work with children at K-12 levels which utilize arts-based technological tools in schools, and reports on the effects, impacts, and experiences related to the use of these tools. Arts based interventions are those activities that incorporate creative elements, including the visual arts, performing arts and literacy arts as discussed in chapter one. The arts-based technological tools refer to both digital technologies and the hardware that may be required for its use.

Exclusion Criteria

Research literature that comes from non-peer reviewed sources, is published before 2019, or does not address the specified population, that is, school counsellors or students receiving counselling are excluded. Studies that address the use of arts-based interventions and tools outside the school context are also excluded. Literature referring to technological tools not relevant to the counselling context or used within arts-based interventions are excluded. Table 2 below provides a more comprehensive overview of the inclusion and exclusion criteria for this scoping review.

Table 2

Inclusion and Exclusion Criteria

Categories	Included	Excluded
Dates	Articles published during and after 2019.	Any research published before 2019
Language	English or translated to English	Studies not available in the English in which the review is being conducted
Peer-reviewed	Peer reviewed articles	Non-peer reviewed sources

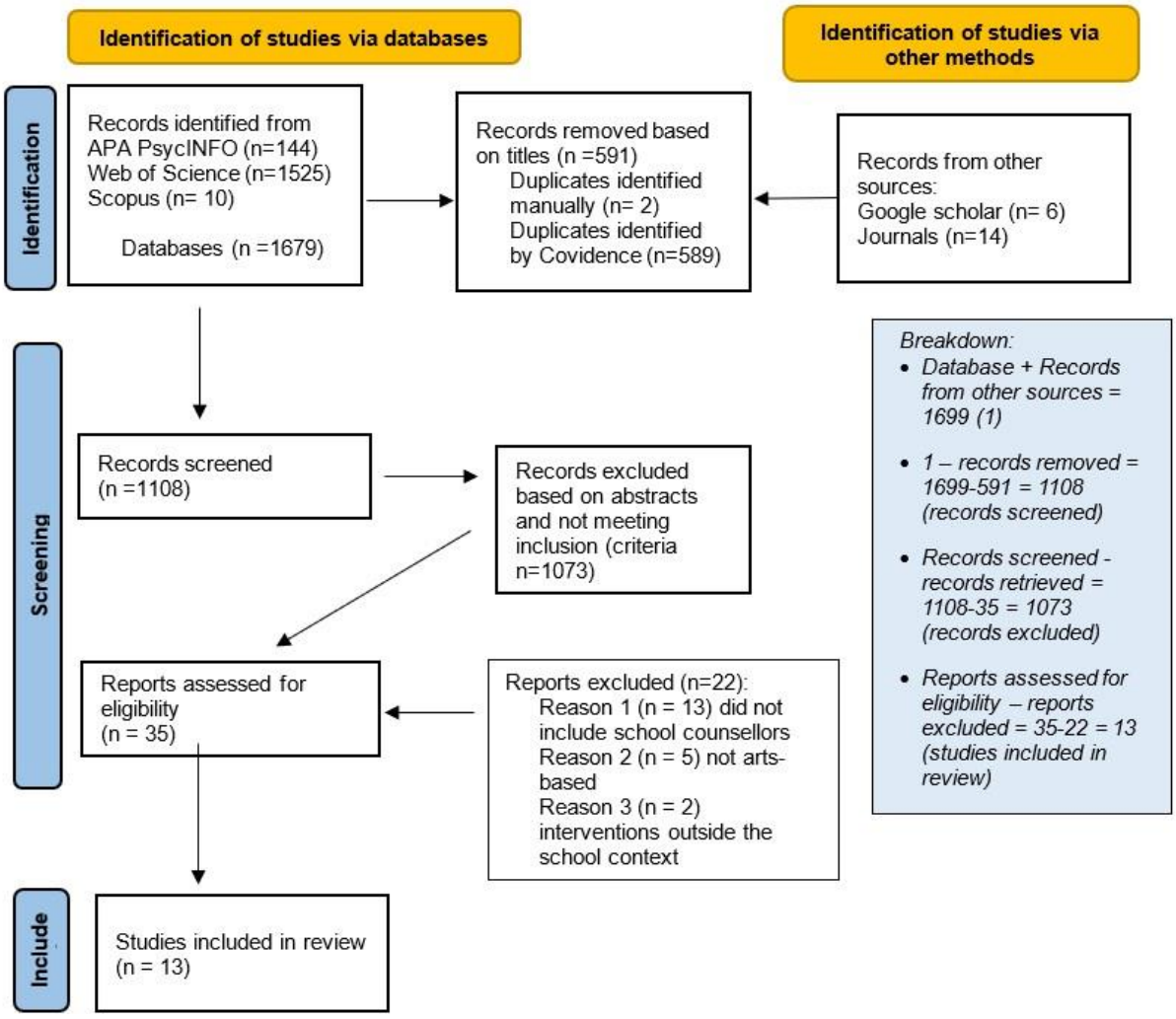
		Conceptual papers
Arts-Based Interventions arts interventions arts-based therapy arts-based practices creative interventions expressive arts creative arts	***Visual Arts***: painting, drawing, sculpture, photography, visual arts therapy ***Performing Arts***: music, dance, theatre, drama, performance art ***Literacy Arts:*** writing, poetry, storytelling, literature-based therapy, bibliotherapy **Multimedia** Arts: digital arts, social media arts, film, video, online games	Non-arts-based interventions, for example, behavioral contracts, progress monitoring Studies focusing on non-arts-based interventions
Arts-Based Technological Tools arts-based technology creative technology tools digital arts tools	***Visual Arts Tools:*** digital painting tools, digital drawing tools, digital sculpture tools, photography apps ***Performing Arts Tools:*** music creation software, dance simulation apps, virtual theatre platforms, drama tools ***Literary Arts Tools:*** creative writing apps, poetry creation tools, digital storytelling tools ***Multimedia Arts Tools:*** digital media tools, film editing software, video creation tools, animation tools ***AI:*** artificial intelligence used to support arts-based interventions	Non-technological tools: examples include - scheduling software, career assessment tools, student information systems case management software, data analysis tools, learning management systems Studies focusing on non-technological arts-based tools Studies that focus on general technological tools that do not have an arts focus
Technology Types	***General Technology:*** software, apps, digital platforms, online tools ***Specific Technologies:*** virtual reality, augmented reality, mobile apps, interactive media, generative AI	
School Counsellors	Guidance counsellor Educational counsellors School guidance	Counsellors outside the school system School psychologists School professionals who are not counsellors
Students	K-12	Adult or college students
School Counselling Activities	Individual counselling Group counselling Classroom interventions	Studies with counselling activities outside the school context
Student Outcomes	Emotional well-being Mental health support Stress reduction Anxiety management Depression alleviation Student engagement Social skills development Peer relationships	Student outcomes achieved outside the counselling process

	Conflict resolution Social skills development Peer relationships Bullying prevention Conflict resolution Student well-being Holistic education Wellness programs Mental health programs	
School Environment	Elementary schools Middle schools High schools K-12 education	Studies dealing with adults or children outside the school system (e.g., private practice, community centers)

Figure 3 depicts the PRISMA Flow diagram (Page et al., 2021) that was used to show how research is filtered through the different parts of the scoping review and shows the number of records identified, those that are included and excluded as well as the reasons for their exclusion (Haddaway et al., 2022).

Figure 3

PRISMA 2020 flow diagram of literature search.



Stage 4: Charting the Data

The studies that were selected for review are those that have met the inclusion and exclusion criteria and are analyzed for themes related to the three research questions identified for this study. The main information extracted from each research article were organized as follows:

i) authors, date, country,

ii) purpose and research design,

iii) sample size and population,

iv) level of intervention (Universal, Targeted, or Intensive)

v) number of sessions/ duration of activity/intervention,

vi) description of the arts-based technological tool,

vii) activity/intervention type (PICRAT), and

viii) findings and conclusions (Table 3).

Table 3

Charted Data

Author, Date, Country	Purpose (P). Research Design (RD) or Article Type (AT)	Sample size and population	Level of Intervention Universal, targeted, Intensive	Description of arts-based technological tool (ABTT)	Number of sessions/ Duration of intervention	Delivery of ABTT	Activity/Intervention type (PICRAT)	Findings, conclusions
Bardhoshi et al. (2019) US	P: To examine the effectiveness of an app-based classroom counselling intervention on student social skill development RD: *Quantitative*: pretest–posttest control group design	39 students from 2 kindergarten classes 2 teachers – White, female, 5-10 yrs. teaching experience	Universal	App-based game and digital social stories - (**SOBE** (social–behavioral) Stories	30-min sessions delivered to the classroom once a week for a total of 10 sessions	Online app delivered in class	Students – interactive Counsellor - amplifies	- Students' social skills and challenging behavior improved with the application of social skills training and the use of the app-based counseling intervention in comparison to only social skills training.
Beames et al. (2021) Australia	P: Describes the methods used to capture process evaluation data RD: M*ixed methods*: hybrid type 1 approach Objective – to understand how SPARX is implemented and delivered	Secondary students (12-13 yrs.) Proposed plan of study - Approx. 200 schools (up to 10, 000 participants) Pilot study was done with 8 schools School counsellors part	Universal – embedded into curriculum	A depression prevention program via smartphone app **SPARX (**Smart, Positive, Active, Realistic, X-factor thoughts) – a gamified intervention	Active intervention phase – 4x20 min. school class sessions. Additional three sessions completed in class or the students' own time	Online app delivered in class or on the students' own time	Students – interactive Counsellors - amplifies	- Expected outcomes from the proposed research: detailed understanding of the key factors involved in the effective delivery of digital mental health programs

	in schools, and to identify systematic differences and variations in delivery.	of the team leading the delivery of the study.						across different schools; a model to guide school-based interventions. - Pilot study – refinement of processes (ex. Introduction of an incentive)
Birtwell et al. (2019) US	P: To describe the use of Sidekicks! an interactive clinical app to teach skills and improve communication *AT: Qualitative-Case study*	Sam – an elementary school-aged boy	Intensive	**Sidekicks!** – use of avatars, video clips	Not specified	Online app used in the counsellor's office	Student – interactive Counselor - amplifies	-The app seems to support in generalizing acquired skills to more naturalistic settings and enhance motivation May be used with a wide range of individuals with autism spectrum disorder and other populations. - Attention to boundaries and limits with screen time is important. - More research needed.
Casares & Binkley (2022) US	P: To highlight current social media trends; examine the impact of	Sample size – n/a Population – recommended for 6-8	Targeted – psychoeducational group activity	Interventions based on **social media** created by others - video clips	Two – 45–60-minute sessions	Online media accessed for counsellor use	Students – passive Counsellor – amplifies	-Integration of this activity can be done with groups or individuals.

	consuming? social media on adolescent girls; outline a psychoeducational activity *AT: Literature review a*nd activity description	adolescent girls		from YouTube/vlog, Instagram posts/images. Counselor created PowerPoint presentation may be used				- Can be tailored to the needs, developmental considerations, and culture of diverse populations - Additional training for counselors in the use of relevant technologies - Activity has not actually been done by authors but is grounded in and supported by academic literature
Gonsalves et al. (2019) India	P: To describe the design and development of POD Adventures *RD: Qualitativ*e - An *iterative approach* to intervention design	Focus group – 46 adolescents (21 female, 25 male): grades 8-11; 12-16 yrs. Co-design - 22 adolescents (4 female, 18 male); grades 8-10, average age – 14 User-testing – 50 adolescents from 6 schools (28 female, 22 male)	Targeted	**POD *Adventures*** – a blended problem-solving game-based intervention on smartphones	6 focus group discussion (FGD) – adolescents 2 FGDs - 8 service providers	Online game counselor-supported use of smartphones during dedicated school-based sessions open-access intervention	Student – interactive Counselor - amplifies	- Participants were engaged in gamified and narrative formats. - Instructional and relational supports (limited) by the counselor were valued by participants

Goodrich et al. (2020) US	P: To examine how digital communication tools can enhance and extend the ability of professional school counselors (PSCs) to meet student needs *AT: Literature review*, American School Counseling Association's (ASCA) National Model	N/A	Universal Targeted Intensive	**Social media** Social networking tools Fan fiction, video games, podcasts, digital storytelling	N/A	N/A	General description	- Interactive technologies can be used to enhance, streamline, and expand the reach of PSCs in schools and communities. - Awareness and understanding of current legal and ethical issues for digital use is important. - Digital literacy skills and openness to online interactions are essential.
Haugen et al (2019) US	P: To propose photovoice as a practical tool that school counselors can use to advocate with and for students *AT: Qualitative: case study*	Case study: 3 six graders (2 female, 1 male), 4 eighth graders (2 female, 1 male)	Targeted Universal	**Photovoice**	Case study – 4 group meetings, approx. 45 min over approx. 5 weeks	In person with small groups Classroom setting	Student – creative Counselor - transforms	-Considerations when implanting photovoice: time, administration staff support, and establishment of data-driven goals and evaluation of outcomes - Photovoice can be used to promote empowerment

								and social action.
Levy & Adjapong (2020) US	P: To describe the processes of urban youth of color in a classroom-based school counseling intervention in the co-creation of a space for social and emotional reflection *RD: Qualitative: exploratory action research*	15 high school student (14-18) years of age	Targeted	**Song creation and recording** – "using the mixer" and "putting beats into tracks"	Two post-intervention focus groups (research) Intervention – 3-month period	In person with the counsellor	Student – creative Counselor - transforms	- Results support the co-construction of school studios as culturally relevant environments that promote social and emotional development - Supports the implementation of the CAS model as a guide for school counseling interventions
Levy et al. (2022) US	P: To describe a culturally responsive school intervention that uses evidence-based counseling theory and hip-hop cultural practices *AT: Qualitative: conceptual framing and illustrative case study*	Youth - Brian	Intensive	**Playing of instrumental beats** to elicit reflective journal writing/ lyrics Song creation and recording	Students went through the Hip-Hop and Motivational Interviewing process – 4 stage process	In person with the counsellor	Student – creative Counselor - transforms	- The co-created shared space can foster inclusivity, comfort, and belonging where students can make their own design choices and get peer support, engage in personal self-development while supporting others

								- The 4-stage process can theoretically be used collectively to support students in cultivating emotional regulation skills - Limitation – lack of direct empirical evidence, - Can be time-consuming
Mamahit (2020) Indonesia	P: To explore the method of cinema education and stages to apply it. *AT: literature review*	Students in general	Targeted	**Cinema/ video**	N/A	Online media access for counsellor use in person	Student – passive Counselor - amplifies	The use of cinema education can provide an overview of concepts and help students evoke emotions and generate new ideas during counselling.
Suryawati et al. (2024) Indonesia	P: To describe the development and validation of WAHANA BIKONS, a web-based platform *RD: Mixed methods - Educational*	3 school counselors – interviewees 85 school counselors – questionnaire respondents 6 IT experts 39 user experts (school counselors –	Not specified – depends on the needs of the school	**WAHANA BIKONS** – web-based platform with interactive elements such as games, discussion, quizzes	N/A	Online – used with the counsellor in person	Students- interactive Counselors - amplifies	The use of the WAHANA BIKONS website obtained valid and relevant results. - It is ready for use by secondary

	design research method	junior, senior, and vocational school levels)						school counselors. - Recommendations include a more comprehensive sample to assess user validity and the exploration of other game variations.
Van Rijn et al. (2019) UK	P: To investigate whether and how computer-generated digital images might serve as therapeutic meaning bridges, supplementing verbal meaning bridges in psychotherapy *AT: Theory building case study and assimilation analysis*	14-yar-old White British boy	Intensive	Video game-like avatar software (**ProReal Ltd**.)	11 sessions – 50 min/session	Online – used with the counsellor in person	Student – creative Counsellor - transforms	- Digital imagery can serve as meaning bridges between client and counselor, and between internal parts of the client. - Can be effective for clients on the autistic spectrum, who tend to think visually or clients such as adolescent boys have challenges communicating psychologically.
Vardarli & Aladağ (2022) Türkiye	P: To explore the Virtual Reality Social-Emotional	Seven children (4 female and 3 male) ages 9-10 yrs.	Intensive	VRSELCHILD – VR based skill training	Nine weeks	Installed in a computer for in person use with the counsellor	Student-interactive Counsellor - amplifies	- VRSELCHILD supports the development of

	Learning Skills Program for children (VRSELCHILD) and to determine how children experience, perceive and react to the software. *AT: Qualitative case study*			program – 120 scenarios OculusRift headsets/virtual reality glasses				children's social emotional skills - Promotes student engagement with learning skills.

Stage 5: Collating, Summarizing and Reporting the Results

The charted data were assessed for pertinent themes as related to the research questions and then further categorized and analyzed to identify patterns, trends, and gaps in the research literature regarding the use of arts-based technological tools by school counsellors. This process is discussed in more detail in the subsequent chapters.

Conclusion

This chapter provided information on the scoping review process and described how it was used to gather the information needed to understand how school counsellors use arts-based technological tools in their practice. To demonstrate the potential of scoping reviews for this purpose, a review of the methodology of relevant articles was done.

Chapter 4: Results

The purpose of this scoping review is to examine how arts-based technological tools (ABTT) are being used by school counsellors and identify pertinent research literature that describes its use by them in the school context. Based on specific inclusion and exclusion criteria, and following a full text review, 13 peer reviewed articles published during and after 2019 were retained for analysis. Pertinent themes were identified manually and assessed for patterns and trends that may support in answering the research questions.

Description of Included Studies

Geographic Locations

The included research was undertaken from various geographical areas, that is, in the United States (7 studies), Indonesia (2 studies), India (1 study) Australia (1 studies), Türkiye (1 study), and the UK (1 study). There were no studies from Canada retrieved from the scoping review and none that recruited participants in multiple countries.

Methodologies Used

Most of the studies (8) used qualitative methodologies with 6 being case studies, 1 described as exploratory action research, and the other as being an iterative qualitative design, another action research approach. Three of the articles were literature reviews. One of the two mixed methods was described as a hybrid type 1 approach and the other as an educational design research method, combining both quantitative and qualitative research techniques. The one quantitative study used a pre/post test design.

Table 4

Participants and Methodologies

Article	Participants	Age Range	Study Paradigm
Bardhoshi et al., 2019	39 students 2 teachers	elementary (kindergarten)	quantitative: pre/post test
Birtwell et al., 2019	1 student	elementary	qualitative: case study
Vardarli & Aladağ, 2022	7 students	elementary	qualitative: case study
Beames et al., 2021	8 schools (unclear student #)	secondary	mixed methods: hybrid type 1 approach
Birtwell et al., 2019	1 student	elementary	qualitative: case study
Casares & Binkley, 2022	n/a	middle/secondary	literature review
Gonsalves et al., 2019	46 (focus group) 22 (co-design) 50 (user-testing)	middle/secondary	qualitative: iterative qualitative design
Haugen et al., 2019	7 students	middle/secondary	literature review qualitative: case study
Levy & Adjapong, 2020	15 students	secondary	qualitative: exploratory action research
Levy et al., 2022	1 student	middle/secondary	qualitative: case study
Van Rijn et al., 2019	1 student	middle/secondary	qualitative: case study
Suryawati et al., 2024	127 professionals 6 IT experts	professionals (including school counsellors)	mixed methods – educational design research method
Goodrich et al., (2020)	n/a	school counsellors	literature review
Mamahit (2020)	n/a	all ages	literature review

As shown in Table 4, three studies were conducted at the elementary level (Bardhoshi et al., 2019; Birtwell et al., 2019; Vardarli & Aladağ, 2022) while 7 studies specified the middle/secondary levels (Beames et al., 2019; Casares & Binkley, 2022; Gonsalves et al., 2019; Haugen et al., 2019; Levy & Adjapong, 2020; Levy et al., 2022; Van Rijn et al., 2019). Professionals and experts, including school counsellors were participants in one study (Suryawati et al., 2024) while the literature review by Mamahit (2020) could be applicable to all

ages. Goodrich et al. (2020)'s article addresses the work of professional school counsellors. The participants in the two quantitative studies were composed of 39 students and 2 teachers (Bardhoshi et al., 2019) and 127 school counsellors and 6 IT experts (Suryawati et al., 2024). In Bardhoshi et al. (2019), the ABTT had already been created and was being tested with students while in the second study by Suryawati et al. (2024), the development and validation of the web-based tool was described and not yet in use with students. One of the two qualitative studies (Gonsalves et al., 2019) also focused on the design and development of an ABTT and used an iterative approach to intervention design composed of a focus group (46), a co-design phase (22 and a user-testing phase (50). In the study by Levy & Adjapong (2020),15 high school students participated in the intervention. The article in the scoping review by Beames et al. (2021) proposed using a mixed methods approach involving up to 10,000 participants. Five of the studies (Birtwell et al., 2019, Haugen et al., 2019, Levy et al., 2022, Van Rijn et al., 2019, Vardarli & Aladağ, 2022) described the use of ABTT with individuals while three other articles (Casares & Binkley, 2022, Goodrich et al., 2020, Mamahit, 2020) did not identify any specific participants.

School Counsellor Involvement

Within the identified articles, the role of the school counsellor varied depending on the purpose and goals of the authors' research. Four of the articles focused on the development of ABTT in which school counsellors were participants in their development. In nine of the articles, school counsellors worked directly with students using an arts-based technological tool. Five of these are case studies, while three articles described the importance and potential of the integration of technology into the work of school counsellors. The table below summarizes these observations.

Table 5

School Counsellor Role in the Articles

Role	**Description**	**Articles**
Arts-based technological tool (ABTT) development	School counsellors participated in the development of app-based counselling interventions (SOBE, WAHANA BIKONS, VRSELCHILD – VR**)** through focus groups, involvement in preliminary research, content and user validation and provided feedback.	Bardhoshi et al. (2019), Gonsalves et al. (2019). Suryawati et al. (2024), Vardarli & Aladağ (2022)
Implementation/Delivery of topic using (ABTT)	School counsellors participated in the implementation/delivery of ABTT including SOBE stories, SPARX, Sidekicks!, social media (YouTube, Instagram), POD Adventures, Photovoice, Song playing and recording, videos, ProReal Ltd., and VRSELCHILD – VR.	Bardhoshi et al. (2019), Beames et al. (2021), Birtwell et al. (2019), Gonsalves et al. (2019), Haugen et al. (2019), Levyn & Adjapong (2020), Levy et al. (2022), Van Rijn et al. (2019), Vardarli & Aladağ (2022)
School counsellor and technology in general	School counsellors and their abilities to use digital communication tools including ABTT are described in relationship to the ASCA's National Model or supported by the literature.	Goodrich et al. (2020), Casares & Binkley (2022), Mamahit (2020)

Arts-based Technology Use in School Counseling

Art-based technological tools (ABTT)

Six of the 13 articles refer to ABTT that are downloadable or online apps, interactive game interventions or web platforms created for supporting student mental health and student engagement. These include SOBE, SPARX, Sidekicks!, POD Adventures, WAHANA BIKONS and ProReal Ltd. Social media created by other individuals using ABTT, include videos from YouTube, vlogs, Instagram posts and images that may be utilized by the school counsellor for

educational purposes with students. ABTT using devices such as cameras, tools for song creation and recording and virtual reality gear are highlighted in 4 articles. The benefits, challenges/considerations, and limitations of the different ABTT are outlined in Table 6.

The number and duration of sessions varied for the studies that involved students using ABTT, for example, 10 sessions of 30 minutes each, 4 sessions of 20 minutes each, 2 sessions of 45-60 minutes each, 4 sessions of 45 minutes for 5 weeks and 11 sessions (50 minutes).

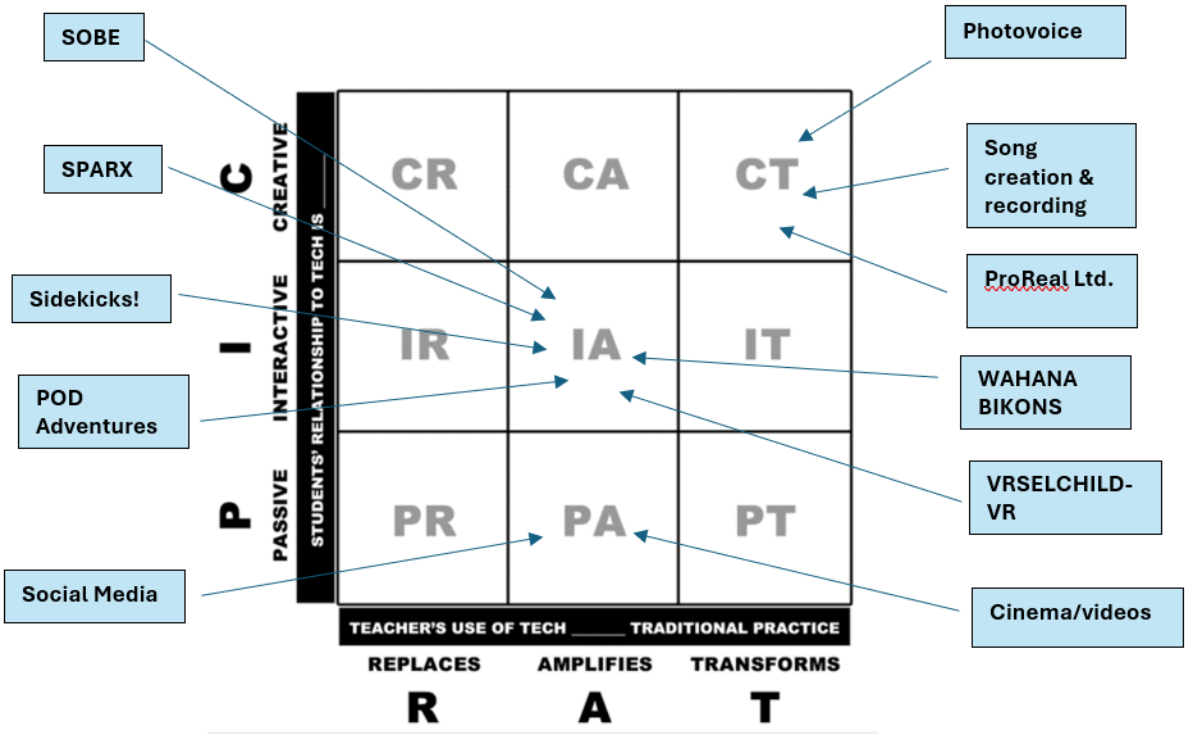
PICRAT Model

The PICRAT (Passive Interactive Creative Replaces Amplifies Transforms) model for technology integration provides a way of describing how a technological tool is being used by the teacher or in this case the school counsellor, and the students' relationship to the technology in the given situation. When the 2 axes of the model (student relationship to the technology and teacher' use of technology) are combined, the integration of the activity using technology can range from low level integration (PR) to high level integration (CT). The activity is classified by a combination of both the students' relationship to the technology and the effect on the educator's original practice (Curry et al., 2022). Figure 3 provides a pictorial representation of PICRAT and how the technologies described in this scoping review would fit into this model. Six of the ABTT (SOBE, SPARX, Sidekicks!, POD Adventures, WAHANA BIKONS AND VRSEL CHILD-VR amplify or enhances the school counsellor's delivery of information with students interacting actively with the tool. For example, SOBE (social-behavorial) stories amplify the counsellor's lesson by going beyond the passive learning through the reading of a book and further engaging students with content using app-based games and digital social stories (Bardhoshi et al., 2020). Three of the ABTT (photovoice, song creation & recording, ProReal Ltd.) have the potential to transform the school counsellors' previous practice and encourage

student creativity. Incorporating photovoice, for example, fosters student creativity through visual expression and promotes deeper engagement with students' emotional and personal experiences potentially transforming a school counsellor's previous practice (Haugen et al., 2019). For two of the ABTT (social media, cinema/videos), students are passive recipients of the technology while the school counsellors practice is amplified using the ABTT. In the use of the cinema education method, for example, Mamhit (2020) states that movies in class or the learning process can help the counsellor "get out of the boring routine of teaching with classical methods" (p. 71) and can bring out student creativity by stimulating ideas, thoughts and explanations. The PICRAT model can also elicit reflection on how a lower-level integration can be altered to become a higher-level integration. While passively watching videos or films can support school counsellors' lessons, having students create their own short videos on social media as a means of self-expression, communication, and showcasing their talent and creativity can help support students in responsibly managing online interactions and developing healthy digital habits (Start Motion Media, 2024). School counsellors need to also take into consideration that students are adversely affected by excessive media use, exposure to negative content, and comparison to others, contributing to low-self-esteem, depression, and anxiety (Casares & Binkley, 2022, Chen & Xiao, 2022). While creating social media content can provide valuable learning opportunities by developing student resilience and critical thinking skills, other considerations include online safety, maintaining privacy, dealing with potential criticism and time management (Start Motion Media, 2024).

Figure 4

PICRAT model



Note: Adapted from "The PICRAT Model for Technology Integration in Teacher Preparation," by R. Kimmons, C. Graham & R. West, 2020, *Contemporary Issues in Technology and Teacher Education* p. 189 (https://citejournal.org/volume-20/issue-1-20/general/the-picrat-model-for-technology-integration-in-teacher-preparation/) Copyright 2020 by Contemporary Issues in Technology and Teacher Education Journal. Used with permission.

Level of Intervention

The intervention levels refer to whether the ABTT is classroom-based, small group or individual focused. In the articles by Bardhoshi et al. (2019) and Beames et al. (2021), the ABTT is integrated at a universal level of intervention, that is, administered to the entire class. Targeted or small group interventions were described specifically in 4 of the articles while the intensive

level was displayed in 4 of the articles, mostly describing case studies. The article by Suryawati et al. (2024) did not specify a particular level and integration of their web-based platform would depend on the needs of the school. Likewise, the ABTT described in the article by Goodrich et al. (2020) could also apply to all levels.

Mode of Delivery

Eight of the programs were housed online and accessible for student use with the counsellor either in or out of the classroom setting. In two of the articles, media in the form of YouTube, vlog posts and Instagram posts were used by the school counsellor for presentation purposes. Gonsalves et al. (2019) described their online game as one that could be counsellor supported during school-based sessions or be open access for all students. According to UNESCO (n.d.), open access means free access to digital content and unrestricted use of electronic resources for all individuals including software, audio, video and multimedia. In the context of arts-based technological tools, open access means making the ABTT freely available and accessible to students. Four of the articles pertained to programs that required specialized equipment such as a camera, sound and recording equipment and virtual reality headsets or glasses and were used in the school counsellor's presence.

The implications of the results from the scoping review are discussed with respect to the research questions in the next section.

Table 6

Benefits and Challenges Identified

Authors	**ABTT**	**ABTT Benefits**	**ABTT Challenges/ Considerations**	**Limitations of the Research**
Bardhoshi et al. (2019)	SOBE stories	- Increased social skills development (communication, cooperation, assertion, responsibility, empathy, engagement, self-control) - Reduction in problematic behavior (externalizing, bullying, inattention, internalizing behaviors) - Digital role play in SOBE Stories allows students to experiment, fail, and retry core-behaviors in a non-threatening environment. - Can serve as an early preventative activity	- Unclear if later social/emotional or academic gains will occur - Access to iPads – schools with limited technology - student access and familiarity with iPad use - Need for professional development	- Preliminary study - Additional stories are required to confirm SOBE stories as an effective intervention - Only one school was studied - - need for larger sample - More follow-up time to determine if the long-term effects of the intervention - Intervention lessons were delivered by the lead author – possible bias
Beames et al. (2021)	SPARX	- May prevent depression before final school exams. - Teaches about the relationship between thoughts, feelings, and behavior and skills (emotion identification, emotion, regulation, behavioral activation, recognizing and challenging unhelpful thoughts, and practical problem solving	These are not mentioned in the 2021 article cited in the scoping review. From Beames et al. (2023) - Lack of time, capacity, support, and resources: high workloads and limited availability - Other programs also compete for space in congested curricula - App may not be a good fit for all students	These are not mentioned in the article cited in the scoping review. From Beames et al. (2023) - Objective data regarding adherence to the implementation strategy was not collected formally from the intervention schools

		- App was more engaging for students than the school-based face- to- face programs - Students could use their own devices	- Concern about increased screen time in schools and misalignment with “no-phone” policies in schools - Out of date gamification and graphics – SPARX was developed in 2012.	- The current evaluation examined reports from a small sample of school staff
Birtwell et al. (2019)	Sidekicks!	-May help children with ASD (autism spectrum disorder) with engagement and motivation during counselling by tapping into their restricted interests. - Can be used across various settings and accessed by different adult facilitators - Can be used with a wide range of individuals with ASD and may benefit other populations with challenges.	- With children with ASD, managing and restricting screen time may be challenging. - Increased device use might not be feasible for some children. - Effectiveness may be dependent on elements such as intact cognitive/ language skills and character-based restricted interests.	- No formal evidence to support the benefits of Sidekicks!
Casares & Binkley (2022)	Social media	- Can be used in the context of group activities and psychosocial interventions to explore pertinent themes related to its use - Social media platforms can be used by school counsellors as cultural touchstones and resources for facilitation	- High technology and social media use can cause physical, social, and relational problems – can negatively influence self-esteem, well-being, and development - Need for training and development of a greater comfortability and competence with technology - The intervention may elicit strong emotions or self-disclosure	- The intervention has not been done by the authors and is supported by the literature rather than by experience or student feedback.

Gonsalves et al. (2019)	POD adventures	- Aims to enhance a student's ability to manage stressors to improve or prevent mental health problems through digital blended self-help - Reduce the demands of face-to-face counselling - Increased opportunities of self-help (personalization and engagement) - Smartphone typing may be preferable that writing on paper - Ability to work off-line	- Concerns regarding the amount of time spent on phones - Local infrastructure limitations, i.e., lack of online functionality	- Teacher nominated referrals and self-referrals – bias - Not necessarily generalizable to semi-urban or rural settings
Goodrich et al. (2020)	Interactive technologies, social networking tools	- Social networking tools can be a means of social support and can help overcome social inhibitions - Digital tools can be used to support self-care	- Misconceptions, misinformation, and false claims in popular media - Negative feedback – lower self-esteem and decreased sense of well-being - Ethical and privacy issues - Unfamiliarity with interactive tools	N/A
Haugen et al (2019)	Photovoice	- Promotes empowerment and social action through youth participatory action research (YPAR) - Addresses students' strengths and barriers and encourages community connection, critical dialogue, and action - Highly adaptable in that it can be used for different concerns, topics, and goals	- Time availability for meeting with students - Buy-in, support and collaboration from administration and staff - Ethical considerations with taking photographs	Limited research related to positive student outcomes and the activation of social change

Levy & Adjapong (2020)	Hip-Hop recording studio	- An environment where song creation and recording supplement social and emotional support for students - Fosters inclusivity, comfort and belonging, peer support and supporting others	- School counsellor availability – large caseloads and non-counselling duties - Training of teachers in the use of indirect classroom-based school counselling interventions	- The study fails to offer support for counsellors in the use of a direct school counselling intervention - Student reports are subjective - Small sample and demographic – lack generalizability - Lack of in-depth data
Levy et al. (2022)	Lyric writing and recording	- Combining hip-hop and spoken word therapy and motivational interviewing fosters engagement with the emotional experiences and complex intersectionality of Black and Brown youth. - Helps students explore difficult feelings through emotional lyric writing and recording to hear themselves to help restructure maladaptive thoughts	- Can be time consuming - Students may not identify with hip-hop	- Research for this counselling framework in supporting the development of emotional regulations skills is limited. - Lack of direct empirical evidence
Mamahit (2020)	Cinema education method	- Helps students to understand their personal needs and goals and their living conditions - Can help students problem solve solutions through discussion and role play - Can help in practicing a skill - Can enhance student engagement and creativity with responses	- Time required to prepare a film for a given theme that is suitable for the developmental stage of the student - Not all students will be benefit or be receptive - Time required for screening	N/A

Suryawati et al. (2024)	WAHANA BIKONS	- Intended to enhance innovation, interactivity, and creativity of counselling services - Foster student engagement - Users have the option to determine and add content according to school needs	- Not all schools have access to laptops and the Internet (some schools in Indonesia) - Focuses on secondary school counsellors (no counsellors at the elementary level) - Concentrates on basic services and cannot be used for other counselling or guidance programs	While the WAHANA BIKONS website has been deemed ready for use, user validity from a more comprehensive sample in different regions is recommended. - Need to develop more game variations
Van Rijn et al. (2019)	ProReal, Ltd (avatar software)	- Using digital imagery can facilitate communication (can act as a springboard for verbal exploration) - Images can support in formulating and working on problems	- Many individuals may not be adept at using digital imagery	- Based on nine out of a 60-session treatment with one individual - Researchers did not have a diagnostic evaluation and were unfamiliar with the individual's history or personal circumstances
Vardarli & Aladağ (2022)	VRSELCHILD (Virtual Reality Social-Emotional Learning Skills Program)	- The program supports the development of children's social emotional skills and enhances their motivation and engagement in learning the skills. - The scenarios are realistic – allows children to practice different skills	- The students found the characters unrealistic - OculusRift headset is not a product suitable for use by children and may have side effects like dizziness or nausea - Some difficulties installing the program on home computers or no computers in the home	- Lack of budget for more realistic characters in the software - Technical difficulties and malfunctions

Chapter 5: Discussion

This scoping review summarizes some of the research on the use of arts-based technological tools (ABTT) by school counsellors. The importance of ABTT for student mental health and well-being is recognized and being researched in different geographical areas, including the US, UK, Indonesia, India, Australia, and Türkiye. In this section, the results are interpreted according to the specified research questions.

1. What arts-based technological tools are currently being used by school counsellors?

One objective of this scoping review was to explore if and in what ways school counsellors are using ABTT in their practice and if so, which tools they were using. The results from the scoping review indicate that there are school counsellors integrating ABTT in their practice as per Goodrich et al. (2020), and that new tools are being developed by researchers in collaboration with experts in the field, including school counsellors. However, the extent to which these tools are currently being incorporated into school counsellors' practice is not well-defined; rather, it is exemplified through case studies and examples as well as through the descriptions of various research settings. Moreover, while some of these uses take place in actual school settings, a few of the articles describe hypothetical or potential uses of ABTT based on their analysis of pertinent academic literature and have not actually been implemented by school counsellors (Casares & Binkley, 2022, Goodrich et al., 2020, Mamahit, 2020, Suryawati et al., 2024). In the articles describing ABTT implementation, the duration and level of integration into a counsellor's practice tended to be defined by the time limits delineated by the research or was described generally. For example, the app, SOBE stories was delivered to the classroom students for 10 sessions, each 30 minutes in duration, once a week (Bardhoshi et al.,2019).

The ABTT described by articles in the scoping review were mostly online apps, interactive games or web platforms created by the researchers in collaboration with experts (Bardhoshi et al., 2019, Beames et al., 2021, Gonsalves et al., 2019, Suryawati et al., 2024) and app developers in consultation with researchers and educators (Birtwell et al., 2019, Van Rijn et al., 2019). It is unclear as to who created the Virtual Reality Social –Emotional Skills program for children (VRSELCHILD) as described by Vardarli and Aladağ (2022). Also, pre-existing social media platforms and videos, ABTT created by other individuals, were identified as tools used by school counsellors in their practice (Casares & Binkley, 2022; Mamahit, 2020). Some ABTT require specialized equipment such as VR headsets/glasses or sound recording equipment which may involve installation of programs onto computers if online access was not an option.

The integration of digital tools, including ABTT into a school counsellor's practice is still in its infancy (Goodrich et al., 2020). As such, the involvement of counsellors and students in the different studies tends to be more explorative and restricted to small groups and case examples to determine their effectiveness with targeted groups. Indeed, many of the authors advocate for the need for more research including the development and rigorous evaluation of relevant apps, such as smartphone apps (Gonsalves et al., 2019), how to leverage the influential and participatory nature of social media (Casares et Brinkley, 2022, Goodrich et al., 2020), and the use of digital imagery for facilitating communication (Rijn et al., 2019).

2. How have arts-based technology tools been used in online and in-person contexts in school counselling?

In the articles surveyed, ABTT was incorporated into school counselling for different age groups from K-12. These tools were used with students universally in the classroom, in small groups with targeted interventions and with individual students for more intensive interventions.

Also, as mentioned above, the ABTT described in the studies were mainly interactive game type interventions housed either in app form or on web platforms where the school counsellor worked in person with students. Yet, there is the potential for some of these tools, especially those that were smartphone apps, to be used outside the school walls for supporting student's mental health and well-being. "Digital platforms offer unparalleled opportunities to reach vulnerable adolescents at scale and overcome barriers that exist around conventional service provision" (Gonsalves et al., 2019, p. 1). Their claim is that as their blended problem-solving game-based intervention, POD Adventures, is open access and requires low-intensity human support, the need for face-to-face counselling can potentially be decreased. In-person contexts were the most prevalent in the studies surveyed. This may be related to parental and teacher concerns regarding the amount of time spent on phones and technological devices (Gonsalves et al., 2019). Virtual school counselling was not directly mentioned in any of the articles.

Most of the ABTT tools described in the scoping review have the potential to amplify or enhance a school counsellor's practice where students actively interact with a given tool. For example, the use of SOBE stories (Bardhoshi et al., 2019) could be perceived as a replacement for the use of actual books by the school counsellor; however, because of its interactive games and by supplementing the tool with other relevant classroom activities, the app may increase student motivation to engage and learn important social emotional skills, thus amplifying a school counsellor's work with students. Where the students used the ABTT in an interactive manner as per the PICRAT model, the focus was on the acquisition of skills and knowledge to support student well-being, mental health, and development in which the school counsellor was the expert, and technology used to support the delivery of specific social-emotional outcomes.

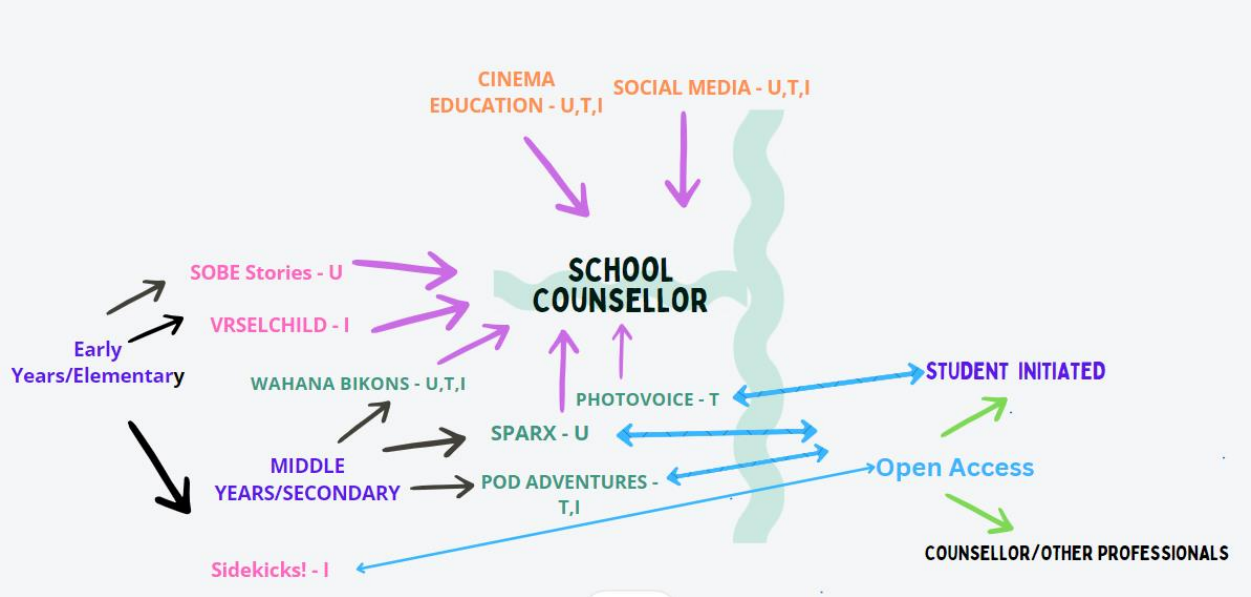
Student use of the ABTT created by other individuals in the form of social media and videos for cinema education can be seen as passive as they are taking in the information and not interacting directly with the technology. However, such tools can enrich or amplify school counsellors' presentations and support in facilitating group discussion, problem solving and student reflections. Casares and Binkley (2022), for example make reference to popular female social media accounts, Instagram posts and You Tube videos to elicit student thoughts, feelings and emotions and the effects on their self-esteem. Furthermore, a school counsellor's practice may become transformative when students are using their creative processes and digital technologies for self-expression and communication. The use of ABTT such as Photovoice, avatar software and song creation and recording accesses the creativity of students as they make sense of their personal experiences and the social, cultural, and other influences in their world. This kind of work can be transformative for the work of the school counsellor as students "are treated as experts in their own experiences and are empowered to identify strengths and advocate for needs in their school and community" (Haugen et al., 2019, p. 3). In such cases, the role of the school counsellor becomes that of guide and mentor.

Figure 4 provides an overview of the ABTT identified in this scoping review, that is, the social context of each (universal, targeted, and intensive), the intended grade level, and whether these have the potential to be used outside the school walls (open access). The use of certain applications outside the school has the potential of "coordinating the intervention effects of various professionals involved in the treatment of children" (Birtwell & al., 2019, p. 266). The use of photovoice is depicted as being outside the school as students may take photos in their own time that portray their perspective of the world around them. Cinema education and social media can apply to all grade levels and may enhance the school counsellor's practice. The school

counsellor is the central figure whose work can be enhanced, amplified, or even transformed using interactive technologies such as ABTT while keeping in mind the current legal and ethical issues related to its use.

Figure 5

Overview of ABTT



In Figure 4, the school counsellor is at the center surrounded by some of the different ABTT available to them (purple arrows). The ABTT in pink are those identified in the scoping review as pertaining to the elementary or early years, those in green can be used at the secondary or middle years and the orange ones can be applicable to all grade levels. The blue arrows indicate that the ABTT have the potential to be open access with outside counsellors and other professional also having access. Students also have the option to use these ABTT outside school counselling sessions.

3. What are benefits and challenges of using arts-based technological tools in school counselling?

Creative interventions supported by arts-based technologies can enhance connection with students and support their social-emotional needs (Bardhoshi et al., 2019, Birtwell et al., 2019). ABTT may also help school counsellors in the communication of concepts and information important to the mental health and well-being of their students (Casares & Binkley, 2022, Goodrich et al., 2020). Both benefits and challenges of using some types of ABTT have been described in the articles identified by the scoping review and support the incorporation of these tools into school counsellor practice.

Benefits

One of the most noted benefits identified from the scoping review was the use of ABTT to support communication and facilitate school counsellor and student discussions by providing relevant contexts for exploration, role play, and problem solving (Bardhoshi et al., 2019, Caseres & Binkley, 2022, Haugen et al., 2019, Mamahit, 2020, Van Rijn et al., 2019, Vardarli & Aladağ 2022). In doing so, students were more likely to be engaged and motivated to participate in counselling interventions which may result in increased social skills development, awareness for the need for self-care, and the prevention of mental health issues. Some authors noted that ABTT may assist in supporting the mental health and well-being of students of a specific culture or population and provide opportunities for empowerment and social action. Through peer support, students may experience a sense of belonging and inclusivity (Birtwell et al., 2019, Caseres & Binkley, 2022, Levy et al. 2022). Decreases in problematic student behavior may also occur with the social and emotional support for students using ABTT (Bardhoshi et al.,2019). The school counselling process may be enhanced, and its reach extended past school walls as students use

their own devices to access support. The advantages of having students use their own devices (or that of their parents) and making an app open access, was that it allowed students to use the app on their own time and has the potential to reach more students. “With more young people than ever using smartphones, mental health intervention delivered online or through applications represents an exciting avenue for reaching adolescents” (Beames et al., 2021).

Table 7 below depicts the identified benefits as supported by the various authors in this scoping review and their relationship to school counselling areas/program as listed by the Manitoba School Counsellors’ Association or MSCA (2022). These include the systematic identification of student needs and creating goals and objectives to meet those needs (student support); promoting student learning for personal/social and educational development (skills development); responding to the unique and special needs of students (rapport); providing a range of counselling services, that is, developmental/preventative focus to a responsive/remedial focus (school counsellor practice).

Table 7

School Counselling and Identified Benefits of ABTT

School Counselling Area	**Benefits of ABTT**	**Authors**
Rapport	Facilitate communication/discussion and digital role plays and contexts for exploration, problem-solving	Bardhoshi et al., 2019 Caseres & Binkley, 2022 Haugen et al., 2019 Mamahit, 2020 Van Rijn et al., 2019 Vardarli & Aladağ 2022
Rapport	Student engagement	Bardhoshi et al., 2019 Beames et al., 2021 Levy et al. 2022 Mamahit, 2020 Suryawati et al., 2024
Skill development	Increased social-emotional skills development	Bardhoshi et al., 2019 Goodrich et al., 2020 Mamahit, 2020

		Vardarli & Aladağ, 2022
Student support	Prevent mental health problems and support self-care e.g., depression	Beames et al., 2021 Gonsalves et al., 2019 Goodrich et al., 2020
Student support	Support specific populations and cultures – autism - Black and Brown youth	Birtwell et al., 2019 Caseres & Binkley, 2022 Levy et al. 2022
Skill development	Relationship between thoughts, feelings, behavior, and skills	Beames et al., 2021 Levy et al. 2022
Skill development	Empowerment and social action	Haugen et al., 2019 Mamahit, 2020
Student support	Students use their own devices	Beames et al., 2021 Gonsalves et al., 2019
School counsellor practice	Reduce the demands of face-to-face counselling	Gonsalves et al., 2019
Student support	Social and emotional support for students – belonging, inclusivity, peer support	Levy & Adjapong, 2020
School counsellor practice	Enhance innovation, interactivity, and creativity of counselling services	Suryawati et al., 2024
Skill development	Decrease in problematic behavior	Bardhoshi et al., 2019

Challenges

It seems that while the use of ABTT is pertinent to the goals and practices of school counselling, it is not without challenges and issues that make this use challenging to implement. Table 8 summarizes some of these as they relate to the school counselling role. The scoping review identified some issues related to the integration of ABTT into school counselling practices. Many of the articles referred to access to technology and resources as being a concern. This is evident in schools and homes where Internet access is limited or non-existent because of current infrastructure, limited or no access to necessary devices, or lack of budget. This problem seems to be an issue in all the countries from the scoping review (United States, Indonesia, United Kingdom, Türkiye, and India). For example, in the article by Levy and Adiapong (2020), financial support was obtained for the purchase of materials required for a recording studio via a GoFundMe campaign on Facebook, however, this is not necessarily an option for all schools.

Moreover, some of the hardware needed for the ABTT has not been adapted for children and may not be readily suitable for their use (Vardarli & Aladağ, 2022).

Table 8

School Counselling and Identified Challenges of ABTT

School Counselling Area	**Challenges of ABTT**	**Authors**
School counsellor practice	Need for professional development	Bardhoshi et al., 2019 Caseres & Binkley, 2022 Goodrich et al., 2020 Levy & Adjapong, 2020 Van Rijn et al., 2019
School counsellor practice	Access to technology – local infrastructure limitations, IPads, laptops	Bardhoshi et al., 2019 Gonsalves et al., 2019 Suryawati et al., 2024
Skills development Rapport	Unclear if social/emotional gains are sustainable	Bardhoshi et al., 2019
School counsellor practice	Lack of time, capacity, high workloads	Beames et al., 2021 Haugen et al., 2019 Levy & Adjapong, 2020 Levy et al. 2022 Mamahit, 2020
Skills development Rapport	Not a good fit for students, ex. Cognitive/language skills, interest	Beames et al., 2021 Birtwell et al., 2019 Caseres & Binkley, 2022 Levy et al. 2022 Mamahit, 2020
Student support	Concerns with increased screen time and misalignment with “no-phone” policies in schools	Beames et al., 2021 Birtwell et al., 2019 Caseres & Binkley, 2022 Gonsalves et al., 2019
School counsellor practice	Ethical and privacy issues	Haugen et al., 2019 Goodrich et al., 2020
Rapport	Side effects caused by technology peripherals – dizziness, nausea	Vardarli & Aladağ, 2022
Rapport	Student lack of familiarity with the technology	Bardhoshi et al., 2019 Van Rijn et al., 2019

School counsellor practice	Buy-in, support and collaboration from administration and staff	Beames et al., 2021 Haugen et al., 2019

The need for training and professional development was also identified as important in overcoming the barriers to ABTT integration. School counsellors may not necessarily have the experience or expertise with using and integrating ABTT into their practice and may feel unable deal with technological issues or the management that using technology with students entails (Bardhoshi et al., 2019, Caseres & Binkley, 2022, Goodrich et al., 2020, Levy &Adiapong, 2020), Van Rijn et al., 2019). Suggestions for increasing school counsellor's capacity for working with ABTT include professional development workshops that address how to effectively integrate technology into the classroom to create a learning environment that facilitates student exploration of digital tools (Bardhoshi et al., 2019). School counsellors may also receive training for digital tools through partnerships with local universities or art therapists. Tech companies may also be a source of training as exemplified in the article by Rijn et al. (2019). However, the time required for both school counsellors and students to learn the ABTT may be problematic with school counsellors having limited availability because of high workloads (Beames et al., 2021, Haugen et al., 2019). Privacy and ethical concerns were referred to in some articles but mainly regarding the research methods and not necessarily the use of the technological tool. Goodrich et al., (2020) emphasize the importance of privacy and ethical concerns when working with technological tools in general and recommend that school counsellors improve their digital literacy skills to better guide students when they are online, in understanding risks related to safety, security, and reputation. Haugen et al. (2019) specify the ethical considerations in the implementation of photovoice when it comes to the taking of photographs. School policies regarding smartphone use and concerns about increased screen time

also needed to be considered when working with ABTT (Beames et al., 2021, Birtwell et al., 2019).

Haugen et al. (2019) also indicate support, collaboration and buy-in from staff and administration should be considered. Furthermore, the use of certain ABTT may not be suitable for all students' interests and needs. For example, they may not identify with the music style (Levy et al., 2022), or videos being presented (Mamahit, 2020) or may not be comfortable using digital imagery (Van Rijn et al., 2019) or not have the cognitive or language skills required to use the ABTT (Birtwell et al., 2019). Students' physical limitations may also be an issue although these were not noted in the scoping review articles. Further concerns raised by the articles include competition with other programs (Beames et al., 2021) and the lack of research regarding the long-term benefits or academic gains of ABTT into school counselling (Bardhoshi et al., 2019).

Limitations

While the present scoping review provides important insights into the use ABTT by school counsellors, it does not come without limitations. The small sample of studies found after the implementation of the inclusion criteria may indicate a lack of evidence-based research on the use of ABTT in school counselling during the specified timeline. Moreover, the diversity in the concept of arts-based interventions and technological tools means that ABTT may be described or defined differently across various studies.

The review may have only captured studies done in certain journals and given that only English language publications were included, some pertinent studies published in other languages would not be considered. Also, the present review excluded the use of arts-based technological tools by professionals other than qualified school counsellors and in contexts other

than the school setting. This would exclude articles pertaining to the use of ABTT by school psychologists, teachers and art therapists working in schools. The short term and long-term effects of using ABTT on students was not explored beyond the identification of benefits and challenges within the school counselling role as specified in the scoping review.

Implications and Future Directions

The purpose of this scoping review was to identify the types of evidence regarding the integration of ABTT into the school counselling process and to determine and analyze any knowledge gaps that could guide future research. The use of ABTT by school counsellors is being done in several countries using different methodologies, but there does not seem to be an abundance of articles currently on this topic. Given that many of the studies in this review did not have large sample sizes, had a small demographic, were preliminary studies, or had not actually been implemented with students, the need for more studies with direct empirical evidence regarding this topic is recommended. More research related to school counsellors' experiences and feelings regarding the use of ABTT in the counselling process is also recommended.

How the ABTT is integrated into the practice of school counsellors is also of importance in terms of student engagement, motivation, and action. Being passive receivers of another individual's use of ABTT may not be as empowering for students as creating and using ABTT to advocate for their own needs and purposes. More research is recommended in this regard. Moreover, most of the ABTT were online apps or web platforms housing interactive games or social media, and although they have their merits in that they can amplify a school counsellor's practice as students interact with the tool, more studies that utilize student creativity in the use of ABTT could transform the practice. In doing so, students may become empowered as they share

their unique perspectives, feelings, emotions, and ideas about the world in and around them through actual art and expressive art creation. The use of ABTT tools such as photovoice (Haugen et la, 2019), for example, could lead to social action that could help make a difference in their mental health and well-being. Another direction for future research based on the scoping review results could involve more empirical studies on the ethics of using ABTT in school counselling, including the access and storage of student work, informed consent, privacy, accessibility, cultural sensitivity, and the effectiveness of the tools. Studies related to the cultural and community considerations in the use of ABTT are also of importance, for example, among Indigenous populations. Psychological safety is another area that could be explored with the respect to the use of ABTT, for example, how school counsellors can provide emotional security as well as safe digital environments as they blend technology with human interaction.

Chapter 6: Conclusion

The findings from the scoping review are relevant and informative to school counsellors' practice or research in school counselling. For example, regarding the use of arts-based technological tools (ABTT) by school counsellors, many of the articles from the scoping review tended to advocate for and explore different tools through descriptions of specific research literature and case study examples. This is similar to what was observed by Storjohann (2019) in their review of the integration of digital app technologies into traditional expressive arts therapy. "While offering valuable historical groundwork in the topic, these materials merely provide practitioner opinions, considerations, and potential applicability rather than concrete empirical data" (p. 7). This indicates the need for more empirical data to substantiate the importance and the use of ABTT by school counsellors. Other articles in the present scoping review described the development of specific apps or web platforms; however, the integration of these apps into the everyday practices of school counsellors tended to be minimal and more theoretical.

Another consideration is the impact of artificial intelligence (AI) on the world of school counselling. As mentioned briefly in chapter 1, the use of AI in school counselling is becoming more prevalent and although the present scoping review did not uncover any pertinent research literature as to its use by school counsellors, it is still an important topic, especially for today's society (Baumann, 2024, Cann, 2023, Francisco, 2023, Jarud et al. 2024). AI-infused ABTT may support counsellors in creating journal prompts and social stories (Baumann, 2024), provide digital therapeutic interventions, and in conjunction with augmented reality and virtual reality create immersive and interactive therapeutic experiences. The simulation of real-world scenarios can assist students to develop coping strategies, navigate challenging contexts and manage stress in a controlled environment (Teachflow, 2023). However, as with the ABTT that were

mentioned in this scoping review, there are challenges and limitations related to integrating AI-based ABTT into school counselling including privacy and data issues, potential technical glitches, and potential biases in AI algorithms (Teachflow, 2023).

Moreover, the demands for school-based mental health services are increasing with the prevalence of mental health needs of students (Zabek et al. 2023), and to reach a broader audience, arts-based interventions and their tools need to also be incorporated at the universal or classroom level, with links to school curricula, as to not be an added burden to teachers and the school counsellors that work with them. The targeted group and intensive or individual interventions are still valuable and have been described in the case examples in this scoping review. It is important to note ABTT are still tools and that the school counsellor needs to consider the needs of the students they are working with as to whether these are appropriate for a given context.

Finally, the use of ABTT is not feasible without considering financial aspects, structural elements, time, resources as well as buy-in from educational stakeholders needed to implement them. To optimize the use of ABTT, school counsellors need to understand the rationale for these tools and how to best integrate them into their practice. This may be done during their training as school counsellors or through the provision of pertinent professional development through the school division (Mason et al., 2018, Julius et al., 2020). Indeed, because of the pervasiveness of technology (including ABTT) in education and in students' lives, the ideal context would be that school counsellors receive the necessary technological training for their roles and the time to practice and integrate these tools in a supportive environment to meet the developmental needs of the students they serve.

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Appendix A: Database Searches

Web of Science (June 15, 2024)

Combined Searches and **Preprint Citation Index** (Exclude – Database)

in All Databases | Session: June 15, 2024

View results (1,525)

TS=(technolog*) and **Technology** (OR – Search within topic) and **New Technology** (OR – Search within topic) and **Innovation** (OR – Search within topic) and **Digital** (OR – Search within topic) and **Artificial Intelligence** (OR – Search within topic) and **Apps** (OR – Search within topic) and **Virtual Reality** (OR – Search within topic) and **Augmented Reality** (OR – Search within topic) and **Preprint Citation Index** (Exclude – Database)

in All Databases | Session: June 15, 2024

View results (13,506,410)

school counsel* (Topic) and **School Counselor** (OR – Search within topic) and **School Counselors** (OR – Search within topic) and **Preprint Citation Index** (Exclude – Database)

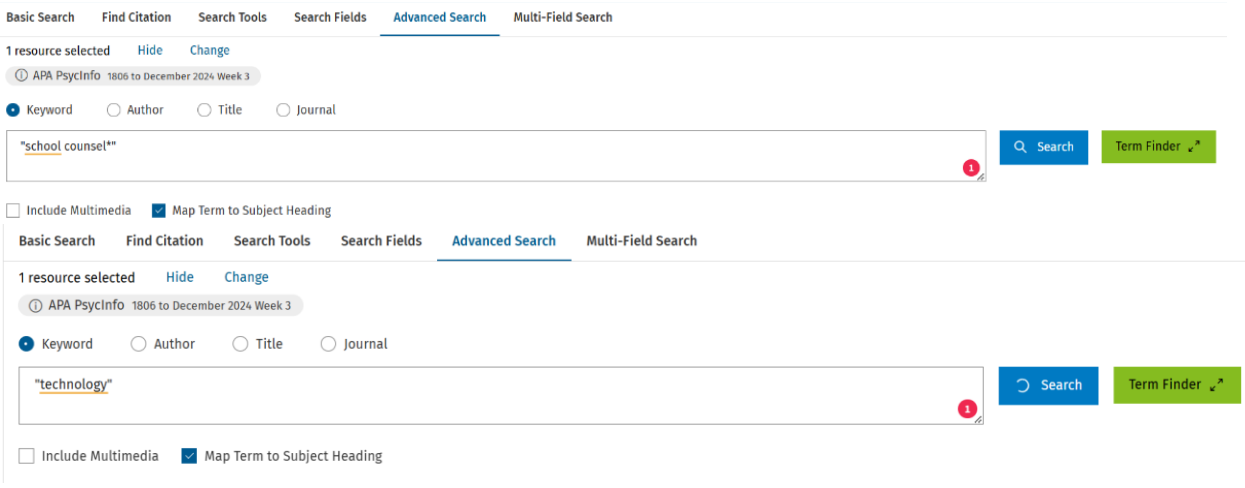
in All Databases | Session: June 15, 2024

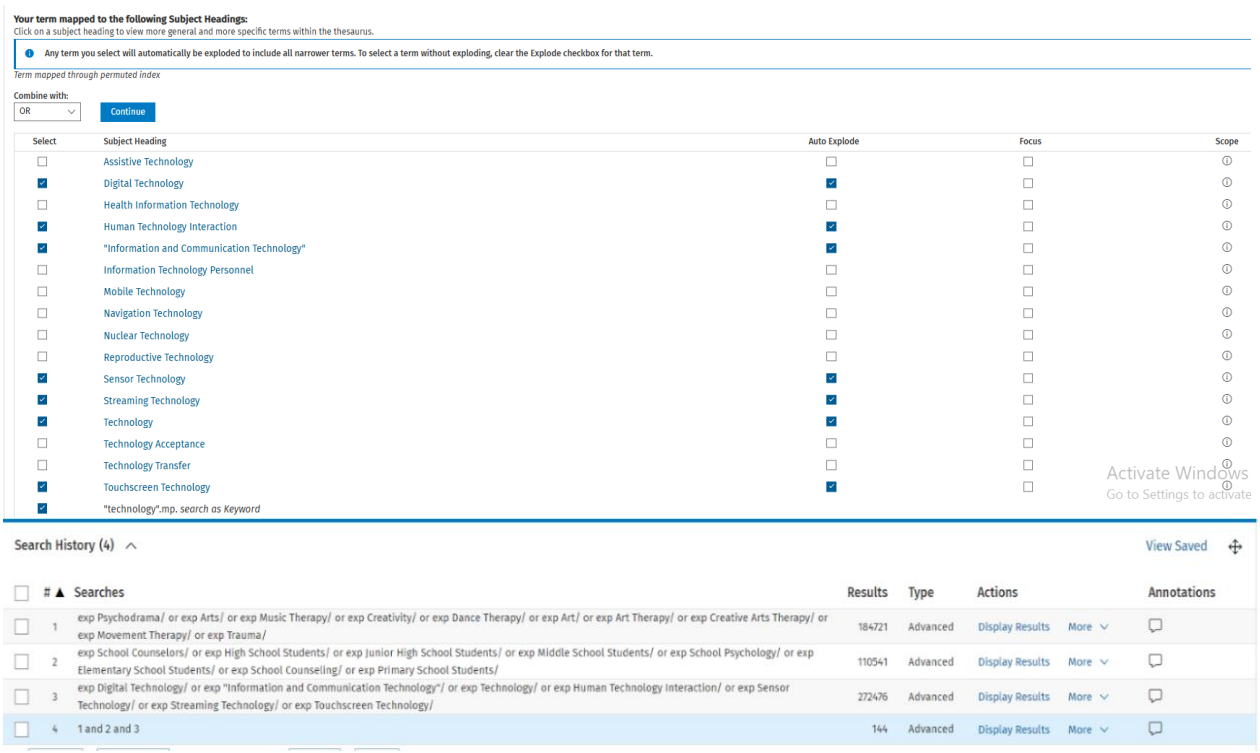
View results (70,276)

arts based interventions (Topic) and **Arts** (OR – Search within topic) and **Intervention** (OR – Search within topic) and **Preprint Citation Index** (Exclude – Database)

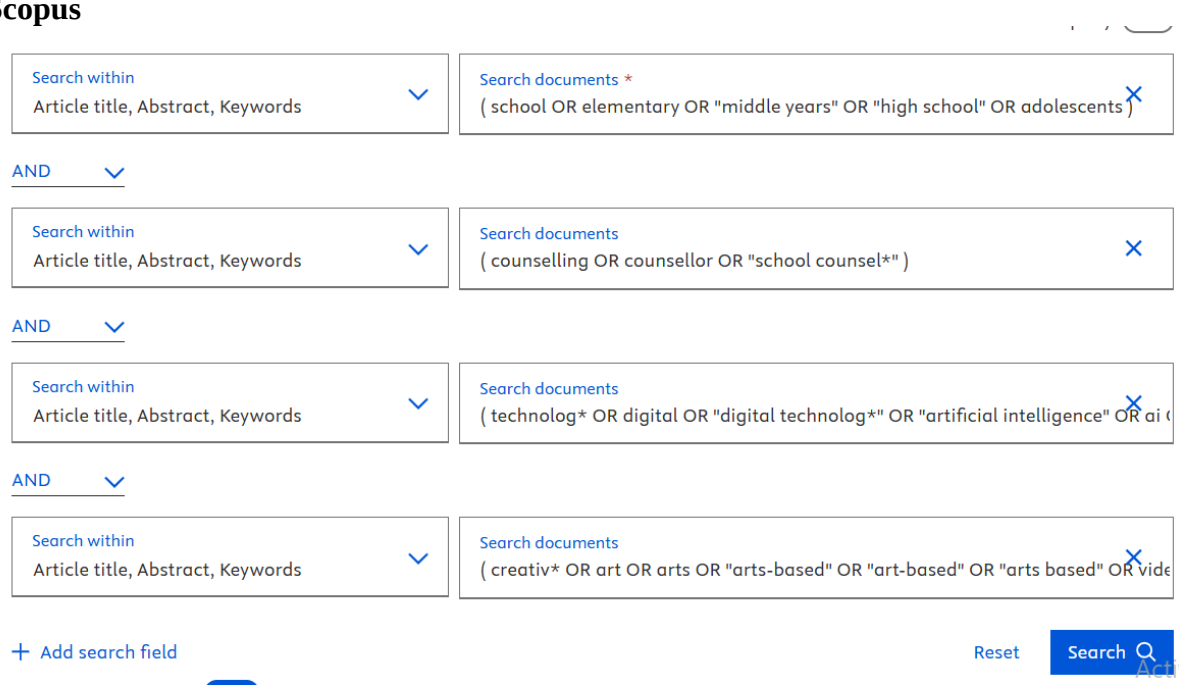
in All Databases | Session: June 15, 2024

APA PsycInfo





Scopus



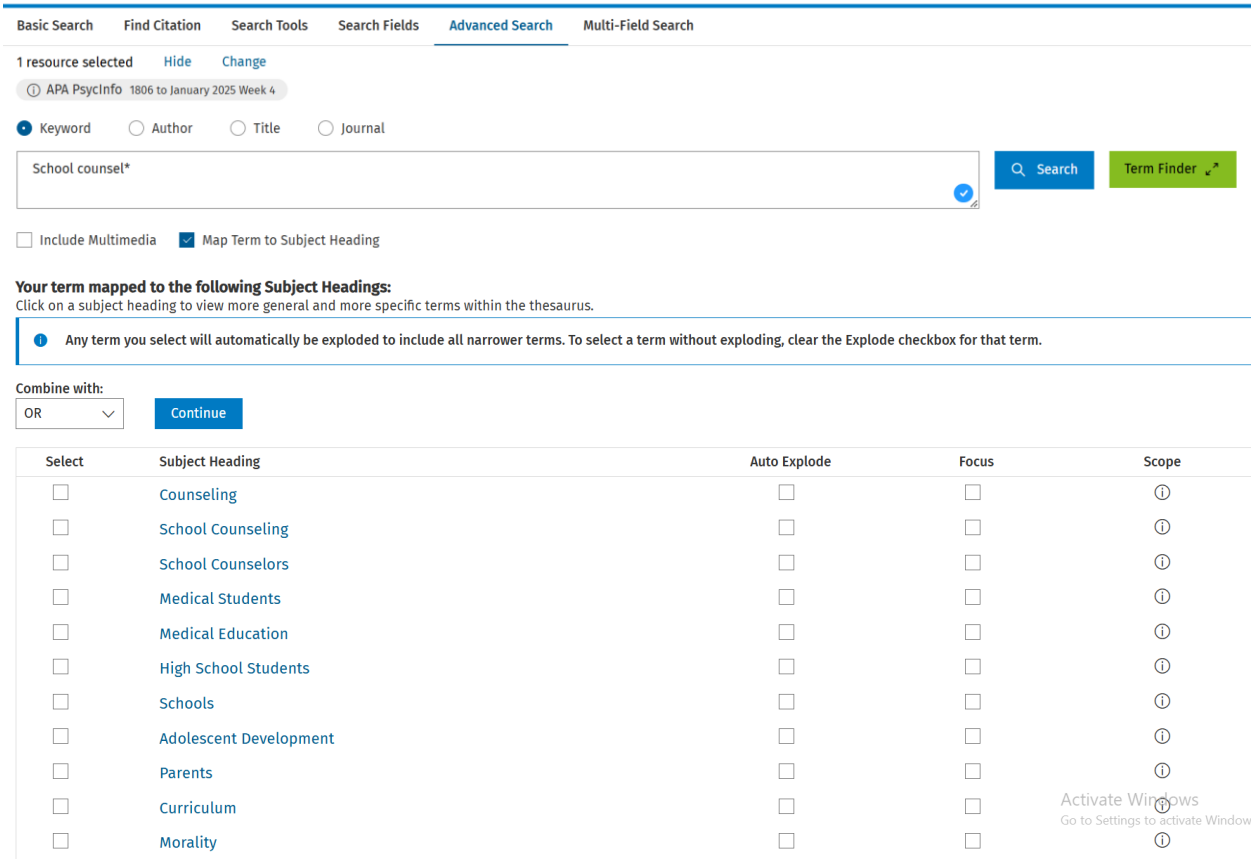
(TITLE-ABS-KEY ((school OR elementary OR "middle years" OR "high school" OR adolescents)) AND TITLE-ABS-KEY ((counselling OR counsellor OR "school counsel*")) AND TITLE-ABS-KEY ((technolog* OR digital OR "digital technolog*" OR "artificial intelligence" OR ai OR "generative ai" OR "augmented reality" OR "virtual reality")) AND

TITLE-ABS-KEY ((creativ* OR art OR arts OR "arts-based" OR "art-based" OR "arts based" OR video OR drama OR storytelling OR dance))) AND (LIMIT-TO (EXACTKEYWORD , "Students") OR LIMIT-TO (EXACTKEYWORD , "Psychology") OR LIMIT-TO (EXACTKEYWORD , "Art") OR LIMIT-TO (EXACTKEYWORD , "Emotion") OR LIMIT-TO (EXACTKEYWORD , "Creatives") OR LIMIT-TO (EXACTKEYWORD , "Mental Health") OR LIMIT-TO (EXACTKEYWORD , "Technology") OR LIMIT-TO (EXACTKEYWORD , "Emotions") OR LIMIT-TO (EXACTKEYWORD , "Creative Process") OR LIMIT-TO (EXACTKEYWORD , "Anxiety")) AND (LIMIT-TO (DOCTYPE , "ar"))

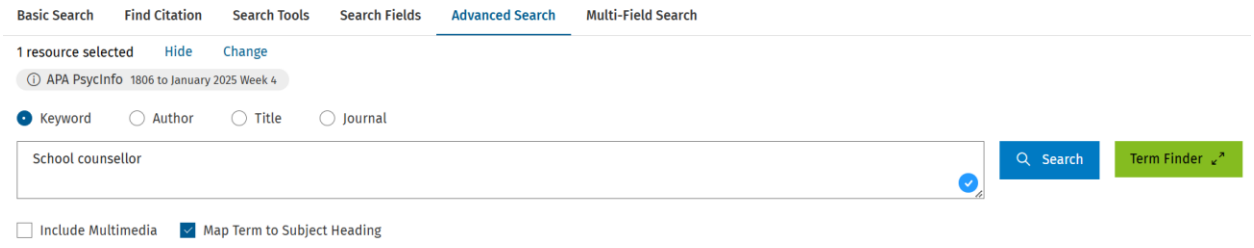
Appendix B: Additional Searches

APA PsycInfo

When the keyword school counsel* is mapped by the database, certain subject headings are identified. Any term selected is automatically exploded to include all narrower terms including School counsel* .mp. *search as Keyword*



Typing School Counsellor into the search, yielded similar results to the above except for School counsellor.mp. search as Keyword. When searched with the keywords Creativity and Technology, 0 results were found. 0 results were also found when School counselling was used.



Select	Subject Heading	Auto Explode	Focus	Scope
☐	School Counselors	☐	☐	ⓘ
☐	School Counseling	☐	☐	ⓘ
☐	Counselor Attitudes	☐	☐	ⓘ
☐	Counselors	☐	☐	ⓘ
☐	Student Attitudes	☐	☐	ⓘ
☐	School Based Intervention	☐	☐	ⓘ
☐	Teacher Attitudes	☐	☐	ⓘ
☐	Counselor Role	☐	☐	ⓘ
☐	Occupational Stress	☐	☐	ⓘ
☐	Counselor Trainees	☐	☐	ⓘ
☐	Mental Health	☐	☐	ⓘ
☐	Bullying	☐	☐	ⓘ
☐	Schools	☐	☐	ⓘ
☐	Self-Efficacy	☐	☐	ⓘ
☐	Educational Personnel	☐	☐	ⓘ
☐	school counsellor.mp. *search as Keyword*			

Basic Search | Find Citation | Search Tools | Search Fields | **Advanced Search** | Multi-Field Search

1 resource selected Hide Change

APA PsycInfo 1806 to January 2025 Week 4

(•) Keyword ( ) Author ( ) Title ( ) Journal

school counselling

Search | Term Finder

☐ Include Multimedia ☑ Map Term to Subject Heading

Search History (7) View Saved

# ▼	Searches	Results	Type	Actions	Annotations
7	limit 6 to (full text and peer reviewed journal and all journals and yr="2015 -Current")	0	Advanced	Save More	
6	2 and 3 and 4	0	Advanced	Save More	
5	2 or 3 or 4	372638	Advanced	Display Results More	
4	exp Streaming Technology/ or exp Human Technology Interaction/ or exp Technology/ or exp Touchscreen Technology/ or exp "Information and Communication Technology"/ or exp Digital Technology/ or exp Sensor Technology/ or Technology.mp.	330724	Advanced	Display Results More	
3	exp Creativity/ or creativity.mp.	46054	Advanced	Display Results More	
2	School counsellor.mp.	100	Advanced	Display Results More	
1	exp School Counseling/ or exp Counseling/ or exp School Counselors/ or School counsel*.mp. or exp High School Students/	128189	Advanced	Display Results More	

Search History (4) View Saved

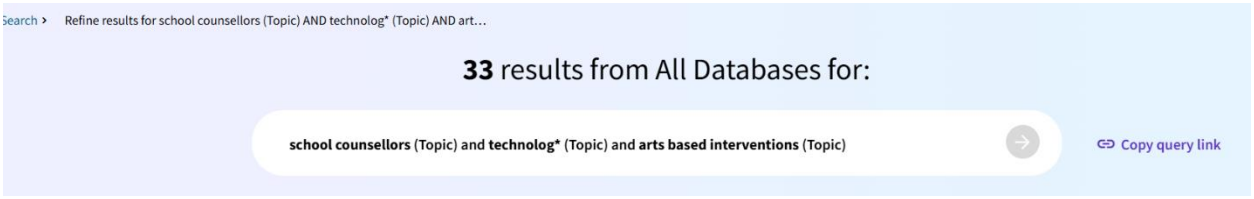
# ▼	Searches	Results	Type	Actions	Annotations
4	1 and 2 and 3	0	Advanced	Save More	
3	exp Creativity/	31399	Advanced	Display Results More	
2	exp Assistive Technology/ or exp Trends/ or exp Technology/ or exp Intervention/ or Technolog*.mp.	512625	Advanced	Display Results More	
1	School counselling.mp.	198	Advanced	Display Results More	

Save | Remove | Combine with: AND | OR

Save All | Edit | Create RSS | Create Auto-Alert | View Saved | Share Search History

Web of Science

Substituting school counsellors for **school counsel* yielded 33 results which did not meet the inclusion criteria.**



Substituting school counselling for **school counsel* yielded 47 results which did not meet the inclusion criteria.**