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A Toolkit to Assist Child and Adolescent Providers in Assessing Problematic Internet Use and Cyberbullying in an Outpatient Psychiatry Clinic

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A Toolkit to Assist Child and Adolescent Providers in Assessing Problematic Internet Use and
Cyberbullying in an Outpatient Psychiatry Clinic

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Abstract

Background: Social media has become a transformational part of daily life in the United States. Currently, there are few assessment tools and no standard of care when it comes to assessing internet use, social media, and cyberbullying among child and adolescent patients. As the literature reviewed in this paper will show, problematic internet use (PIU) and cyberbullying can both significantly and negatively impact the mental health of children and adolescents.

Purpose: The purpose of this project is to evaluate the effectiveness of an online toolkit implementation for a Southwest Florida (SWFL) outpatient psychiatry office.

Method: A pre/post one group design was used. A convenience sample of 13 healthcare providers was recruited from one outpatient clinic in the Eastern United States. Participated healthcare providers' perceptions of cyberbullying were assessed before and after an educational presentation. The online educational toolkit was developed based on an exhaustive review of the literature. This online toolkit includes a PowerPoint presentation covering background information on cyberbullying, problematic internet use, and clinical recommendations for screening and management. This toolkit also provides patient and family handouts and resources, psychometrically tested scales and recent articles pertaining to the subject. The survey was used to assess changes in providers' knowledge, confidence, and awareness in the topic and willingness to use tested scales. The theoretical framework guiding this project was Lewin's Theory of Change.

Results: Although thirteen providers began the pre-education survey, six participants completed both pre and post-survey. Of those six participants, four identified their role as PsyD or LMHC, one nurse practitioner or physician assistant and one reported as being other. Provider's self-reported knowledge, comfort and awareness regarding problematic internet use and

cyberbullying increased significantly from pre to post-survey. A Wilcoxon signed ranks test indicated that post-intervention mean score ranks were statistically significantly higher than pre-intervention mean score ranks ($Z=-2.201$, $p 0.028$). The mean difference from the pretest increased from 4.63 to 5.85. Providers who completed the presentation of this toolkit reported they agreed (N=3) or strongly agreed (N=3) that the education was a benefit to them. Providers who completed the presentation reported they agreed (N=3) or strongly agreed (N=3) that they can benefit from further education.

Conclusion/Implication: The educational presentation and access to provider toolkit improved the knowledge, comfort, and awareness of mental health providers on the assessment and care of children and adolescents experiencing cyberbullying and engaged in problematic internet use. There is a need for further study into access to education regarding cyberbullying and problematic internet use for providers.

Key search terms included: *cyberbullying, bullying, online bullying, electronic bullying, problematic internet use, internet addiction, social media use and risky internet use.*

A Toolkit to Assist Child and Adolescent Providers in Assessing Social Media Use and Cyberbullying in an Outpatient Psychiatry Clinic

Introduction

Cyberbullying and problematic internet use (PIU) is a growing mental health concern for American adolescents and children. Rates of cyberbullying vary based on studies, with some studies suggesting it affects approximately 16-39% of teens, while others estimate 59% of teens (Anderson, 2019). In recent years, it has been estimated that PIU has affected approximately 4-6% of adolescents in the United States (Anderson, 2019; Byrne, Vessey & Pfeifer, 2017; Jelenchick et al., 2015). Both cyberbullying and PIU are associated with poor mental health outcomes and lasting psychological effects, including increased risk of substance abuse and depression (Fisher et al., 2016). There is a growing number of available tools and educational resources to aid providers in managing these patients. However, there is a lack of utility in many clinical settings. Despite the recommendations of the American Academy of Pediatrics (AAP), patients are not consistently screened with validated tools for exposure to cyberbullying and problematic internet use (O’Keeffe & Clarke-Pearson, 2011).

Background

Internet and social media have become a major part of the modern child and adolescent’s social environment. According to data collected by the Pew Research Center, in 2005, only 5% of Americans had a social media account. Today, 72% of Americans have at least one account with many of them having more than one (Duggan, 2015). Social media originally became popular primarily among college students looking to meet new classmates. Now the utilization of social media has expanded in the older and younger populations. A study by Anderson and Jiang

found that 95% of 12 to 17-year olds use the internet and 80% use social media sites (2019). What was once uncommon, modern adolescents have multiple accounts across a variety of devices and check in daily. According to Byrne, Vessey and Pfeifer, 90% of teenagers report daily social media use (2017). According to one survey, more than half of all Americans check social media up to 10 times a day, spending an average of two hours a day online and send an average of 71 texts daily (Smith, 2019).

This increased access to and participation in online social media sites such as Facebook, and Instagram creates a new frontier of social communication with many positives. There is no doubt a great amount of research showing the benefits of social media. Studies have shown that social media can provide support and reduce stigma from peers on a range of conditions from bipolar disorder to psychosis (Budenz et al., 2020; Biagiante, Quraishi & Schlosser, 2018). Posts from social media sites can even be used to detect adolescents in need of immediate mental health support related to eating disorders (Yan et al., 2019); however, with increased social media and internet access there is also increased opportunities for bullying and PIU. This paper will examine cyberbullying and PIU among adolescents by first examining the definitions of cyberbullying and PIU and relevant statistics.

Cyberbullying, also referred to as “electronic bullying” or “online bullying”, has no consensus on definition. Cyberbullying is typically defined by the use of digital technology to inflict harm repeatedly or to bully others (Gladden, Vivolo-Kantor, Hamburger & Lumpkin, 2014). Patchin and Hinduja define cyberbullying as “willful and repeated harm inflicted through the use of computers, cell phones or other electronic devices” (2017). Kowalski et al. defines it as “the use of electronic communication technologies to bully others” (2014). This paper will use the definition outlined in the Center of Disease Control’s Bullying Surveillance Among

Youths report which is “Electronic bullying is bullying behaviors that uses technology including, but not limited to: phones, email, chat rooms, instant messaging, and online posts. How technology is used to bully youths can change as new technologies or applications of existing technology are developed” (Gladden et al., 2014). In future research, it will be important to clarify the operational definition of cyberbullying to limit variability in reported prevalence rates and other areas of research. The lack of a clear definition creates barriers to researchers who are examining the magnitude, scope and impact of bullying (Gladden et al., 2014).

Cyberbullying, although a newer social problem, is already greatly impacting American youths. According to Lenhart et al., in children age 12 to 17, 9% reported being bullied via messages and 8% reported bullying through email, social network site or instant messenger applications in the last 12 months (2011). A survey conducted in 2019 by Anderson shows that 59% of U.S teens say they have experienced some form of cyberbullying including offensive name calling (42%), spreading of false rumors (32%), receiving explicit images they did not ask for (25%), feeling harassed (21%), physical threats (16%) or having explicit images of them shared without consent (7%) (Anderson, 2018).

The prevalence of cyberbullying varies by not only age, but also by school environment. According to Gladden et al. cyberbullying among public school students occur to 33% of middle schoolers, 30% of high schoolers, 20% in combined schools and 5% in primary school (2014).

Literature focused on this topic shows that cyberbullying is a very distinct form of bullying. Though in some studies the rates of online bullying are lower than “traditional bullying” some research shows victims of electronic bullying may be at a higher risk psychologically because those who are electronically bullied are often also bullied in-person (Sticca & Perren, 2013). Those who experience both forms of bullying experience more harm

and tend to stay away from school more often (Cross, Lester & Barnes, 2015).

Traditional bullying is characterized by three main factors: intent, repetition, and power imbalance. According to Englander, Donnerstein, Kowalski, Lin, and Parti (2017), these factors do not translate well into digital behaviors. For example, in-person bullying is hallmarked by the repetition of harmful behaviors by an individual or a group targeting one individual; however, online an anonymous cyber aggressor may post a negative comment to a picture or share a photo with negative comments to others. Due to this ability to easily share information with others, there is no limit to the number of witnesses and potential participants in this form of cyber cruelty. Cyberbullying also differs due to the virtually unlimited access to the internet and social media. Unlike traditional bullying which most often occurs in school, cyberbullying can be constant. Victims may feel like they can never escape the bullying, even at home (Dennehy, Meaney, Cronin &, 2020).

PIU is defined by Moreno, Jelenchick, and Christakis as “internet use that is risky, excessive or impulsive in nature leading to adverse life consequences, specifically physical, emotional, social or functional impairment” (2011). Some of the characteristics of PIU as observed by Jelenchick et al. are individuals choosing to socialize online instead of in-person, placing internet use in front of important everyday activities, avoiding activities to stay online, neglecting responsibilities, excessive use and sleep disturbances (2011). There is limited research looking at the incidence of PIU, but according to Liu et al., problematic internet use may be present in approximately 4%-6% of high school students in the United States (2011). Difficulty finding the percentage of those who practice PIU stems from arguments regarding consensus on what type of internet use is “problematic,” in addition to the total lack of large epidemiological studies.

Studies regarding cyberbullying and problematic internet use show the negative impacts both factors play on adolescent mental health. Cyberbullying is associated with increased feelings of powerlessness, low self-esteem, feelings of isolation, poor school performance, negative view on school and psychosomatic problems including headache, stomachache, and sleep disturbance in victims (Fisher et al., 2016).

The roles of the cyberbully and cybervictim are often overlapping due to the complex social structures that occur in online platforms. It is not uncommon for individuals to not only be the cyber-aggressor but be a victim as well. A so called “bully-victim” is an individual who is both a perpetrator and recipient of aggressive cyber behavior. This “bully-victim” has been compared to those who solely bully and those who are solely bullied. Individuals who are both victims and perpetrators show the poorest overall functioning (Haynie et al., 2001).

The consequences of cyberbullying are not limited to childhood but have also been associated with an increased risk of substance abuse and depression later in adult life (Kritsotakis, Papanikolaou, Adroulakis & Philalithis, 2017). Being cyberbullied has also been shown to be strongly related to suicidal ideation in adolescents. Perpetrators of cyberbullying show a slightly greater risk of suicidal behavior than non-perpetrators (John, Glendenning & Hawton, 2018). Some research suggests cyberbullying has a stronger correlation to suicidal ideation than “traditional” bullying (Van Geel, Vedder & Tanilon, 2014).

Problematic internet use is associated with behavioral problems such as conduct disorders, impulsivity, hyperactivity, as well as depressive and anxious symptoms (Asam, Samara & Terry, 2019). Individuals often suffer negative impacts in daily life due to isolative behaviors and neglect of personal, professional, and academic responsibilities. One study found that being cyberbullied predicted depression and substance abuse as soon as six months later

(Gamez-Guadix, Orue, Smith & Calvete, 2013). A study by Altbacker et al. (2016) found that neuroimaging findings suggest excessive internet use shows both functional and structural brain changes similar to that of substance addiction. The brain circuits involved in reward systems show alterations that are usually seen in patients with addictions.

The public health impacts of cyberbullying and PIU are clear, however, despite the growing body of literature in favor of screening and prevention programs, most of the management of bullying behaviors is handled by in school staff and not medical providers (Campbell, Whiteford & Hooijer, 2019).

School systems are currently struggling to detect and prevent cyberbullying, allowing a large gap through which at risk youths may fall. Much of this has to do with adolescents being resistant to report incidences to teachers or school counselors and because the bullying is occurring off school campus. Primary care providers such as nurse practitioners are in ideal positions to assess for cyberbullying exposure. This would include victimization, perpetration or observation, and problematic internet use due to the trusting nature of the provider/patient relationship. The American Academy of Pediatrics (AAP) recommends introducing the topic of bullying to children at age six (AAP, 2017). Providers should ask about bullying when children present with anxiety, depression, somatic concerns or show a history of school avoidance. Not only does the AAP recommend screening, but patients and families have shown interest in gaining medical providers' support. A study by Scott, Dale, Russell and Wolke show that both parents (88.7%) and adolescents (90.8%) think it is important for general practitioners to screen for bullying behaviors and would like their assistance (2016). Screening tools have been developed for both cyberbullying and problematic internet use such as the Cyberbullying Test (CT) and the Problematic and Risky Internet Use Screening Scale (PRIUSS) (Garaigordobil,

2017 ; Jelenchick et al., 2015); Upon review of current literature, research on the number of providers using such scales in clinical practice or assessing for PIU and cyberbullying was lacking.

Problem Statement

Cyberbullying and problematic internet use is an increasing concern among American adolescents with significant impacts to their mental health and social functioning. This quality improvement project aimed to create a virtual toolkit with resources for providers, including patient/family educational handouts, up-to-date research and screening tools to be implemented in an outpatient psychiatry office that currently has no such resources available. This toolkit was implemented with the goal of educating patients' families and providers as well as giving access to screening tools to help aid in assessing and managing cyberbullying and PIU.

Organizational "Gap" Analysis of Project Site

The gap in practice was discovered by this DNP student during clinical rotations through this facility. Prior to this quality improvement project, the providers at this facility had no formalized methods of screening for cyberbullying or problematic internet use. During observation hours in this clinical setting, this DNP student revealed inconsistent screening practices between providers creating an opportunity for at risk patients to go unrecognized. This gap is the result of a lack of provider awareness regarding the availability of standardized assessment tools and readily available educational material for parents and patients.

Review of the Literature

Search Process

An exhaustive review of the literature was conducted using online databases available through the University of Massachusetts Amherst library site. Databases reviewed included

CINAHL, PubMed, Psycinfo, Cochrane Library and Health and Psychosocial Instruments.

Search results were limited to full text, peer reviewed academic journals written in English from 2015 to 2020. Exception was made for Health and Psychosocial Instruments database which indexes instruments, scales and questionnaires. It does not have the same limitation filters available. Key search terms included: *cyberbullying, bullying, online bullying, electronic bullying, problematic internet use, internet addiction, social media use and risky internet use*. Results were further limited by focusing on the implementation of screening tools designed for child or adolescent populations leading to a result of 51 articles. Abstracts of each were reviewed and of the 51 that were screened 13 were selected for inclusion (See Appendix A for literature review search flow).

Trends Observed in Literature

After reviewing the available literature, the following themes were observed: a lack of awareness regarding cyberbullying and problematic internet use, parents can make a significant impact on preventing the development of cyber aggressive behaviors, and providers can help facilitate assessment, education, and implementation of interventions to reduce cyberbullying and PIU.

Lack of Awareness

The most frequently recommended intervention was patient and parental education. McInroy and Mishna (2017) analyzed secondary data drawn from a mixed-methods study of cyberbullying to investigate the experiences of cyberaggression in gaming platforms. They found that children and adolescents who participated did not fully understand what cyberbullying was. Of the individuals who reported experiencing being targeted by cyberaggression through gaming platforms, none of the participants considered the actions as cyberbullying. Regardless of the

negative emotional impact evident by feeling bad about themselves following cyberaggression, or marked distress leading to shutting down games, participants considered this a normal part of gaming culture (McInroy et al., 2017). Similarly, Carter and Wilson (2015) found that 7.6% of participants were not sure if they had been the victim of cyberbullying in the past. This is important to consider when evaluating a patient for possible cyberbullying exposure because the child or adolescent may have a very different understanding or definition of cyberbullying than the provider and victims could be potentially missed. McInroy recommends that a provider should, instead of assessing for cyberbullying specifically, assess whether a patient has experienced cyber aggressive behaviors and how this impacted their feelings and behavior (2017).

Parental Impact

Both parents and children are shown to benefit from education from providers. A systemic review conducted by Hutson, Kelly and Militello (2018) identifies education on cyberbullying for parents and patient as the most frequently used intervention to address cyberbullying. Hutson (2018) also recommends education regarding coping skills, empathy training, communication and social skills, and digital citizenship. Fousiani et al. also support parental and patient education regarding the general information of cyberbullying but also identifies parenting style and type as having a direct relationship to cyberbullying behaviors (2016). According to this study, there is a direct positive correlation between perceived parental psychological control and cyberbullying behaviors. This study also recommends discussing with the child or adolescent about bullying, as well as providing information to foster empathy. Parents should encourage the child's autonomy by discussing with children about their use of social media and collaborate to establish rules regarding social media related behavior. Carter et

al. supports this increase in child/adolescent empowerment, recommending involving adolescent in the process at all levels to facilitate greater understanding and empathy online (2017). Other researchers similarly show that increased communication between patients and parents about online behavior and experiences may reduce peer cyber victimization and improve internalizing and externalizing behaviors (Hutson et al., 2018; Fischer, Gardell & Teurd-Tolon, 2016). This communication can be facilitated by the provider during the assessment.

Provider Assessment, Education and Intervention

Much of the literature focuses on screening methods and how best to focus on at-risk populations. According to Carter et al., demographic factors such as living in an urban or suburban setting, age, gender, grade, or ethnicity were not statistically significant to predict patients who may have experienced cyberbullying. It is recommended to screen all patients for PIU and cyberbullying (2017). Rice et al. also recommends screening all patients, but highlights individuals who are more frequently online or text more often are as they are more likely to be perpetrators or victims of cyberbullying. Providers should also assess how long a patient spends online in hopes of early detection (2015).

Access to the internet is also a significant factor to consider when assessing for cyberbullying behaviors or exposure. According to Carter et al., means of access to internet varies greatly with 30.9% of patients using laptops with no fixed location, 29.6% use computers in a living room, 24.9% in their bedroom, 15.6% in a basement, and 15.3% reported other (2017). Given this data, location of devices should be assessed because more centralized locations where supervision is more likely such as the living room , may lead to less risky internet use and cyberbullying behaviors as compared to locations like the bedroom or basement (Carter et al., 2017).

There is much less literature regarding problematic internet use recommendations; much of the available literature focuses on the importance of screening. Jelenchick et al. conducted a cross-sectional study to examine the validity of a screening tool for PIU called the Problematic and Risky Internet Use Screening Scale (PRIUSS) which shows to be a valid tool for assessing PIU (2015). Another tool highlighted in the literature is the Problematic Internet Use Questionnaire (Strittmaker, 2016). Strittmater et al. conducted a three-wave two- year longitudinal study stressing the importance of assessing for problematic internet use, because present PIU is the best predictor of later PIU. This study identifies early identification and intervention as critical to breaking the “vicious cycle” (2015).

Baggio, Iglesias, Berchtold and Suris (2017) also recommend measuring internet use, but unlike Jelenchick, Baggio et al. recommends use be assessed using a quantity-frequency measurement. The quantity-frequency measure involves assessing the number of hours spent each week on the internet, computed by multiplying frequency based on a weekly use (0, no use to 14, several times per day) and average number in minutes. This creates a reliable and straight forward measure of internet use.

Only one study addresses the importance of assessing for genetic risk factors. Vink et al. found that 48% of compulsive internet use accounted for genetic factors while 52% was due to environmental influences (2016). While Vink et al. (2016) recommends looking at genetic factors, Jelenchick points out the need to also assess context to internet use (2017). Jelenchick found that PIU was more strongly related to recreational use as opposed to work or school related use. It is important when assessing the amount of time alone to factor in the underlying context. A student may use the internet more often and regularly than a non-student and seem

higher risk but, due to work being academic or professionally focused, it would not necessarily translate into a higher risk (Jelenchick et al., 2017).

The literature available for both cyberbullying and problematic internet use may vary on the ways in which they recommend measurement, but all studies clearly report the importance of screening patients and including educational resources for patients and families in support of the proposed quality improvement project tool kit.

Evidence Based Practice and Verification of Chosen Option

After reviewing the available recommendations in the literature, common themes can be identified and areas that require further education in clinical practice can be targeted. Patient and family awareness were identified for further attention and efforts by healthcare providers. There is a general lack of understanding among patients regarding what is or is not acceptable online behavior, specifically in regards to online gaming platforms (McInroy & Mishna, 2017). This lack of awareness leaves many children and adolescents at risk for going unrecognized. Education proposed by this DNP student would include encouraging a detailed review of social media and gaming communication styles used to assess for cyberaggression that the patient may not themselves identify as cyberbullying (Carter & Wilson, 2015).

Parental engagement has also been shown to be a critical component to addressing at-risk behavior and cyberaggression online (Hutson, Kelly & Militello, 2018). Providers should be educated regarding the importance of parental involvement, specifically parenting styles and discipline related to social media and online use. Parents should be made aware by providers of the risks regarding location of devices, and strategies should be put in place with the guidance of the healthcare team to mitigate risks (Fousiani, 2016).

Providers should be educated that all patients should be fully screened in regard to cyberbullying and problematic internet use (Carter et al., 2017). Though some patients may display behaviors that are associated with higher risk, evidence indicates that no demographic or economic variable can be used to guide screening (Rice, 2015). Routine screening should include formalized tools identified in the literature (Jelenchick et al., 2015).

Theoretical Framework or Evidence Based Practice Model

This DNP quality improvement project was guided by Lewin's Theory of Change (1947) (See Appendix B). Lewin's theory postulates that behavior is a function of the group environment and by leveraging driving and restraining forces, change can be implemented. Lewin's theory has three stages: unfreezing, moving, and refreezing (1947). The first phase, unfreezing, involves the preparation for change. In this phase, leaders recognize a problem, identify the need for change, and mobilize others to also recognize the need for change. A vital part of the unfreezing stage is education regarding an issue and developing a sense of urgency in stakeholders. During this stage, the health care leaders must identify the factors in favor of and against change and strengthen the driving forces. The last step in this phase is to decide on a solution that will be used.

The second phase, moving or transition, involves creating a detailed plan of action and recruiting participants. According to Shirey (2013), transitioning is the internal experience that occurs when individuals are faced with change and the resulting movement to accommodate new demands. The role of the healthcare leader is as a coach for change and clear communication regarding vision for the future.

The final stage of Lewin's theory is refreezing, in which the changes become embedded into the systems and become the new normal. In this stage the healthcare leader must facilitate

driving forces and push against resistant forces until the system has stabilized and accepted new change. This is key to the long-term sustainability of the practice change (1947).

Lewin's theory of change was the framework in which this quality improvement project was guided. The first phase involved presenting the information and gap of practice to providers in the clinic and establish the sense of urgency regarding the seriousness of being up-to-date with practice standards. Once this has been established, the tool kit project was offered as an intervention to implement. This step flowed into the second stage with the implementation of the toolkit and finally freeze into everyday practice.

Goals, Objectives, and Expected Outcomes

This quality improvement project was designed to evaluate the effectiveness of an online toolkit implementation for a Southwest Florida (SWFL) outpatient psychiatry office. The goal of this project was to improve providers' perception regarding problematic internet use and cyberbullying and to provide an educational presentation and online toolkit as a resource in the clinic. The findings of this project may provide valuable insight and tools for the providers who can be better equipped to identify and manage adolescents who may be exposed to cyber aggression, partaking in cyber-aggressive behaviors or have problematic internet use.

Due to constraints with providers, not all being in office and conflicting schedules, much of this material was posted in a group shared OneDrive account and through Qualtrics. The clinic agreed for this tool kit to be made accessible through this system allowing access by providers. Pre-post Likert scale intervention surveys were completed by those who participate in this project, measuring their perception of cyberbullying and PIU.

Expected outcomes for this DNP quality improvement project were as follows:

- 1.) This study aims to recruit at least 6 providers for completion of educational material and pre-post survey

- 2.) Among participants, at least 75% will improve their knowledge regarding cyberbullying and PIU.
- 3.) At least 75% of clinical staff will report a benefit from using the toolkit/access to educational material.

Methods

A pre-post one-group approach was used to evaluate the effectiveness of an online toolkit. The purpose of this DNP quality improvement project is to evaluate the effectiveness of an online toolkit, that is designed to create easily accessible resources for providers to screen and educate families and patients regarding problematic internet use and cyberbullying.

Project Site and Population

A convenience sampling of 6 providers at Elite DNA Therapy Services (EDNA) LLC in the Fort Myers was used. EDNA is a rapidly growing psychiatry and therapy provider group that serves both adults and children on an individual and group basis. EDNA provides a variety of services to the community of Southwest Florida, including mental health (psychiatry and psychology), occupational therapy, speech and language, applied behavior analysis (ABA) therapy, teletherapy, telepsychiatry and transcranial magnetic stimulation. EDNA agreed to support this project (See Appendix K: Letter of Support). Subjects were recruited using work email and snowball strategies.

Inclusion criteria are: (1) Providers who work at site including psychiatrists (MD and DOs), physician assistants, nurse practitioners (PMHNPs and FNPs), medical assistants, psychologists (PsyD, PhDs) and therapists (LCSWs, CSWIs, LMHCs), (2) providers who see children/adolescent patients. Non-clinical staff who are not involved in the care of children/adolescents will be excluded.

All providers who wished to partake in this educational presentation were free to do so and have had access to all posted material. No outside funding was used in the making of this toolkit and all work was completed by the DNP student with guidance from DNP chair and clinical mentor.

Facilitators and Barriers.

Expected barriers to the creation and implementation of this project included uncertain availability of staff due to pandemic precautions, a lack of funding and a potential for lack of participation by clinical staff. This project was implemented during COVID-19 pandemic which adds a significant amount of uncertainty to practice setting. At the time of implementation providers were both working from home and in the office via telehealth. This project was initially planned to be conducted in person but had to be adjusted to be conducted virtually adding barriers to participation by providers. This project requires no financial support as all work was completed by the DNP student as a part of graduate program. All work was formatted electronically unless specified otherwise. Eventual costs were handled by this author.

Provider participation was a significant barrier following the initial educational presentation. EDNA has regularly scheduled team meetings on every Tuesday, however due to COVID-19 these meetings have been suspended and many providers work from home. A recorded lecture was posted to access whenever providers have time to participate. However, there was no way to guarantee the number of visits to the toolkit by providers. In order to overcome this potential barrier, regular emails were sent to all staff encouraging use and providing opportunity for feedback and, as an additional incentive, a drawing for one of two \$50 Amazon gift cards will be rewarded to two participant following completion of pre- and post-survey.

An additional barrier that was not initially expected was technological issues with computer software. During the initiation phase of this project several providers have varying issues with Qualtrics platform and were unable to view the recorded presentation. This was remedied by attaching the lecture video to a subsequent email. Initially thirteen providers began the pre-survey but only six providers completed the lecture and post-survey. This is likely due to the initial barrier of being unable to view the recorded presentation. Access to this recording seems to be based on type of web browser used to view the project.

Administrative and clinical staff have been facilitators to the implementation of this project as it has been received with much support and enthusiasm from ENDA staff. The organizational philosophies promote clinical education and growth to provide ever-improving services to the community. Many of the services available to this author have facilitated in the creation of this project including access to company email, time with each provider, access to office supplies and equipment including a company laptop for personal use, and support and recommendations from administrative and clinical staff.

Measurement Instruments

In order to measure the outcomes of this DNP project, a researcher designed survey was developed to measure provider's perception of cyberbullying and PIU, using a 7-point Likert scale. These measurement tools were electronic and anonymous through online survey services (Qualtrics). The post survey included a comments section to collect recommendations from providers at EDNA. Following data collection, each survey question and answer data was compiled and entered into SPSS. (See Appendix for survey). Safeguards were incorporated to this project to protect participants. No identifiable data was collected, all data was encrypted with

codes/passwords and after final write up of analysis of the data, all data will be discarded one month following completion of this project.

Intervention

The tool kit contained a 15-minute recorded educational presentation and folders with handouts for families, patients, and providers. The presentation (see Appendix J. for an embedded power point) was developed by this DNP student using PowerPoint. The slide show consisted of 15 slides outlining background information on cyberbullying and problematic internet use, impacts on adolescent and child mental health, clinical recommendations and available resources. The presentation was uploaded into Qualtrics where an audio recording of the presentation was added. There is also resources section for providers with psychometrically tested screening tools for implementation during new patient intake, initial psychiatric/psychological evaluation, and follow-up medication management appointments. This quality improvement project is a practical way to provide resources to providers who treat child and adolescent patients in an outpatient psychiatry office. The toolkit was made easy to access through a One Drive Microsoft account and ready to implement with printable handouts and screening tools requiring little change to existing practice routines. The educational presentation and surveys were made accessible through Qualtrics, the link to which was provided through company email.

Data Collection Procedures

This project was initially implemented in the Fort Myers clinic. Eventually the online toolkit can be made available to all eight of the practice sites through dissemination of material via company OneDrive. The recorded presentation covered the background information and impacts of cyberbullying and problematic internet use and then transitioned to detailing the

toolkit that was available to all providers and medical assistants through the One Drive, Microsoft account.

Data collection procedures and all data collection was developed and performed by the DNP student with the guidance of faculty chair. The quantitative and qualitative data for analysis was collected via the pre-post intervention surveys. These scales have Likert-based questions reviewing knowledge and confidence with topic, and perceived benefit of project (See Appendix E). These scales also have comment sections which was collected and analyzed for common themes and recommendations. The pre and post-education survey was accessible by the same site used to present recorded presentation (Qualtrics).

Data Analysis

The pre-and post-education survey results were analyzed using SPSS (ver. 27) computed descriptive statistics, and Wilcoxon signed-rank test. Mean scores of pre/post educational presentation surveys were compared to determine if expected outcomes were met.

Results

The expected outcome of recruiting at least 6 providers was met. The final analysis included six participants. Thirteen providers began the pre-education survey however did not complete the post-education survey and were not included in the analysis (completion rate of approximately 46%). Of those that completed the project in its entirety four identified their role as PsyD or LMHC, one nurse practitioner or physician assistant and one reported as being other. A Wilcoxon signed-ranks test was determined as the appropriate statistical analysis tool and a null hypothesis was created. The null hypothesis being that the pre and post education means would be identical.

Table A. Descriptive and Test Statistics

Descriptive Statistics								
	N	Mean	Std. Deviation	Minimum	Maximum	25th	Percentiles	
							50th (Median)	75th
Mean for Pretest survey	6	4.6296	.62328	4.00	5.78	4.1667	4.5000	5.0278
Mean for Posttest survey	6	5.8500	.71764	5.10	7.00	5.2500	5.7500	6.4000

Test Statistics^a

Mean for Posttest survey - Mean for Pretest survey	
Z	-2.201 ^b
Asymp. Sig. (2-tailed)	.028

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

The survey questions combined pre-education to post education ranged from a mean of 4.63 to 5.85 respectively which is statistically significant (P 0.028). Overall there was statistically significant difference between pre-test mean and post-test mean ($z=-2.201$, $p=0.028$). Table B shows SPSS (vers.) print out of the Wilcixin Signed Ranks Test. This table shows that there were 6 positive ranks when comparing mean for posttest to pretest indicating that the mean of the posttest was higher than the pretest. There were no negative ranks in which the pretest would be higher than post test and no ties.

Table B. Wilcoxon Signed Ranks Test

Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
Mean for Posttest survey -	Negative Ranks	0 ^a	.00	.00
Mean for Pretest survey	Positive Ranks	6 ^b	3.50	21.00
	Ties	0 ^c		
	Total	6		

a. Mean for Posttest survey < Mean for Pretest survey

b. Mean for Posttest survey > Mean for Pretest survey

c. Mean for Posttest survey = Mean for Pretest survey

The expected outcome of 75% of clinical staff reporting a benefit from using the toolkit/access to educational material was met. 100% of participants reported a benefit from this material (50% (n=3) agree, 50% (n=3) strongly agree).

The theoretical framework guiding this project was Lewin's Theory of Change (1947) (See Appendix B). This project underwent the three stages of change outlined by Lewin necessary to change behavior in an organization. The goal of this project was to not only create increased awareness but improve access to information and tools for providers. The tool kit is still available to providers however it is unclear how many providers will be likely to use these resources in the future without further surveys.

Ethical Considerations/Protection of Human Subjects

The University of Massachusetts, Amherst (UMass) Internal Review Board (IRB) approval was obtained prior to initiating the DNP Project. All identifying information such as providers' names used on forms was anonymous and no patient information was collected. As this toolkit was focused on provider education and supplying resources for practice, there was no risk of Health Insurance Portability and Accountability Act (HIPPA) violations or concerns regarding patient safety. Participation in the presentation portion of this project falls into an

already established requirement of the organization for weekly clinical education. However, providers have the right to not participate in the completion of the surveys and were informed via email of the voluntary nature of the presentation before hand. Providers were given the educational and assessment tools with no mandatory requirement of use. It will remain a provider preference for participation and all fill out scales provided by this toolkit have the right to refuse as is standard with established company policy. This DNP student only had access to who participates in the surveys via the online system but will not see responses ensuring privacy of participants. Collection of who participates will only inform rewarding of the two gift cards mentioned.

Cost-Benefit Analysis/Budget

Costs for this project were covered by the DNP student. The material and equipment used were provided by the author of this paper including the refreshments at the initiation of the project and gift card reward for participation of DNP toolkit (See Appendix C.)

Timeline

This DNP project was implemented in the Fall of 2020 with the start date of November 10th, 2020. The start date commenced with the release of the toolkit including initial presentation surveys and resources to the entirety of EDNA clinical staff. During the course of data collection reminder emails were sent monthly. The final survey collection of data was February 15th, 2021. (See Appendix D for timeline).

Discussion

The increase from pre to post-education survey mean scores show overall statistically significant effectiveness in the toolkit. The most significant finding from the analysis was that providers agreed in the value of using psychometrically tested screening scales for cyberbullying

and problematic internet use but lacked awareness of those available. There was no significant change from pre to post education in providers opinion regarding if a provider should be using screening tools. Prior to this intervention providers opinions regarding whether or not a provider should screen for cyberbullying/PIU during an appointment was positive (1 somewhat agree, 1 agree, 4 strongly agree). Following intervention, a higher tendency to strongly agree (2 agree, 4 strongly agree). There was no change in frequency of providers who believed using a formalized scale was necessary (1 neither agree nor disagree, 3 agree, 2 strongly agree). Though this data is not statistically significant it does show that providers going into this educational project had a base line perception that there is a need to screen for both cyberbullying and problematic internet use. This is relevant due to the statistically significant change in providers awareness regarding available tools. It can be interpreted that this toolkit was successful in providing increased resources for sought after tools.

The theoretical framework guiding this project was Lewin's Theory of Change (1947) (See Appendix B). This project underwent the three stages of change outlined by Lewin necessary to change behavior in an organization. Lewin proposes that, to create lasting change in an organization, it is necessary to leverage driving and restraining forces. In the unfreezing stage the factors in favor of and against change must be highlighted, as they will be managed against during the moving stage. At the time of the implementation of this project, COVID-19 was a significant barrier which changed much of the way the organization functioned from when the gap analysis was first completed. Providers were split between working from home and in the office and patients were primarily seen via telehealth. Providers' daily schedules changed based on individual factors. For example, while some providers expanded available hours to see more patients in a longer day, others reduced hours by eliminating lunch break to compress more into

the existing schedule. Some providers changed their availability entirely. This major change in office dynamics had to be taken into consideration in the planning of this project. To maximize participation, driving factors and restraining forces were outlined. Driving factors included underlying organizational philosophy which promotes clinical education and growth and enthusiasm from staff from project onset. Restraining forces initially identified later had to be expanded to include pandemic- specific considerations. Convenience and access to materials and information was key to reduce restraining factors. Given an environment of increased stressors on potential participants, it was key to make participation as “user friendly” as possible. Due to this the project was shifted from the initial plan of in person presentation to be virtually based to better accommodate providers schedules and availability. All aspects of this project had to be made virtual to be accessible online including recruitment material, educational material, surveys, and all forms of communication. Once the virtual platforms were made available this project progressed into the moving stage. The virtual platform which has driving aspects also created new potential restraining factors such as technological issues. The initial recruitment emails were sent during a time when providers received a high volume of emails which could have contributed to lack of participation of some providers. Issues with the virtual platforms and software also restrained participation. While thirteen providers began the project only six completed through to the post survey. This is likely due to an initial issue with certain browsers and computers being able to access the imbedded presentation through Qualtrics. All seven of the providers who did not complete the project stopped at the presentation. Throughout the moving stage, which consists of ongoing action to implement and recruitment these restraining factors and driving forces remained consistent. Recruitment was high following the initial recruitment email and dropped off until the final weeks when a reminder email was sent. During

this time providers had begun to return to in office and face to face recruitment was more viable, yet still limited as most patients were seen via telehealth. Because of this, there was less socialization in the office and providers tended to stay in their respective offices. The final stage of Lewin's Theory of Change is refreezing in which the new behavior becomes embedded into the system. The goal of this project was to not only create increased awareness but improve access to information and tools for providers. The tool kit is still available to providers however it is unclear how many providers will be likely to use these resources in the future without further surveys.

New Insights

After completion of this DNP project the results were consistent with the trends observed in the literature review. Providers reported a baseline positive response to comfort regarding managing cyberbullying and problematic internet use however did report a low level of awareness regarding potential screening tools and expressed an interest in further education. Given that providers already feel comfortable with the topics future goals should be aimed at creating and increasing access to user-friendly screening tools. This project did not examine a provider's likelihood of using this toolkit in future practice or if during the time of this project a screening tool that was made available was used. Future efforts should examine what are the factors that make a screening tool more or less likely to be used.

There were numerous challenges in doing this project namely the unappreciated challenge of using all virtual platforms. This DNP student found that a toolkit, made available online, is an easy to implement tool given successful communication with participants. The major barrier to implementing this project was due to restriction put in place due to COVID-19. It was relatively easy to change over to an online platform and the challenges faced were more

representative of this DNP students lacking previous experience using these platforms. This project would have benefited from improved communication from the DNP student to participants as initial and follow up emails seemed ineffective. Following the start of the project participation was high with six participants completing the survey in the first two days. Then there was then a drop in response rates until one week prior to closing the project. Had this project been completed in person it is likely participation would have been higher. Overall, this project provided several new insights to this DNP student which will help to guide future focus on this topic.

Conclusion

Cyberbullying and problematic internet use is quickly becoming a major concern in the mental health community. With increased access to technology, youths are relentlessly bombarded with information and communication. This paper has highlighted the relevant data showing the prevalence and consequences of both cyberbullying and problematic internet use. This DNP project proposes an intervention by providing education and resources to both providers and families. With up-to-date information readily available and easy to use psychometrically tested scales, providers can increase confidence with tackling the topic of cyberbullying and problematic internet use among children and adolescents.

There has been a rapid integration of communication technology into our daily lives and this issue will only continue to become more prevalent. As this DNP shows by arming our community with knowledge, we can better support healthy internet consumption and curb cyberbullying.

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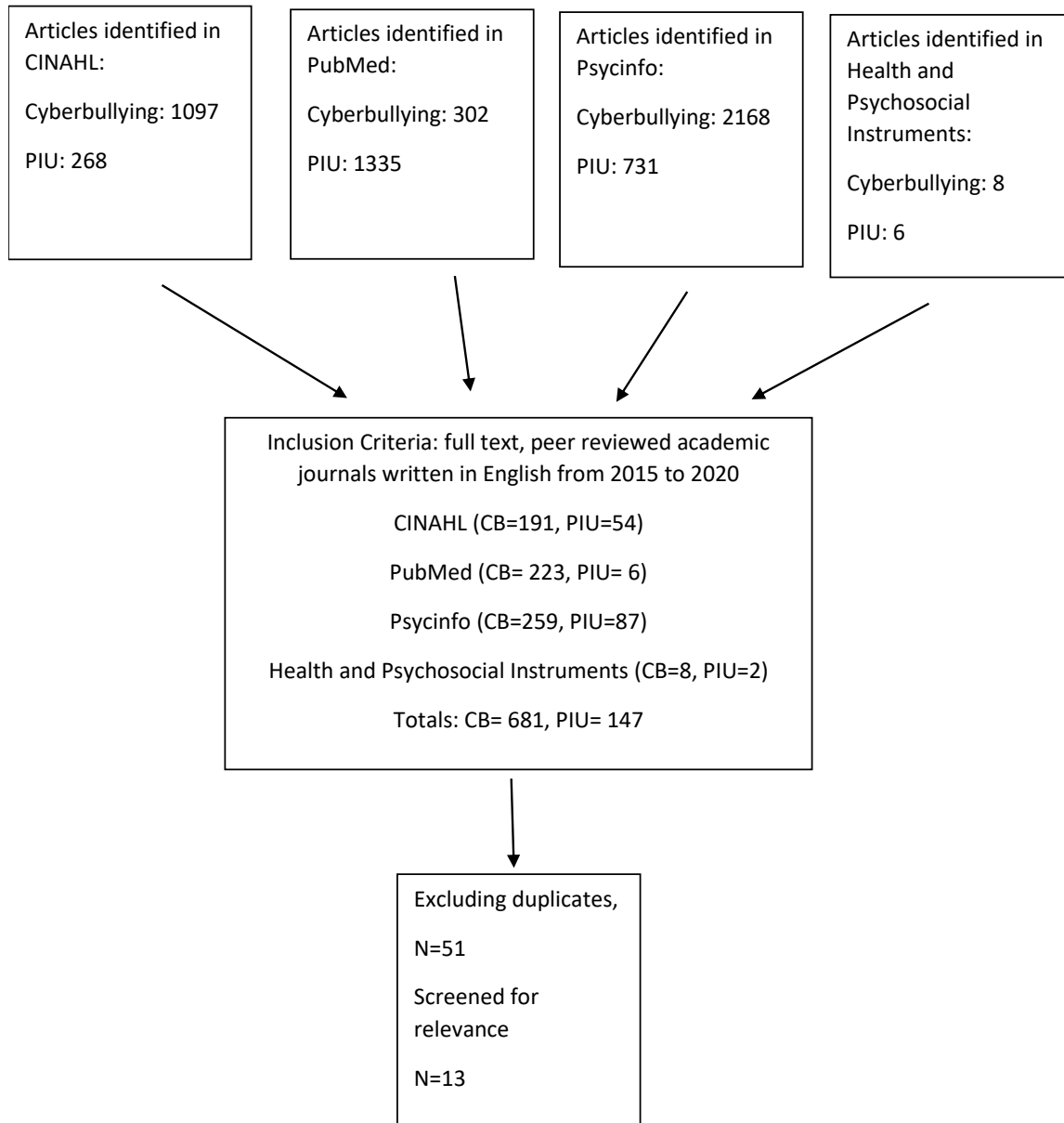
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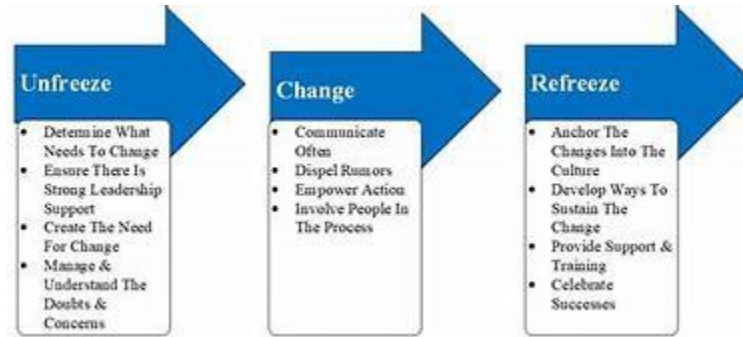
Appendix A

Appendix A. Review of Literature, Summary of Search Strategies



Appendix B

Lewin's Theory of Change



Appendix C

Cost Analysis

Item	Approx. Cost
Data Collection/ management	Free
SPSS Grad Pack v26	\$34.95
Education/training for Staff	Free
Refreshments	\$100-150.00
Gift Cards	\$100 (2x \$50.00)
Material/Supplies/Printing	\$53.00
Total Approx. Cost	\$287.95-330.95

Appendix D

Timeline

Table 1

Simplified Project Timeline

Task	August	September	October	November	December	January	February
Recruitment of eligible participants	X	continued					
Intervention; Evaluation; Toolkit	X	X	X	X	X		
Post-test and Analysis of outcomes				X	X	X	X
Results presented to local providers							X

Appendix E

Participant Questionnaire

Please identify your role: MD/DO, APRN, PA, MA, Other

For the following questions please answer on a scale from 1-4

1: strongly disagree 2: disagree 3: neutral 4: agree 5: strongly agree

- 1.) I feel knowledgeable when it comes to cyberbullying among children and adolescents.
- 2.) I feel knowledgeable when it comes to problematic internet use among children and adolescents.
- 3.) I feel comfortable discussing cyberbullying and problematic internet use with patients and families during appointments/sessions
- 4.) Providers should screen for cyberbullying and problematic internet use and cyberbullying during appointments/sessions
- 5.) Providers should use formalized scales to assess for cyberbullying and problematic internet use
- 6.) I am aware of available resources for patients and families
- 7.) I am aware of the available screening tools available to assess problematic internet use among children and adolescents
- 8.) I am aware of the available screening tools available to assess cyberbullying among children and adolescents
- 9.) This educational material was a benefit to me
- 10.) I can benefit from further education regarding cyberbullying and problematic internet use
- 11.) Please provide any additional comments:

Appendix F: Additional Web Resources Included in Toolkit

<https://www.familyorbit.com/blog/real-life-cyberbullying-horror-stories/>

<https://cyberbullying.org/stories>

Appendix G: Cyberbullying Behaviors Explored by the Cyberbullying Test.

1. Have they ever sent you offensive and insulting messages by cellphone or Internet?
2. Have you ever received offensive and insulting calls on your cellphone or by Internet (Skype . . .)?
3. Have you ever been assaulted to tape the assault and hang it on the Internet?
4. Have they ever diffused your private or compromising pictures or videos by Internet or cellphone?
5. Have they ever taken pictures of you without your permission in places such as locker rooms, beaches, or toilets and hung them on the Internet or diffused them by cellphone?
6. Have you ever received anonymous calls to scare or frighten you?
7. Have they ever blackmailed or threatened you with calls or messages?
8. Have they ever harassed you sexually by cellphone or on the Internet?
9. Has anybody ever signed your blog, pretending to be you, making slandering comments, lying, or revealing your secrets?
10. Have they ever stolen your password to prevent your access to your blog or e-mail?

11. Have they ever touched up your photos or videos to diffuse them through social networks or YouTube to humiliate you or make fun of you?
12. Have they ever harassed you to isolate you from your social network contacts?
13. Have they ever blackmailed you, making you do things you did not want to do to prevent them from diffusing your intimate matters on the network?
14. Have they ever threatened to kill you or your family by cellphone, the social networks, or any other type of technology?
15. Have they ever slandered you through the Internet, telling lies about you to discredit you? Have they ever spread rumors about you to harm you?

Appendix H:

Problematic Internet Use Questionnaire (PIUQ)

In the following you will read statements about your Internet use. Please indicate on a scale from 1 to 5 how much these statements characterize you.

Subscales

Obsession: Questions 1, 4, 7, 10, 13, 16

Neglect: Questions 2, 5, 8, 11, 14, 17

Control disorder: Questions 3, 6, 9, 12, 15, 18

like to be online when you are not on the Internet?	1	2	3	4	5
1. How often do you fantasize about the Internet, or think about what it would be					
2. How often do you neglect household chores to spend more time online?	1	2	3	4	5
3. How often do you feel that you should decrease the amount of time spent online?	1	2	3	4	5
4. How often do you daydream about the Internet?	1	2	3	4	5
5. How often do you spend time online when you'd rather sleep?	1	2	3	4	5
6. How often does it happen to you that you wish to decrease the amount of time spent online but you do not succeed?	1	2	3	4	5
7. How often do you feel tense, irritated, or stressed if you cannot use the Internet for as long as you want to?	1	2	3	4	5
8. How often do you choose the Internet rather than being with your partner?	1	2	3	4	5
9. How often do you try to conceal the amount of time spent online?	1	2	3	4	5
10. How often do you feel tense, irritated, or stressed if you cannot use the Internet for several days?	1	2	3	4	5
11. How often does the use of Internet impair your work or your efficacy?	1	2	3	4	5
12. How often do you feel that your Internet usage causes problems for you?	1	2	3	4	5
13. How often does it happen to you that you feel depressed, moody, or nervous when you are not on the Internet and these feelings stop once you are back online?	1	2	3	4	5
14. How often do people in your life complain about spending too much time online?	1	2	3	4	5
15. How often do you realize saying when you are online, "just a couple of more minutes and I will stop"?	1	2	3	4	5
16. How often do you dream about the Internet?	1	2	3	4	5
17. How often do you choose the Internet rather than going out with somebody to have some fun?	1	2	3	4	5
18. How often do you think that you should ask for help in relation to your Internet use?	1	2	3	4	5

Appendix I: PRIUSS

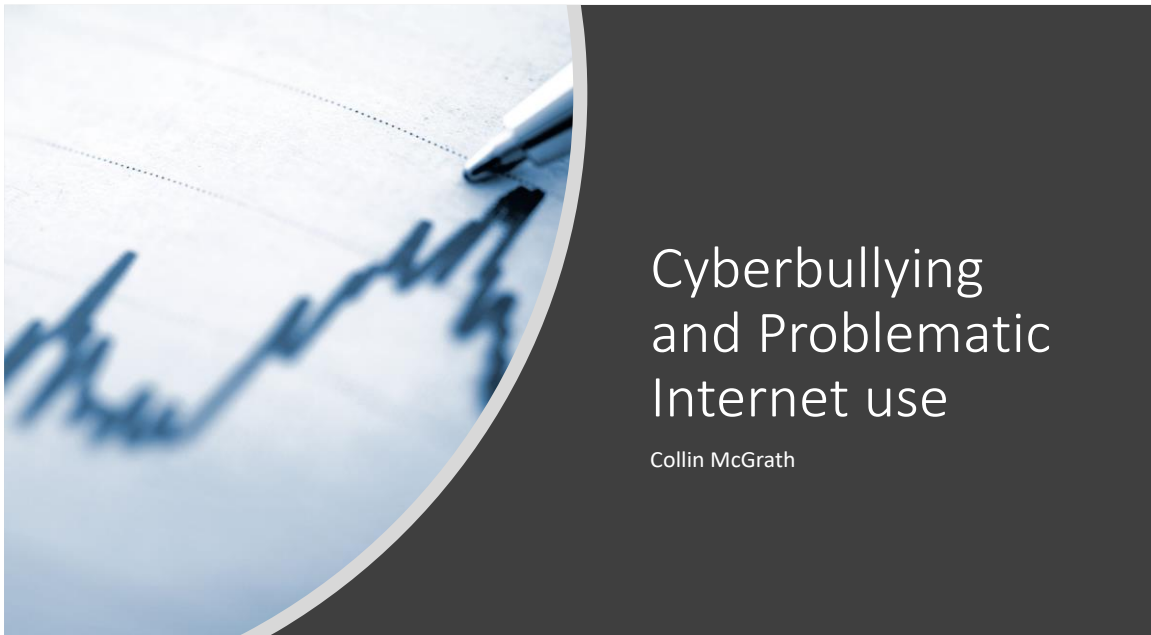
Place an  in the box which best describes your answer.

How often ...	Never	Rarely	Sometimes	Often	Very Often
1. do you choose to socialize online instead of in-person?	0	1	2	3	4
2. do you have problems with face to face communication due to your internet use?	0	1	2	3	4
3. do you experience increased social anxiety due to your internet use?	0	1	2	3	4
4. do you fail to create real-life relationships because of the internet?	0	1	2	3	4
5. do you skip out on social events to spend time online?	0	1	2	3	4
6. do your offline relationships suffer due to your internet use?	0	1	2	3	4
7. do you feel irritated when you're not able to use the internet?	0	1	2	3	4
8. do you feel angry because you are away from the internet?	0	1	2	3	4
9. do you feel anxious because you are away from the internet?	0	1	2	3	4
10. do you feel vulnerable when the internet isn't available?	0	1	2	3	4
11. do you experience feelings of withdrawal from not using the internet?	0	1	2	3	4
12. do you put internet use in front of important, everyday activities?	0	1	2	3	4
13. do you avoid other activities in order to stay online?	0	1	2	3	4
14. do you neglect your responsibilities because of the internet?	0	1	2	3	4
15. do you lose motivation to do other things that need to get done because of the internet?	0	1	2	3	4
16. do you lose sleep due to nighttime internet use?	0	1	2	3	4
17. does time on the internet negatively affect your school performance?	0	1	2	3	4
18. do you feel you use the internet excessively?	0	1	2	3	4
Add columns					=
					Total score <input type="text"/>

Fig. 3. The Problematic and Risky Internet Use Scale (PRIUSS).

Appendix: J

Power Point Presentation (Embedded double click to open document. Audio recording not attached)



Appendix K: Letter of Support

Elite DNA
Therapy Services
a comprehensive approach

8/20/20

To whom it may concern,

I am writing this letter to provide support for the project: "A Toolkit to Assist Child and Adolescent Providers in Assessing Problematic Internet Use and Cyberbullying in an Outpatient Psychiatry Clinic". The DNP student, Collin McGrath is given permission by this organization to complete the project here with voluntary participation of staff/providers.

Any questions, please feel free to contact me at: reeseg@elitednatherapy.com.

Sincerely,

Dr. M. "Reese" Gorski

DNP, APRN, PMHNP-BC, FNP-C

Advanced Practice Provider Director

Psychiatric & Family Nurse Practitioner

Appendix L SPSS Output Wilcoxon Signed-Ranks Test

Descriptive Statistics								
	N	Mean	Std. Deviation	Minimum	Maximum	25th	Percentiles	
							50th (Median)	75th
Mean for Pretest survey	6	4.6296	.62328	4.00	5.78	4.1667	4.5000	5.0278
Mean for Posttest survey	6	5.8500	.71764	5.10	7.00	5.2500	5.7500	6.4000

Ranks				
		N	Mean Rank	Sum of Ranks
Mean for Posttest survey - Mean for Pretest survey	Negative Ranks	0 ^a	.00	.00
	Positive Ranks	6 ^b	3.50	21.00
Ties		0 ^c		
Total		6		

a. Mean for Posttest survey < Mean for Pretest survey

b. Mean for Posttest survey > Mean for Pretest survey

c. Mean for Posttest survey = Mean for Pretest survey

Test Statistics^a

Mean for Posttest survey - Mean for Pretest survey	
Z	-2.201 ^b
Asymp. Sig. (2-tailed)	.028

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Frequencies

		N
Mean for Posttest survey - Mean for Pretest survey	Negative Differences ^a	0
	Positive Differences ^b	6
Ties ^c		0
Total		6

a. Mean for Posttest survey < Mean for Pretest survey

b. Mean for Posttest survey > Mean for Pretest survey

c. Mean for Posttest survey = Mean for Pretest survey

