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EASTERN KENTUCKY UNIVERSITY

The Complexities of Communicating with Children about Mental Health Issues

Honors Thesis

Submitted

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By

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The Complexities of Communicating with Children about Mental Health Issues

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Abstract: Communicating with children about any difficult topic is complex, but especially when the topic is about mental health. Piaget's stages of cognitive development and Vygotsky's Zone of Proximal Development sets the stage for understanding how age appropriate conversations can aid in children's understanding of mental health issues. Then, by conducting a thorough literature review, three common areas where these conversations take place were identified; at home, at school, and at a medical setting. All of these settings have strengths and weaknesses in their ability to facilitate quality mental health conversations with children. After examining these settings, this paper explores some of the current themes and suggestions for communicating to children about mental health issues. These suggestions include using simple language, using activities to engage the child, and relating the child to the information. This paper then discussed multiple resources for adults aiding these conversations such as scripts written by psychologists. In the interest of exploring accessibility to support these conversations for the adult facilitators, this paper turns to Artificial Intelligence (AI), specifically ChatGPT. Overall, the use of ChatGPT to provide adult facilitators with scripts appears promising with a few limitations.

Keywords and phrases: Mental illness, education, communication, children, Artificial Intelligence

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The Complexities of Communicating with Children about Mental Health Issues

David is a 7 year old boy exhibiting symptoms of generalized anxiety disorder. Recently his teachers have noticed that he never answers questions in class, and seems very timid when interacting with his peers. Additionally, David's parents have noticed that his sleep patterns have been heavily disrupted and he has been worrying a lot more about things that he normally doesn't. He has also been attached to his mother's hip recently and his parents are finding that getting him to go to school has been a lot more difficult over the past few weeks. After David's teachers and parents express their concern for the symptoms he is exhibiting, a school psychologist sits down with David to test him for generalized anxiety disorder. During the evaluation, the school psychologist observes David's behavior and assesses him for generalized anxiety disorder. After evaluating David, the school psychologist finds that he meets all of the criteria for the disorder. Now the school psychologist must explain that to him and his family.

It is crucial to identify how a psychologist goes about these conversations and what is appropriate for a child of that age. Additionally, the child's family may struggle to understand how to continue these difficult conversations about the diagnosis at home. Likewise, in a school setting teacher's conversations with these children who have mental health disorders are also vital. These conversations are especially critical in the school setting because children spend so much time there. Additionally, they may encounter peers who are struggling with mental health issues while at school and they need to know how to handle that. The population of school-aged children and their needs when it comes to communicating to them about mental health issues needs to be considered due to the rise in childhood mental illnesses. Additionally, factors that could make these conversations difficult, as well as scenarios in which these conversations take place should be considered as they could potentially contribute to communication issues.

The majority of mental illnesses, nearly 70%, begin in childhood and early adolescence. However, most doctors and parents struggle to notice the severity of their children's issues until there are serious disruptions in the child's life (Fox, Halpern, & Forsyth, 2008). Parents and doctors alike can face confusion over whether the child is progressing as normal, since some children can hide their issues from adults until more serious symptoms appear. As such, preventative efforts should become a priority for families, schools, and clinicians. Additionally, recent studies have found that mental disorders are the leading cause of disability for children and youth across the globe (Erskine et al., 2015).

With childhood mental illness being such an issue, accessibility to help is also a concern, and as such, learning more about how adults facilitate difficult conversations surrounding mental health with children is paramount. It is also necessary to understand what types of information adults are spreading about mental health issues to children. The quality of the information that the adults are providing to children could affect the children's vulnerability towards stigma surrounding mental illness.

Additionally, this thesis will focus briefly on how Artificial Intelligence (AI) may help bridge the gap in the accessibility adults and children have to conversations about mental health. Since the Covid-19 pandemic, the need for mental health professionals has sky-rocketed. In order to meet the current demands for mental health professionals, nearly 4 million mental health professionals would have to be added to the field (Torous, et al., 2021). The need for mental health professionals has led researchers to examine the potential role developing technology may have to meet this need. Current proponents of AI insist it can help bridge gaps by being more accessible than in-person services (Nemorin et al., 2023). For example, traditional therapy can be expensive and limited to location. When it comes to facilitating mental health

conversations with their children, many parents may not have the time or money to refer to a psychologist and may feel the burden of having to facilitate these conversations with little to no training. Utilizing recent advancements in artificial intelligence may help facilitators of these conversations. Artificial intelligence (AI) is the term for advanced computer systems that mimic human abilities. In some ways, recent AI developments can even rival human capabilities, such as a computer system beating a master chess player (Santoro & Monin 2023). Additionally, AI has begun to be successfully utilized in medical settings, but not so much in the mental health field (Sebri et al., 2020). The lack of testing surrounding AI's abilities in mental health settings may be attributed to the public's hesitancy to accept AI. It could also be attributed to stigma against AI, or concerns about its ability to offer quality care. Regardless of the various factors affecting acceptance of AI, the technology should still be investigated considering the possible benefits it can bring to mental health access.

While AI is an interesting aspect to the current conversation surrounding communicating with children about mental health issues, the main focus of this thesis will be on how to facilitate these conversations, the benefits of these conversations, and the current resources provided to adult facilitators. It is no secret that the mental health of adolescents has been steadily worsening, however, there is a lack of research on preventative measures for this. The lack of focus currently on preventative measures for childhood mental health issues makes this thesis original and relevant. While children's mental health is less frequently a focus of research in 2010 researchers found that mental and substance abuse disorders are the "leading cause of global disability accounting for 54.2 million (48.5–60.0 million) Years Lived with Disability (YLDs), equivalent to a quarter of disability in children and youth worldwide (24.9%, 21.7–28.7)" (Erskine, et. al

2015). Additionally, research has found that preventative measures seem the most effective at reducing the effects of youth mental health disorders.

These statistics beg the question of why there is not more research and literature on preventative strategies for keeping children from developing mental health issues. The answer is that unlike physical disorders, mental health disorders are complex in that many of the symptoms of these disorders are unseen. These factors can vary from the child's interactions with peers at school to, their family's economic status, to discrimination they may face, to genes they inherit, and more (Göbel, & Cohrdes, 2021). These issues are further exacerbated as adolescents begin to take in sensitive content online and on television (Cingel, Lauricella, Mann, Carter, & Wartella, 2021). Ultimately, the worsening of a child's mental health is extremely difficult to control and manage. These factors once again draw concern over what is the best way to prevent these mental health issues. This thesis asserts that one way to do this is by communicating with children about mental health to help develop their mental health literacy early on. Utilizing age-appropriate mental health communication with children at home, at school, and in clinical settings will improve mental health outcomes in these children.

This thesis will contain the following subheadings: Piaget's Developmental Theory and Vygotsky's Zone of Proximal Development, The School Environment, Parent or Caregiver Mental Health Conversations, Mental Health Practitioners Communications with Children, Current Recommendations and Examples, Artificial Intelligence (AI), ChatGPT Evaluation, and Discussion. The first topic of discussion will be background information on Piaget's cognitive developmental stages and Vygotsky's Zone of Proximal Development. This section will provide information on how developmental theories explain certain developmental milestones that reinforce the importance of age-appropriate communication and collaboration. After explaining

some theoretical background, this thesis will then identify and explain the three frequent settings where conversations about mental health with children take place and the unique concerns in each of these settings. The settings are as follows: school, home, and clinical (doctor, psychologist, etc.). Then this thesis will review some of the current recommendations surrounding how to facilitate mental health conversations with children and provide some examples. Finally, this thesis will discuss how AI may have a role in the development of these conversations with children and provide examples of how this could work using ChatGPT.

Piaget's Developmental Theory and Vygotsky's Zone of Proximal Development

To begin understanding what constitutes age-appropriate conversation, the cognitive developmental psychology of children must be discussed. Piaget identified four stages of cognitive development in humans. The stages are the sensorimotor period (age 0-2), preoperational period (ages 2-7), concrete operational period (ages 7-11), and formal operational period (age 11+) (Gould & Howson, 2018). The sensorimotor stage is about the child learning about themselves and their environment. During this stage, the child learns object permanence. During the preoperational stage, the child learns words and that they have meanings. The child is also very egocentric and does not understand that others have different perspectives from them. Children also notice changes in vocal pitch and facial expression. In the concrete operational period, the child begins to think logically and develop beginning abstract thinking skills. They also begin to recognize that others have different perspectives. At the formal operational stage, the adolescent is considered a master at abstract thinking, thinking through hypothetical situations, and deductive reasoning. To emphasize why knowing cognitive stages of development is imperative for learning how to communicate to children, it is not until the

concrete operational period that children begin being able to think abstractly and understand that other people's perspectives are different from their own. As such, discussing how to be empathetic to other people's mental health may be difficult for children to grasp before 11 years old. These stages demonstrate why adults must change their language when discussing mental health to children based on the level of cognitive development that the child is at.

Another theory, Vgotsky's Zone of Proximal Development, demonstrates how vital it is that adults work with children to help them understand these difficult concepts. The Zone of Proximal Development (ZPD) refers to the space between what a person can learn on their own, and what they can learn by collaborating with others (Billings & Walqui, 2021). For the purposes of this thesis, The Zone of Proximal Development is used to explain how children can learn more with the help of adults than they can learn on their own. Adults can help their children understand difficult topics by meeting their children at their level of understanding and scaffold their explanation to where children have a better understanding of the topic. Using this theory, one can make the educated assumption that children's understanding of mental health can be widely expanded through the help of adults and through discussions with their peers. In this way, having the difficult conversations about mental health with children and helping them facilitate these conversations with each other is vital.

The School Environment

Out of all of the settings identified as being essential to facilitating mental health conversations with children, the school system may be the most complex. The school system is where children spend a significant amount of their time; however, the school system is complicated because it may differ based on location and capabilities of holding these

conversations. According to the Intercultural Development Research Association (IDRA), censorship of teachers has increased exponentially over the last few years (2022). Some of the topics that teachers are being censored over include racism and LGBTQ+ related issues. With sensitive issues such as these being censored, it may be difficult for educators to know what they can and cannot talk about. Additionally, parents and other caregivers may not react well to educators talking to their children about mental health issues, especially if the caregivers are from a culture where mental health is stigmatized. These are all issues that educators must navigate in a school setting when approaching conversations about mental health.

Despite these issues, psychoeducational interventions have become increasingly imperative because of the amount of time children spend in school and because nearly 50% of mental disorders develop before the age of 14 (Morgado, Loureiro, & Rebelo Botelho, 2022). This makes the school system a prime place to intervene in childhood mental health. A recent literature review on psychoeducational interventions found that these interventions not only help students who already have been diagnosed with a mental health disorder, but also those who are at risk of developing one (Morgado, Loureiro, & Rebelo Botelho, 2022). They also found that these interventions have become even more relevant in the wake of the COVID-19 pandemic, as children were spending more time at home in potentially unsupportive environments. Some of the common psychoeducational interventions were communication training, role-playing, and problem solving activities. Many of these interventions were found to be effective in aiding the child in learning about their mental health and the mental health of others, and because of this the researchers argue that more money and resources should be allocated to the development and implementation of psychoeducational interventions.

Another factor that makes school-based interventions vital is the failings of other support systems for these children. Most doctors and parents struggle to notice a child's mental health issue until there are serious symptoms displayed, (Fox, Halpern, & Forsyth, 2008). One of the ways to combat these failings is by using the school system. As previously mentioned the goals of these interventions would be to help children with mental health issues, provide preventative measures for children at risk of developing mental health issues, and help decrease stigma surrounding these issues. It has also been suggested that mental health check-ups in the school setting can help identify students to refer to get additional help from doctors or mental health clinicians. Finally, there is correlation between mental health issues, attendance, and performance at school (Martin, & Atkinson, 2018). If these correlations have causality, the school system is uniquely positioned to collect data on which students may be at risk of developing mental health issues. This would help the school system become one of the initial places that children get mental health interventions and education.

Additionally, Patafio et. al (2021) found that while the majority of interventions for children are held in a school setting, this setting might not be the most accessible to children already struggling with mental health issues. For these children, school can sometimes be more difficult and isolating making it a challenge for them to feel safe reaching out for help. Furthermore, while education-based interventions geared towards teaching children mental health literacy have shown to be effective in helping identify mental health issues, they do not help decrease stigma around mental health by themselves. They suggest a combination of education-based intervention and allowing the children to interact with someone with a mental illness. By doing this, a personal connection is developed and it allows children to see past whatever mental health stigmas they may have learned. The hope is that this personal connection

will also help children feel comfortable coming to their teachers with mental health problems if they should arise. Past research has demonstrated that these interventions do help children feel more comfortable coming to their teachers for help regarding mental health issues.

Furthermore, there are a few current examples of psychoeducational interventions in use. One example of this is the “Fairplayer manual” that schools use to decrease bullying and minimize the negative mental health effects that bullying causes (Göbel, & Cohrdes, 2021). While this resource focuses specifically on bullying, it demonstrates how having resources to help teachers lead difficult conversations is helpful. The fairplayer manual was specifically designed to identify at-risk children and coach educators on how to intervene. The success of this program has pushed researchers to suggest that programs like these should be nation-wide instead of just regional. This success could bode well for other programs developed to help teachers discuss mental health with their students.

While mental health interventions in school settings seem promising there are some concerns. One of these concerns is that some educators may feel that their interventions are not the most effective. An answer may be increased training and education on how to facilitate these conversations. A current program that is being used to help teach educators how to facilitate these conversations is Youth Mental Health First Aid USA (YMHFA - USA) (Noltemeyer et al., 2020). The goals of this program are to train critical people in youth’s lives how to detect and respond to mental health issues, raise awareness of how these mental health issues can affect youth, and connect youth to resources. The steps that the program teaches educators are to first assess the child for risk of suicide, to listen without judgement, to provide reassurance, to encourage the child to work on coping strategies, and to point them towards other professionals, if needed. Current research conducted on this program has been limited but positive. This

limited research has found that teachers felt significantly more confident in assisting a student or colleague with a mental health problem. One potential issue with the YMHFA, as promising as it seems, is having mental health staff in schools lead the training. With the current overload of work on all school employees, but especially mental health staff, this may prove to be difficult. The promise of this program helps demonstrate the need for educators to have support in leading mental health conversations with their students.

Parent or Caregiver Mental Health Conversations

Another main setting where young people can encounter conversations surrounding mental health is at home with their parents or caregivers. Past research has demonstrated overwhelming positive outcomes for both parents and children when parents engage in mental health conversations with their children (Mueller, Callanan, & Greenwood, 2016). Studies have found a decrease in children feeling stigmatized over their mental health and children feeling safer to come to their parents with mental health issues. Parents also experience better outcomes after having these conversations with their children because their children are more likely to feel comfortable engaging with them over difficult topics. However, in order to experience all of the benefits that come from these caregivers and parents engaging in mental health conversations with their children, they must lead these conversations in an engaging and effective manner. One of the ways to increase caregivers' abilities to handle these difficult conversations is to have doctors in pediatric healthcare take the lead.

Conversations about mental health with parents and children tend to begin in pediatric healthcare settings. One literature review found four overarching themes on the best way for healthcare professionals to communicate mental health issues to children and their families.

These themes are encouraging autonomy, focusing on the parent's perspective, developing trust with both the child and parent, and providing other resources to boost the conversation. (Bonder, Yonadam, Snider, Kassam-Lallani, & McPherson 2022) Firstly, researchers have found that connecting to the parent about their experiences with their child's mental health is paramount in ensuring that the overall conversation goes smoothly. There has been a depth of research conducted on the parent's experience of these conversations. Depending on how the mental health professional provides the information to the parents, their experience could go from feeling empowered to feeling overwhelmed. It is best that the parent leaves the conversation feeling as though they have a game plan for their child. It is also imperative that the professional provides them information in an easy to digest way. Researchers have found that the parent's opinions on their child's mental health disorder directly relates to how the clinician explains the disorder to them (Buzanko, 2017). Since the parent's opinion on their child's mental health disorder directly affects the quality of the conversations they will have with their child about the disorder, the communication between parent and clinician is also a critical point in a child's mental health literacy.

Additionally, learning more about the parent's experience of these conversations is key in that it directly affects the quality of their conversations with their children. Buzanko's research in this article illuminated the lack of research on the parent's experience of their children's initial intake and middle phase of the assessment process. However, more is known about the final phase of the assessment process where the diagnosis is communicated to the child and family. Buzanko found that the manners of the psychologist when delivering the assessment results greatly affected the parent's perspective of the situation. The way that the psychologist delivered the news of the assessment to the parents could take the parent from feeling stressed, confused,

and even embarrassed to feeling empowered and relieved. The authors suggest that to do this, psychologists should attempt to remain positive when communicating with the parents about their child's mental health diagnosis. The more information the clinician can provide the family about their children's diagnosis, the better. When the parents felt as though they had been given an inadequate amount of information, they reported feeling frustrated by the situation and helpless to help their children. The practical implications of this is that psychologists can affect the way that parents react to their children's diagnosis by giving them plenty of information before and after the assessment, and remaining polite and positive about the child's diagnosis.

In addition to current literature on parent's experiences with their child's mental health diagnosis, researchers found that parents overwhelmingly appreciated the insights into their children's mental health struggles provided by discussions with their child's General Practitioner (GP) (Davey, Creswell, Percy, & Reardon 2022). Many of the parents reported feeling relief that their children were not just acting out. Their children's diagnosis also gave the parents access to valuable information on how to help their children. The facilitation of the diagnosis process allowed the children and parents to feel as though they were being heard by each other. The feeling of being heard fostered an overall sense of understanding between the parents and children.

However, the label of an anxiety disorder did cause some of the parents to stress about their children having to face stigma. Some parents also had the misconception that their child's anxiety diagnosis was a "life-sentence". These worries caused some parents to struggle with the diagnosis process. Additionally, the researchers found that the majority of the parents appreciated the greater access to support that their child's diagnosis provided them (Davey, Creswell, Percy, & Reardon 2022). These findings are insightful because understanding the

parent's thought processes and struggles during their children's diagnosis process provides clinicians with tools on how to handle these communications.

Furthermore, understanding what influences parents to have these conversations with their children is equally crucial. An example is after the show, "13 Reasons Why" came out, parents were influenced by the show to have increased conversations about mental health with their children (Cingel, Lauricella, Mann, Carter, & Wartella, 2021). For some context, "13 Reasons Why" is a television show geared towards teens about a high school girl who died by suicide and recorded tapes about the reasons that she made her final decision. When parents reported watching "13 Reasons Why", they demonstrated a greater understanding of mental health topics and a greater comfort in discussing these topics. Some even reported that shows like this even prompted parents to have quality mental health conversations with their children (Cingel, Lauricella, Mann, Carter, & Wartella, 2021). This research demonstrates how providing caregivers with information and inspiration to have difficult mental health conversations with their children is significant. In this way, encouraging caregivers to consume media that their children may come into contact with and then discuss this media with them may be a good way to introduce caregivers to having difficult conversations with their children.

Mental Health Practitioners Communications with Children

Finally, the third setting this thesis has identified as being a common place where children encounter mental health discussions is in medical settings. Additionally, it is insightful to look into how medical personnel interact with families in these conversations because they tend to have the most training surrounding how to handle these conversations (Bonder, Snider, Kassam-Lallani, & McPherson, 2022). In a recent study, the most effective communication

practices from pediatricians were encouraging the child's and parent's autonomy during the process, taking note of the parent's perspectives, relying on collaboration with the parents and child, and utilizing other tools to supplement the conversation. An example of relying on collaboration with the parents and child is asking them what they think are practical changes to implement at home. Likelihood is that if the child is struggling with their mental health, the parents are going to need to modify some of the dynamics at home. Asking the parents and child to join in making a plan for how they are going to handle these changes is a way that the physician can utilize collaboration and increase engagement. Additionally, an example of utilizing other tools to supplement the conversation is the physician using a pamphlet to help the parents grasp exactly what their child's diagnosis means. Another example is the physician using a picture book to help the child visualize what the physician is describing to them.

Pediatricians were advised to promote their patients' (youths) autonomy during the mental health diagnoses process by communicating to them that they have choices during the process. To do this, pediatricians were instructed to ask the patients what they were okay with the pediatricians sharing with others and to give patients a choice on who was in the room during the diagnosis process. To clarify, physicians need to be clear that there are certain situations where they are mandated to share what the child has told them. Some of these cases include if the child has suicidal ideation and a plan, if the child is in danger at home, or if the child is planning on hurting someone else. Additionally, the child's autonomy is going to largely depend on their age. A physician may not ask a four year old what they can share about their conversation, but they would ask an older child or teenager. Despite some of these complexities, studies reported that giving the children options, allowed them to feel more comfortable during the diagnosis process. Pediatricians were also advised to build trust with the children being

diagnosed. Some of the suggested ways to do this was through active listening, asking the children questions not related to the suspected mental health disorder, and prioritizing empathy and respect (Bonder, Snider, Kassam-Lallani, & McPherson, 2022). Finally, pediatricians are recommended to utilize multiple different forms of communication during this process. Researchers suggested that using visual aids, such as, pamphlets and pictures may help the children engage in the communication process.

Current Recommendations and Examples

By reviewing the current literature on communicating with children about difficult topics, a few common themes stood out. One of the main themes involved the kind of language used in these conversations. Language used to talk about difficult topics with children should be simple, should be short and to the point, and should use action words (Howes, 2009). Additionally, the language used should be familiar and not surprising to the child. The goal is to keep a feeling of normality while discussing these issues. If it is at all possible, the child should be given the feeling as though these mental health conversations are like any other conversation. If the adult facilitating the conversation makes sure to keep their language simple and familiar, they should be able to more effectively keep the child calm.

Another common piece of advice on how to facilitate these conversations is keeping the child engaged. One way to do this is to take into account the child's experiences (Howes, 2009). If the adult can relate the content to situations that the child already has experience with, then the child is more likely to engage with the content. At the simplest level, the adult should not communicate to the child using scenarios that they would have never experienced at that point in their life. While this might seem obvious, the advice can also be applied more intricately. A way

for an adult to do this is to get creative. They should try to connect what they want to talk to the child about to something that they know the child has encountered. They could do this by telling a story or asking the child plenty of questions.

A prime example of this is an activity called “Poorly Brain” (Dunn & Tait, 2018). In this activity, children are asked to recall an instance where their body wasn’t working properly, perhaps a time that they got sick or had an injury. Then the adult facilitating this activity asks the child to draw on a human cut-out where the injury was. As the activity progresses, the adult asks the child to draw outside of the body indicators that there was an issue and draw inside of the body hidden indicators that there may have been an issue. Then the adult will ask the child to draw another picture of a human and explain to them that mental health issues are just like what they just finished drawing; they have to do with your body not functioning correctly. If the adult is describing an anxiety disorder to the child, then they may say that inside of the person’s brain is a lot of fear, but there is nothing outside of their brain causing this fear. The adult’s explanation can be tailored to the specific disorder that they are aiming to describe to the child. Then the adult should continue the discussion to name things that may be happening outside of the body that could be used as an indicator that something is wrong with the person’s brain. This will help the child have a better understanding of what is happening when they encounter friends struggling. Finally, the adult must ask if the child has any questions about what they just learned. They should be open to any responses and try not to react in a way that would discourage the child from asking their questions.

This activity does a good job demonstrating what a child in the concrete operational stage of Piaget’s cognitive developmental stages may do well at understanding, as it is focused on using visuals. The activity also does a good job at providing examples for the child and giving

clear instructions to the caregiver on how to perform the activity. However, a limitation is that there are ten steps in this activity, and the length may be too complex for some caregivers. Furthermore, this task does require some knowledge of mental disorders on the part of the caregivers, which they may not always have.

Activities like the previously discussed “Poorly Brain” activity can help children stay engaged with the adults leading these mental health conversations. Another interesting example of how to keep a child engaged during these conversations is the Tell Me A Story (TMAS) method (Beardslee, 2014). TMAS is a program that teaches adults how to have difficult conversations with children. The program is broken up into two modules and into multiple different workshops. These workshops are designed to help train caregivers to use the TMAS method. The entire purpose of the TMAS method is to help children relate and discuss difficult issues with their caregivers through storytelling. Some of the main takeaways from this program is that the repetitive reading of the stories helped the students develop comfort with discussing difficult topics over time and that the caregiver modeling the discussions were helpful. These findings connect to the idea that practicing these conversations with the child will make it easier for them to increase their comfort level in these conversations. The TMAS program has modules for the following groups: families, teachers, and Dual-Language communities.

One interesting aspect of the TMAS program is its focus on helping Dual-Language communities develop skills for difficult conversations with children. This is of particular interest because someone's cultural identity often affects their perspective on mental health and the stigma surrounding it. Recent research has demonstrated that low-income countries tend to have increased stigma towards mental health issues when compared to high-income countries (Vaishnav, et al., 2023). In fact, stigma in Asian countries tends to be different and elevated from

mental health stigma in Western countries. Part of the explanation for this could be that Western countries, like the United States, have invested heavily in campaigns to reduce stigma surrounding mental health. Additionally, high-income countries may have an increased willingness to spend money towards decreasing stigma surrounding mental health since they have more flexibility with their funds.

Cultural differences in the understanding of mental health is vital for mental health practitioners and the general public alike to understand. By acknowledging these cultural differences, the TMAS program addresses one of the often ignored difficulties with mental health communication. There is a vast amount of discussion surrounding parents who are disengaged from these conversations or who are unwilling to have them, but very few of these discussions dive into the reasons this might be. One of the reasons why an adult may be uncomfortable with having these conversations with their child is because of their cultural background. Additionally, when an adult is trying to understand a child's reluctance to discuss their mental health, it is necessary that they consider the child's cultural background. When having these conversations, adults cannot assume that the child has the same worldview as them because their cultural upbringing can change their perspective about the conversations being had.

While activities are one of the biggest suggestions from current experts on communicating to children about difficult topics, there are also suggestions geared towards adults who may be uncomfortable facilitating these conversations. There are books written by experts filled with scripts that adults can use to easily lead difficult conversations. One example of these scripts is,

“A person has a phobia if they are very scared of something like snakes or spiders, or sometimes people are afraid of other things such as leaving the house. Someone with a

phobia might be so scared and afraid that the fear stops them doing things that they like.

For example, a person with a phobia of snakes might not be able to go to the zoo.

Somebody called a psychologist can help people with phobias. Psychologists understand the way people think, behave and feel” (Dunn & Tait, 129).

In this example, the authors demonstrate using simply age-appropriate language, providing an example that the child may understand (the zoo), and explaining any new words the child may have not heard before (psychologists). Adults can use this script word-for-word if they would like and if it matches the specific disorder that they would like to discuss, or they could use it as a template to create their own script. Providing adults with examples like these could prove to be helpful, especially for those who are not comfortable leading these conversations themselves. It must be noted that not every script is a quality script. Adults should be advised to look for scripts matching previously suggested content, such as, scripts that use familiar language, connect to the child, and use examples. Additionally, adults should look for scripts and content on the topic of how to discuss difficult conversations with children from sources that are written by experts, such as psychologists.

Artificial Intelligence (AI)

Scripts written by experts are great resources for adults to utilize when discussing mental health with children; however, they may not always be the most accessible resources. When conducting my research, I had to search through library databases provided by Eastern Kentucky University to find credible scripts. These databases are often not accessible to the general public and can be intimidating to someone who has never used them before. These potential

accessibility issues with using scripts developed by psychologists has led me to look into the potential of AI, specifically, ChatGPT to develop these scripts.

Artificial intelligence in the form of large language models may have the potential to help facilitate conversations between adults and children about mental health issues. In order to explain AI's promise on this topic, this thesis will provide background on AI including current practices, current attitudes towards AI, and recent studies between children and AI. While these pieces of information may not be entirely connected to conversations between adults and children concerning mental health issues, it is crucial in the overall conversation concerning using AI for mental health purposes.

Background and Current Practices

The usage of Digital Health Technologies (DHTs) drastically increased during the COVID-19 pandemic (Torous, et al., 2021). Some of the DHTs that researchers have examined so far are virtual reality, social media, and chatbots. One of the prominent results was that robots with humanoid features have demonstrated great promise in teaching children with Autism Spectrum Disorder (ASD) social skills (Trevisan et al., 2019). Besides this finding, much of the research in DHT AI has investigated chatbots. When analyzing the potential that AI has for developing mental health scripts, this thesis will be investigating chatbots.

With the rise in AI usage, some researchers have investigated aspects of a commonly used form of AI, chatbots. Specifically, Kim and Hur (2023) investigated what made humans feel empathy towards AI chatbots in an online shopping setting. They found that the amount of competence and warmth the chatbot appeared to have increased consumer's acceptance of and empathy towards the chatbot. Furthermore, the more anthropomorphic and personalized the consumer perceived the chatbot to be, the more likely they were to think that the chatbot had

competence and warmth. One of the theoretical implications from their study was that the features of the chatbot can affect the consumer's perceptions of the chatbot.

Additionally, the recent increase in the use of "chatbots" like Siri and Alexa has created interest in using chatbots as therapists since they can appear to have human-like conversations. The challenge regarding the usage of chatbots is that patients using them need to get emotional support from an inanimate object relying on coding. However, there is promising evidence that people can develop a therapeutic relationship with a chatbot. If this information continues to be supported, then a chatbot could be a more accessible way for those in need to get therapeutic help (Torous, et al., 2021).

There are a few current issues with the usage of chatbots for therapy. Chatbots currently lack the ability to offer complex mental health advice that takes into consideration the context of their patient. Chatbots have also been found to not compute when a patient is discussing suicidal ideation or domestic violence (Torous, et al., 2021). These various issues encourage the idea of using AI as a supplemental resource for mental health conversations but not relying solely on it.

There are also currently platforms being developed to aid adolescent mental health. In a case study of an online mental health platform called MOST (Moderated Online Social Therapy), researchers evaluated the potential of this platform (D'Alfonso et al., 2017). One of the first issues noticed is users appeared to have difficulty navigating content within the MOST system. As a result, the designers implemented "Therapy Tags". These tags are used to help users find specific mental health issues they want help with. Examples of these tags are, "coping", "connecting", and "enhancing" (D'Alfonso et al., 2017).

The researchers then explored the moderator's role in the MOST system. The human moderators are used to ensure that the system is not being misused, that everyone is acting

safely, and that content recommendations are offered to users. This is a good example of AI being used in conjunction with human professionals. The authors then explain that automated suggestions are helpful for when moderators are not available to answer questions or provide suggestions. The automated suggestions are based on an algorithm that uses keywords to suggest similar content to the user. The research just described demonstrates the potential for AI to aid in mental health situations.

Current Attitudes Towards AI

If this thesis is to investigate adults using AI to help facilitate mental health conversations with children, then it must also explore current attitudes towards AI. Despite popular opinion, most people have an ambivalent attitude toward AI. There are a multitude of factors that contribute to a person's attitude towards an AI robot. Two of these factors are how mindful the robot appears to be and from what culture the respondent is from (Dang & Lui, 2021). People's attitude towards AI is crucial to understand in this thesis as it provides insight into why adults may or may not be willing to utilize AI when facilitating conversations about mental health with children. An interesting finding about attitudes towards AI is that similar to mental health issues, the culture a person is from affects their perspectives on AI.

In a study concerning public official's opinions on AI, researchers found varying results (Horowitz & Kahn, 2021). They found that there are gender differences in intention towards AI adoption, with women being more cautious. They also found that Republicans are less supportive of both forms of AI. There was also a strong correlation between those who are supportive of AI and those who have experience using it. These findings demonstrate that there are a multitude of factors that go into people's willingness to accept AI. These complexities must be taken into account in the overall discussion of using AI to develop scripts for adults to use in

communicating with children. Similarly to how a person's cultural background can affect their view of mental illness, their demographic information, such as gender can affect their willingness to use AI technology. While the purpose of looking towards AI to assist in the facilitation of these conversations is for accessibility, it should be noted that not everyone will be comfortable with using AI.

Children and AI

When it comes to children's perspectives on AI there has been some research conducted. In China, researchers conducted an experiment with k-12 children to gauge their AI literacy. They found most of the children tested identified situations in which AI usage would be helpful. Only half of the children demonstrated a semi-complex understanding of AI (Su & Yang, 2023, pg. 12). Overall, this study demonstrated that young people are receptive to AI usage.

While the previously mentioned study did demonstrate that young people are willing to use AI, there have been other studies conducted that encourage caution against the overuse of AI (Lai et al. (2023)). These explain how it is important to not over-rely on AI-related technology in education. If there are not enough human components in conjunction with the AI, their data demonstrates that it will have a negative effect on the child's mental health.

Psychologists' viewpoints

Research conducted on mental health provider's opinions on AI usage in the field found that there were differences in participant's approval of AI depending on their specialty with cognitive psychotherapists being the most positive about AI in mental health settings. The authors stated that one reason cognitive psychotherapists may have felt more comfortable with AI is that their practices could more easily be developed into variables and tools for a computer

to compute. However, psychodynamic and systemic mental health professionals think that AI is not developed enough to do their jobs (Sebri et al., 2020).

ChatGPT Evaluation

In order to test AI's ability to aid in the facilitation of conversations surrounding mental health with children, I provided an AI system called ChatGPT with three prompts. It is significant to note that prompts provided to AI systems must be very specific in order for the system to provide the answer that a person is looking for. This factor makes it so that if someone else were to run the same experiment with slightly different phrasing in their prompt, they could get completely different results. Since AI systems are so sensitive to the wording, I kept the prompts incredibly simple focusing on three things: the word count, the setting, and the age of the child. The variable that was changed in between the prompts was the setting while word count and age of the child were the same in between prompts. To reflect the three main settings identified in this paper, three prompts were developed. The prompts are as follows:

Prompt One: "In 50 words, pretend you are a doctor explaining anxiety to a 7-year-old."

Prompt Two: "In 50 words, pretend you are a teacher explaining anxiety to a 7-year-old".

Prompt Three: "In 50 words, pretend you are a parent explaining anxiety to a 7-year old."

Once the prompts were submitted to ChatGPT, the system quickly produced the following responses:

Response One: "Anxiety is when your brain feels worried or scared, like a warning system. It can make your heart race or your tummy feel funny. Sometimes, it acts up when it shouldn't. But don't worry, we have tools and tricks to help your brain feel calm and safe again."

This response was recorded from ChatGPT in October 2023.

Response Two: “Anxiety is when your feelings get a little too jumpy, like a nervous bunny in your tummy. It happens when you worry or feel scared. But it's okay; we can learn to tame those jitters by talking, using deep breaths, and finding ways to make them hop away.” This response was recorded from ChatGPT in October 2023.

Response Three: “Sweetie, anxiety is when you feel extra worried or scared about something. It's normal to have these feelings sometimes. Just like when you're scared of the dark, we can learn to handle anxiety together. We'll talk about it, take deep breaths, and find ways to make those worries go away.” This response was recorded from ChatGPT in October 2023.

After recording the responses from ChatGPT, I used the Flesch-Kincaid calculator to evaluate their age-appropriateness. Response One’s Flesch-Kincaid Reading Ease was a 9.5 and Flesch-Kincaid Grade Level was a 2.5. Response Two’s Flesch-Kincaid Reading Ease was a 78 and Flesch-Kincaid Grade Level was a 6.4. Response Three’s Flesch-Kincaid Reading Ease was a 76.9 and Flesch-Kincaid Grade Level was a 5.8.

Table 1: Chat GPT Readability Chart

Response	Flesch-Kincaid Score
One - Doctor	Flesch-Kincaid Grade Level was a 2.5
Two - Teacher	Flesch-Kincaid Grade Level was a 6.4
Three - Parent	Flesch-Kincaid Grade Level was a 5.8

The Flesch-Kincaid Grade Level score is based on United States grade levels (Muddassira, 2023). A caveat to using the Flesch-Kincaid Grade Level score is that it only evaluates how easy the content is for the child to read, not how easy the content is for the child to

understand. While this score helps explain whether the content is readable for the child, it is not a good indicator on whether or not the child would understand it if it was read to them by their caregiver. The lowest Grade Level score that any of the AI responses received was a 2.5. The lowest score received would then be for children around the age of 8 or 10. The Flesch-Kincaid scores demonstrate that AI may not be the best vehicle for parents to provide their children with content to read; however, this does not mean that AI could still not provide a script for parents, doctors, or teachers to use.

However, there are a few potential issues with adults using AI to help write these scripts. One of these issues is that the adults would have to know how to effectively use AI. To get these responses, the user has to type in exactly what they are looking for. For example, if the prompt had not specified that it wanted specifically responses around 50 words, ChatGPT could have given a response with hundreds of words. Users of AI have to be hyper specific when they ask their questions to the system. This may be a bit intimidating to some who have no background knowledge in AI. Additionally, the hope of using AI scripts is to increase accessibility to being able to have these difficult conversations with children. If the adult having these conversations feels intimidated by the system, they may feel even further discouraged from having the conversation in the first place.

Additionally, further research needs to be conducted into how effective AI responses are when it comes to questions about mental health. Since these responses are not taken from certified psychologists and instead, a computer program that provides general information, they should be used with caution. This thesis suggests that further research be conducted into the quality of these AI responses. Perhaps using different key words in the prompt would affect the quality of the response. If that is the case, then the potential for user error could also be a

problem. Furthermore, the usage of AI to facilitate these conversations does not address the issue of some adults being unwilling to hold these conversations in the first place. These limitations demonstrate that while using AI systems like ChatGPT could help begin these conversations, it should not be viewed as an answer to all of the issues.

Discussion and Conclusion

The little boy described at the beginning of this thesis is about to embark on a mission to effectively cope with a diagnosed mental health disorder. Ultimately, his experience with generalized anxiety disorder will be greatly influenced by the adults in his life and their ability to communicate with him about his mental health. While the school psychologist and doctors he visits may have quality training on how to discuss his mental health with him, the same cannot be said about the other adults in his life. Even in the school system, educators (who typically receive mental health training) report feeling underprepared when it comes to facilitating these conversations with their students (Patafio et. al, 2021). When it comes to the home setting, families may be dealing with a variety of factors that make it difficult for them to facilitate these conversations. They may feel an increased level of stigma because of their culture, or the parents could have no experience discussing mental health disorders. The little boy from the beginning of this thesis may be on his own when it comes to having adults in his life who can hold quality conversations with him about his mental health.

That little boy, and so many other children like him, are why focusing on where the conversations take place, the potential factors that could make these conversations go wrong, and the correct way to hold these conversations are so vital. Through the literature review, this thesis found that three settings stood out from the rest: school, home, and in medical settings. Each of

these settings have advantages and disadvantages. While the school system may be one of the best places to hold these conversations because of the amount of time children spend in school and the connections they build with their educators, many educators feel unprepared for these conversations, do not have the time or energy to hold these conversations, and are actively being censored from discussing difficult topics. Additionally, while children may have the strongest bonds with their parents and are more likely to have deep conversations with them, the quality of these conversations can be questionable since many parents feel out of their depth holding these conversations. Finally, while doctors get the most training on how to hold these conversations, stigma and negativity from the parents may keep them from being able to have the quality conversations needed with the child.

Regardless of the various issues associated with each of these settings, there were some common themes on what techniques should be used when holding these conversations. Across all settings, adults were suggested to use examples and stories to help young children understand conversations surrounding mental health. Additionally, a common recommendation was also to use activities to keep children engaged during these conversations. Some of the activities discussed included an arts and crafts element, as well as, connections to situations that the children could relate to. Adults were often recommended to use familiar language to help children feel more comfortable with these conversations. Ultimately, children should not be made to feel like the conversation is out of the ordinary. This will help the child stay calm and resist developing stigmas against mental health disorders.

Another common theme, especially in the physician's setting, was to make the child feel as though they have a choice in the conversation. Fostering the child's sense of autonomy helps

the child feel comfortable in the setting. Reading the child's cues on what they are and are not comfortable with was a common suggestion.

What was slightly surprising in this thesis's findings was the amount of literature focusing on the parent's experience of having a child with a mental health disorder and their experiences with these conversations. A common theme was that doctors and physicians were trained on how to make sure the parents were comfortable with the topics being discussed. They were encouraged to use positive language and avoid stigmatizing words. While some parents felt empowered by their child's diagnosis, others reacted negatively. Doctors had to be prepared to handle either scenario. When done correctly, the diagnostic process can be a time that facilitates quality conversation between parent and child surrounding the child's mental health concerns.

Finally, AI played a small but significant part in this thesis. One of the main concerns surrounding the conversations with children about mental health is the accessibility of these conversations. Many adults feel uncomfortable holding these conversations, and some simply do not have the training or sufficient knowledge to provide quality discussions. Additionally, those who do have sufficient knowledge, like doctors and psychologists, may be too expensive for some families to access. While AI chatbots are not to be the ultimate solution, by any means, they might provide an accessible way for adults to develop scripts to start the conversation with their children. More research needs to be conducted on AI being used in this way, but the research appears to be promising.

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