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Mental and Behavioral Health Interventions for Youth: A Review of the Evidence

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Mental and Behavioral Health Interventions for Youth: A Review of the Evidence

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Executive Summary

Good mental and behavioral health (MBH) is critical to youth wellbeing. It is correlated with stronger school performance, better physical health, and reduced risky behavior. These outcomes may then influence lifelong mental health, physical health, and self-sufficiency. Structured interventions can play an important role in preventing and addressing MBH in youth. However, given the wide array of interventions that have been developed, it can be challenging to identify which therapies and programs are most effective.

This review synthesizes the broad range of existing research and interventions to identify trends, gaps, and lessons learned from existing programs, with a particular focus on middle-school aged children and a recognition that many children in need of these services come from low-income and disadvantaged backgrounds. Areas studied include: social and emotional learning (SEL), cognitive behavioral therapy (CBT), mentoring programs, and parent and family programs. We find the most supportive evidence for SEL, values affirmation exercises, CBT, mentoring, multidimensional family therapy (MDFT), and psychoeducational psychotherapy (PEP). Two-generation (“2Gen”) approaches, which synchronously address parents’ and their children’s needs, show promise; more research on these models would be valuable.

Young adolescents, ages 10-14, have particular needs to consider when designing and implementing a MBH intervention. For example, evidence supports the addition of self-monitoring components to increase engagement, being mindful of the probability of developing a substance use disorder alongside an existing mental health condition, and addressing social stigma associated with seeking mental health treatment.

Finally, we identify four areas for future research: how to better identify children in need; how to increase youth engagement in MBH interventions; how to better cater to specific needs of different groups; and better tracking of long-term impacts. While it is plausible that MBH programs geared towards children and adolescents have a causal impact on subsequent education and economic outcomes, most existing studies do not track these long-term effects. We encourage practitioners and researchers to follow such adult outcomes in the future.

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1. Introduction

1.1. Young Adolescents

In today's world, children are emerging from the COVID-19 pandemic to adapt to another shake-up of school routines, digest regular national headlines on mass shootings in schools, and navigate the omnipresent and often ruthless world of social media. They also face a broader backdrop of an increasingly polarized political dialogue on heavy topics including gun violence, racial tension, and climate change. Meanwhile, anxiety, depression, self-harm, and suicide have reached startling high rates, composing what is widely understood as a youth mental health crisis (Office of the Surgeon General, 2021).

Prior to the pandemic, youth mental health was already in distress. According to the 2019 National Survey on Drug Use and Health, nearly 1 in 5 adolescents ages 12-17 had either a major depressive episode or substance use disorder diagnosis in the past year. They are more than twice as likely to have had a major depressive episode in the past year than adults over 18. This rate nearly doubled during the decade leading up to the COVID-19 pandemic, while staying roughly flat for adults. Suicide is the second leading cause of death for children ages 10-14 according to the CDC.

Young adolescence may be a particularly important time for intervention. As children enter their pre-teen

years, they are granted more freedoms, assigned more responsibilities, and held to higher expectations from adults. These are also the years when they develop meaningful friendships, grow into their own identities, and develop plans for the future. Habits, morals, and social networks, which will affect the rest of their lives, are established. It is also a time when many lifelong mental health conditions, including behavioral and anxiety disorders, develop (Kessler et al., 2007). Complications associated with these conditions, such as bullying, violence and substance use can affect their peers' learning and development, compounding any direct impacts. For these reasons, this is an especially important age range to identify potential areas of need, address any nascent mental or behavioral health problems, and instill strategies for dealing with stressful situations and challenging emotions to come.

In this paper, we present a review of the literature evaluating MBH programs for youth, whether implemented independently or integrated into other programs. By synthesizing knowledge produced by existing research, we hope to chart a path forward for practitioners and researchers alike.

1.2. Pervasiveness of MBH Problems in Youth

Diagnosis of MBH problems in children occurs at alarming rates. As of 2019, 9.4 percent of children and adolescents aged 3-17 are diagnosed with anxiety, 8.9 percent have received a diagnosis for behavioral problems, and 4.4 percent have diagnosed depression (Bitsko et al., 2022). These chronic issues also put children at risk of co-occurring conditions; children who have one mental or behavioral diagnosis are much more likely to suffer from another. For example, among children currently diagnosed with depression, nearly half (47.2 percent) have a coexisting behavioral or conduct problem (Ghandour et al., 2018). Similarly, among children with a current behavioral or conduct problem,

one in five (20.3 percent) are currently diagnosed with depression and more than one in three (36.6 percent) have a current anxiety diagnosis. Adolescents who have had a major depressive episode in the last year are more than twice as likely to use alcohol, cigarettes, marijuana, opioids, and illicit drugs, where about 1 in 3 used illicit drugs in the past year (SAMHSA 2020).

Between 2005 and 2020, the rate of children ages 12-17 who had a major depressive episode in the past year, from 8.36 percent to 16.39 percent, according to the National Surveys on Drug Use and Health. Over the same period, adults ages 18 and over saw a much smaller increase, from 6.53 percent to 8.12 percent.¹ While it is a growing problem for young people overall, some groups are at higher risk. Children from households below the federal poverty line have higher rates of diagnosed depression and behavioral or conduct problems (Ghandour et al., 2018).

Another minority group particularly affected by MBH issues is LGBTQ youth. The Trevor Project found that 45 percent of LGBTQ youth seriously considered taking their own lives (compared to 18.8 percent for the general population) in the past year. Additionally, 60 percent were unable to receive mental health care even though they wanted it.

1.3. Implications for Young People and for Society

Poor mental health can lead to risky behaviors, including crime, substance abuse, lowered academic success, self-harm, and suicidal thinking and attempts. These outcomes can be detrimental to a young person's future health and self-sufficiency. They can also be costly to society, such as increased crime victimization. Finally, they can have intergenerational impacts, where poor mental health as an adolescent can lead to worse mental health status and higher poverty rates among the next generation of children. We provide detail on some of these issues in this section.



Depression, substance use disorders, and psychosis are known to increase the risk of suicide (Brådvik 2020). Since suicide is the second leading cause of death for children ages 10-14, there is an urgent need for effective interventions. According to the CDC, 18.8 percent of high schoolers seriously considered suicide and 8.9 percent attempted suicide in 2019. MBH interventions have the potential to not only provide hope, support, and education, but to also save lives.

MBH is also closely linked with crime and violence. A national youth survey linked lifetime psychiatric disorders with an increased likelihood of committing crime, especially violent crime (Coker et al., 2014). Per day, about 10 young people ages 19 and under are victims of homicide.² Furthermore, communities of color are disproportionately impacted; homicide is the leading cause of death for African American youths and second leading cause of death for Hispanic youth. According to the Chicago Police Department 2020 Annual Report, there was nearly a 50% increase

² Centers for Disease Control WISQARS data visualization tool for the year 2020 (<https://www.cdc.gov/injury/wisqars/index.html>). Accessed Sept. 14, 2022.



in youth homicide victimization and more than a doubling of youth homicide offenders from 2019 to 2020. Unfortunately, these often become self-reinforcing cycles, since homelessness, violence, and incarceration are widely understood to have a negative impact on MBH. Effective interventions are necessary to get ahead of this troubling trend.

Another area in which these disorders can negatively impact a child's life is with regard to substance and alcohol abuse. The National Center for Drug Abuse Statistics reported that, nationally, 1 in 8 teenagers have regularly abused illicit substances within the past year, which is a 61 percent increase from 2010. Similarly, by the time students are in 12th grade, 21.3 percent of children have tried illicit drugs at least once. About half of those with untreated mental health disorders also develop some form of substance abuse.

MBH disorders can be detrimental to many areas of life for the children that suffer with them, not

the least of which being academics and schooling. According to SAMHSA, in its report on the importance of MBH in school, untreated and unaddressed MBH can have a negative effect on students' learning and academic achievement, friendships and social life, completion of school, and ability to continue their education at a postsecondary level. This is especially concerning since dropping out of high school is one of the most costly decisions a young person can make. According to the National Center for Education Statistics, if a dropout had finished high school, they would earn a median \$6,000 more annually, have their unemployment rate halved, and experience better health outcomes. On the societal level, the average high school dropout enacts lifetime costs of over \$272,000 on the economy (National Center for Education Statistics).

The negative link between poverty and mental health is robust, and this link is also well established among children (Butler, 2014). Evidence shows that

history of mental illness is connected to youth-onset homelessness (Iwundu et al., 2020). Furthermore, there is evidence of intergenerational transmission of mental illness that is also linked to childhood poverty. For example, Butler (2014) found that mothers who were depressed as children have children who experience more persistent family poverty throughout childhood, are more likely to currently live in poverty, are less likely to live with both parents as an infant and during adolescence, and have more depressive symptoms during adolescence.

As researchers and policymakers consider how to address the prevalence of MBH issues, it is essential to consider the full economic cost of ignoring them. Youth with unaddressed MBH issues will have lower academic performance and higher rates of violence and substance abuse today. As they transition into adulthood, additional costs of stunted self sufficiency and higher rates of unemployment and criminal activity might materialize. Investing in MBH interventions for youth today promises benefits for both the present and future. It is essential for all stakeholders to rigorously analyze and implement MBH interventions so that this transformation can be realized.

1.4. Outline of Interventions Considered in This Review

Where possible, we focus on evidence generated from randomized controlled trials (RCTs), which most cleanly identify causal relationships with minimal bias and confounding variables, and which are generally considered the gold standard in research design. We restrict our review to interventions geared toward children and that specifically address mental and behavioral health. This means we are not including purely academic, social, athletic, or other types of programs that may impact children’s MBH.

While mental health and behavioral health are related terms, they are not interchangeable. In this paper,

we consider mental health as “a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with adversity” (U.S. Department of Health and Human Services, 1999). We consider behavioral health to be comprised of mental/emotional well-being and the choices that people make that affect their well-being, including “substance abuse or misuse, alcohol and drug addiction, serious psychological distress, suicide, and mental and substance use disorders” (Substance Abuse and Mental Health Services Administration, 2011). Behavioral health exists on a spectrum, encompassing conditions from stress to serious mental illness. The term “behavioral health” can also be used to describe services that promote prevention and treatment of mental and substance abuse disorders” (youth.gov).

Traditional therapy methods are child-centered, and most existing research focuses on those models. However, alternative methods to address youth MBH problems, including parent-centered and family-centered approaches, have been developed in recent years. There is especially a growing interest in family-centered or “2Gen” approaches. In this review, we will cover child-centered models in Section 2, parent-centered models in Section 3, family-centered or “2Gen” models in Section 4, and conclude with questions for future research in Section 5.





2. Child-Centered Models

2.1. Social and Emotional Learning

Social and emotional learning (SEL) is defined as the “the processes through which children and adults acquire and effectively apply the knowledge, attitudes and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions” (Collaborative for Academic, Social and Emotional Learning (CASEL) 2014 and Berry et al., 2016). Although much of SEL occurs during the everyday socialization of a child, it can also be intentionally taught and developed. SEL’s proposed benefits of cooperative behavior, elevated empathy, and healthy decision-making are appealing and have inspired many school-based SEL interventions. Although these benefits are applicable to all children, SEL might have a higher differential effect on children from disadvantaged backgrounds. Children with challenges such as trauma, unrest at home, or food insecurity often have their SEL stunted due to these external circumstances.

2.1.1. Promoting Alternative Thinking Strategies (PATHS)

Promoting Alternative Thinking Strategies (PATHS) is a two-year SEL program that uses “dialoguing, role-

playing, story-telling by teachers and peers, social and self-reinforcement, attribution training and verbal mediation” to prepare children to handle real-life conflicts in healthy ways.³

Focused on children from preschool through grade six, it incorporates flexibility for teacher adaptation and home implementation elements. Through an RCT, PATHS was found to have positive effects on emotional and behavioral health or decreases in aggressive behavior (Crean and Johnson, 2013). However, in a randomized study of its effects on 4-6 year olds in the United Kingdom, PATHS did not impact child behavior or emotional wellbeing (as measured by teacher ratings of students) (Berry et al., 2016). This might be due to the young age of the children involved, since most PATHS interventions are focused on slightly older age groups. However, one PATHS intervention had the curriculum specifically adapted for a younger audience and proved to successfully increase the emotional intelligence of preschoolers (Domitrovich et al., 2007).

While research has found positive impacts of PATHS on elementary school children’s SEL outcomes, there is less support for impact on academic outcomes. For example, Hennessey and Humphrey (2020) found that PATHS did not impact scores on English, math, and science tests at the end of years 1 and 2 of the program. It should be noted that longer term academic outcomes were not included in the scope of the study, a gap which exists in most SEL studies. Other SEL interventions, especially one that taught mindfulness practices to students, increased interpersonal skills and emotion management (Schonert-Reichl et al., 2015).

Since SEL is focused on emotional rather than academic skills, it is unsurprising that SEL has a greater impact on mental wellbeing than grades. However, there is some evidence of spillover from

³ See <http://www.pathstraining.com/>

emotional to academic skills. Among third graders from disadvantaged families, those with more frequent exposure to SEL content had improved literacy and math levels (Zhai et al., 2015). One of the biggest counterarguments to implementing SEL in schools is that it reduces valuable academic instruction time and would decrease state test scores. However, a study of third graders in Pennsylvania showed otherwise. SEL was found to lead to modest academic gains and not to hurt test scores (Hart et al., 2020).

2.1.2. Mental Contrasting with Implementation (MCI) and Value Affirmation

Another type of SEL intervention that has been implemented for students in middle school is called Mental Contrasting with Implementation (MCI). The goal of such interventions is to have students contrast their current trajectory with an alternative desired future, and imagine possible benefits and obstacles that are in place on their way towards this alternative future. They then brainstorm ways to overcome these obstacles and attain their desired outcome. MCI was found to increase grades, attendance, and conduct (Duckworth et al., 2013). MCI was also found to have the capacity to increase academic performance in conjunction with an incentive as small as a bag of candy (Gollwitzer et al., 2011).

Schools have also implemented student affirmation interventions that focused on building self worth and self esteem in students. These interventions had teachers trained in positive psychology conduct value affirming exercises among students, such as writing assignments, in an effort to increase optimism and decrease negative emotional symptoms. Student affirmation interventions were found to increase academic performance as well as positive emotional traits, such as self-esteem (Sherman et al., 2013; Shoshani and Steinmetz 2014), and had a particularly strong effect in minority communities (Cohen et al., 2006).

2.1.3. The RULER Approach

Another SEL intervention, known as the RULER approach, was focused on the classroom rather than individual level. The RULER approach promotes a healthy classroom dynamic that values student-teacher relationships and student autonomy by “professional development for school leaders, teachers, and staff, as well as classroom instruction protocols to enhance skill-building opportunities and characteristics of the learning environment” and was found to positively impact youth development (Rivers et al., 2013).⁴

2.1.4. SEL for Older Students

SEL has also been implemented for older audiences. Although the format and focuses of SEL curriculum differ with age, the same general aims and principles apply. For example, using mindfulness to promote SEL is applicable to both elementary and high school populations (Schonert-Reichl et al., 2015; Dowling et al., 2019). Another benefit of SEL is its versatility; for example, integration with a drug education program for an older audience. The Skills for Adolescence (SFA) program effectively reduced substance use among middle schoolers who underwent the SEL curriculum with a drug education component (Eisen et al., 2003). Finally, there is evidence that SEL positively impacts academic outcomes in high school (Durlak et al., 2011).

2.1.5. Reflection

Ultimately SEL has support for its effectiveness in a wide variety of age groups, demographics, socioeconomic brackets, and implementation methods. At the elementary school level, PATHS appears to be the best in class intervention. In middle school, student affirmation or MCI interventions have strong support. At all age groups, mindfulness exercises in SEL programming are effective. Although SEL’s primary outcome is socioemotional wellbeing, there is some support for spillover to improved academic outcomes. Our literature review found SEL to generally

⁴ See www.therulerapproach.org



be more influential on academic outcomes in middle than elementary school. This difference could be explained in two ways: 1) middle school students are more responsive to SEL than their elementary school counterparts, or 2) the impacts of SEL on academic performance at the elementary level are delayed and can only be detected later in middle school. Further studies would need to be conducted to determine which of these possible explanations is more supported. Unfortunately, none of these studies have been conducted over extensive periods of time, to determine if the effects of SEL programming on academics take a long time to materialize.

2.2. Cognitive Behavioral Therapy

Cognitive Behavioral Therapy (CBT) helps individuals decrease emotional distress by reshaping thought patterns. Although often used as a treatment for combat soldiers, its applications in other contexts, including for youth, are noteworthy. It can help youth

who have experienced trauma, which might be the result of Adverse Childhood Experiences (ACEs), or exposure to violence. CBT is also used to curb anxiety and depression. Although often used as a healthcare-based intervention, schools have begun employing it with mixed results. For example, Friends for Life is a CBT-driven anxiety-prevention program for 9-10 year olds. Although generally effective, it was most impactful at reducing anxiety in children when led by a health rather than school leader (Stallard et al., 2015). Other studies found null or diminishing effects of school-based CBT (Anderson et al., 2014; Stein et al., 2003). One potential explanation for these findings may be the broader pool of the study population. Healthcare-based CBT would target those with explicit need, such as those suffering from post-traumatic stress disorder (PTSD) or depressive symptoms, meaning they have the most to gain from the intervention. School-based CBT programs are universal: They are typically administered at equal levels to those with and without symptoms. Not

only does this mean that the actual program will look different (i.e. individual counseling v. group discussions), but outcome levels will differ. Those administering the program also tend to have different backgrounds (i.e. certified psychiatrist v. school nurse or teacher). Although CBT has been shown to reduce mental illness, the strength of its detected effects are contingent on the manner of implementation.

2.2.1. *Becoming a Man (BAM)*

One outstanding high school CBT program was *Becoming a Man (BAM)* in Chicago. BAM was a metacognition-based program that allowed underprivileged male youth to develop emotional skills, participate in team building, and gain a better understanding of how they think. The program met weekly for one hour over the course of a school year. Results indicate that the program led to decreased arrests and increased graduation rates of the participants. The program also successfully lowered readmission rates when employed at a juvenile detention center (Heller et al., 2017). This intervention stands out not only for its compelling results, but robustness as well: three separate RCTs were conducted to reach these conclusions.

2.2.2. *CBT for Depression Prevention*

CBT can also be utilized in universal depression prevention programs, which take a proactive rather than reactive approach to mental health. Often school-based, depression prevention programs provide all students with the psychological training and support to bolster their mental health before a depression diagnosis (Garmy et al., 2019). Another study conducted in Australia found that depression-prevention programs were cost-effective and impactful on decreasing disability adjusted years, especially when delivered face-to-face rather than via the internet. One interesting feature of this intervention was an escalation component: although all students underwent a universal depression prevention program, students

could be flagged for being at risk and given additional individualized mental health services (Lee et al., 2017). Although depression prevention programs are less well-studied than CBT, they appear to have greater potential for universal application.

CBT for treating symptoms of depression or PTSD is also common in clinical settings. Clinical CBT has repeatedly shown to be effective in not only decreasing these negative symptoms, but enhancing mental wellbeing overall (Asarnow et al., 2005; Rudd et al., 2019). Clinical CBT is often incorporated into therapy, or one-on-one consultation sessions between a trained psychologist or psychiatrist and the youth. Whereas school-based CBT is universally administered, healthcare-based CBT is by referral. These referrals might come from pediatricians, guidance counselors, teachers, or other community members. This means that the most room for improvement of clinical CBT is to make the referral system more robust. Educating community members on the signs of depression and PTSD will empower them to encourage youth to seek clinical assistance. The risk of unmonitored depression or PTSD and the benefits of healthcare-based CBT are both so strong that this flagging system needs to be widely-used, thorough, and consistent.

2.2.3. *Reflection*

Universal, school-based CBT programs have a lower efficacy than healthcare-based CBT. The exception to this rule is the anxiety-prevention program *Friends for Life*: its delivery by health professionals likely contributed to its effectiveness. Similarly, depression-prevention programs have heartening outcomes. It is encouraging that investments in proactive programming can catch MBH issues before becoming too severe. However, BAM stands out as not only the most effective, but most robustly shown, CBT intervention. BAM's applicability to both school and juvenile detention settings makes it a promising intervention for future replication.

Clinical CBT is an effective treatment for those who need individualized MBH support. However, for clinical CBT to reach those it needs to, the flagging and referral system needs to be widely taken up.

2.3. Mentoring

Many populations that behavioral health interventions seek to assist struggle with difficult home and family lives, as well as possible challenges in their community. Because of these hurdles, they may lack positive role models or mentors that they can look to as an example of how they should act or who they should aspire to become. Many behavioral health interventions provide mentors, either professionals or volunteers, to address these needs in student and child populations. Mentoring, broadly speaking, can take many different forms and thus address many different outcomes and needs within a community. One such mentoring program, addressed above, was the Becoming a Man (BAM) intervention. In addition to the meta-cognition and reaction skill building activities and games, BAM provided students with pro-social adult mentors who assisted in their development, both within and outside of the classroom. BAM was found to decrease the rate of crime, specifically violent crime, as well as increase grades and graduation rates (Heller et al., 2017).

2.3.1. Community-Based Mentoring Programs

Although many mentoring programs are coordinated within schools, several others occur in the community. Another mentoring program is the Big Brothers Big Sisters (BBBS) program, in which youths who lack close adult attention are provided a volunteer mentor with whom they have a close and long lasting relationship. The BBBS program was found to significantly reduce the likelihood of arrest, drug use, and alcohol use, but did not have a significant effect on academic outcomes (Grossman and Tierney 1998).

A program with a similar structure to the BBBS program



was a home visiting program in Ireland, in which a trained social worker visited regularly with a child from the time of infancy until they went to school. This intervention, however, had little effect on behavioral and academic outcomes (Dierdre and Doyle 2020). Mentoring also affects different populations differently. One study focused on the Fostering Healthy Futures program, which is a 30 week mentoring and skills group intervention provided by trained social workers for maltreated children in the foster care system. The program was found to reduce mental illness, specifically trauma, symptoms. The use of a social worker, rather than a psychiatrist or volunteer, is an interesting aspect of this intervention (Taussig et al., 2019).

2.3.2. Reflection

Mentoring interventions are shown to be effective in improving both behavioral health and academic performance. It has been most widely studied in adolescent populations, where it has shown significant success. One intervention that proved effective was

Match Education, which had a significant impact on students academic performance, specifically in math. Although there is not extensive research on classroom-based mentoring interventions, they have shown to have a significant impact, even in populations that some believe to be “too late” to help.

Similar to classroom-based mentoring programs, community-based programs were shown to be effective at improving the mental and behavioral health of those involved, however, they did not often have a significant effect on academic performance. Also, the age when the intervention takes place matters. Mentoring was less effective for children who were too young for school. Meanwhile, significant effects were found in adolescent populations. One intervention that proved to have a significant effect on behavioral health outcomes was the Big Brothers Big Sisters program.

2.4. Special Considerations

2.4.1. Online Services

Limited availability of trained MBH specialists has led to interest in expanding online or multimedia services. Existing evidence on such interventions have shown neutral to positive effects on mental health (Walker et al., 2014; Kahl et al., 2014; Bannink et al., 2014). While online services may expand access, and solve issues related to social stigma by providing discrete care, it also raises new concerns including ensuring takeup of care.

One way to combat low takeup of mental health services is to introduce a self-monitoring component. An RCT found that use of a mobile phone application for youth to monitor their activities and mood improved mental health symptoms relative to baseline (Kauer et al., 2012). While the study was not able to detect differences in depression, anxiety, or stress scores between the group assigned to reporting activities and mood relative to the group assigned to reporting only activities, the improved symptoms for the study

sample as a whole is encouraging for future research in this domain.

The internet also lends itself to immediate, short-term assistance rather than long-term therapy. An example of this is solution-focused brief therapy (SFBT), which is a brief, goal-oriented intervention between a depressed youth and trained professional. The intervention did not see significant decreases in depressive symptoms initially, but did see effects after 4.5 months of contact (Kramer et al., 2014).

In an age where mental health continues to face social stigma, the internet provides a safe channel for youth who would otherwise not access services to receive help. However, the internet also raises concerns of trust, privacy, and stigma (Tolou-Shams et al., 2019). Thus, assurances of credibility, confidentiality, and anonymity will facilitate the use of online mental health services. If these cannot be granted, the intervention might not be effective.

2.4.2. Co-Occurring Disorders

Although mental and behavioral health are distinct categories of wellbeing, they often intersect. A young person suffering from poor mental health might turn to substance abuse as a coping mechanism. Or, a young person with an addiction may develop comorbid depression as they feel they lose control of their life. To address co-occurring disorders often requires a different intervention than one used for a MBH issue individually.

Unfortunately, the intensity required by many co-occurring disorder treatments causes a significant gap between need and available resources. To combat this, an online self-help intervention was attempted, but the difference between treatment and control groups was no longer statistically significant after 6 months (Deady et al., 2016).



3. Parent-Centered Models

While programs targeting youth MBH typically engage youth directly, some programs have instead engaged parents. These interventions are typically parent training programs designed to improve child behavior.

3.1. Parent Training Programs

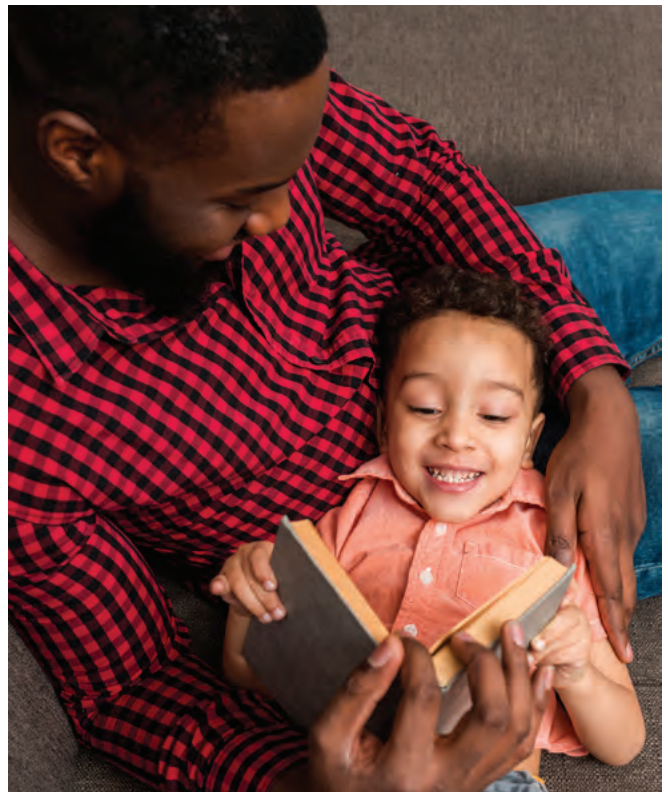
Parent training programs aim to empower parents to foster healthy relationships with their children. The “Two Incredible Years” parenting program targets parents of infants with intensive education on parenting practice for 2 hours a week, for a period of 10-14 weeks. The intervention did not see significant increases in behavioral health outcomes compared to the control (Bywater et al., 2022).

However, another RCT found positive effects of parent training programs on healthy parenting practices and child behavior (Ulfsdotter et al., 2014). One intervention that stands out in particular was the collaboration of the Oregon Social Learning Center, Centro LatinoAmericano, and various community partners and researchers. The parent management training program was culturally sensitive and aware of the specific needs of families in the Latino community. Although the RCT had low power and a small sample size, it was very well received by participants and had a positive impact on both parenting practices and youth

outcomes (Martinez and Eddy, 2005). Measures for parental homework engagement and youth academic outcomes were also captured, but no significant results found. Nonetheless, this study opens the door for future, more robust studies to analyze the effectiveness of culturally sensitive parent training programs.

3.1.1. Reflection

Overall, parenting education has the potential to be effective but must be administered to those whose youth are most likely to benefit (i.e. older youth with less serious mental health issues). One interesting aspect of parenting training projects is how it can assist families and parents culturally adjust to a new environment. This was demonstrated by the success of the Oregon Social Learning Center intervention (Martinez and Eddy, 2005). Parenting education programs can be successful, but are highly reliant on the age and condition of the parents and children.





4. “2Gen” Models and Other Family-Based Programs

There is a growing interest in moving from child-centered or parent-centered programs to a multigenerational, family-centered approach, commonly known as a two-generational or 2Gen model. A key benefit of the 2Gen approach is multiplier effects, meaning coordinated programs helping both parents and children lead to better outcomes than if parents and children were to participate in separate, uncoordinated programs (urban.org).

The concept of 2Gen models was born in the 1980s and has grown and evolved since then.⁵ The Aspen Institute’s Ascend Network now includes more than 450 2Gen-focused organizations around the country, with a reach of 10 million families.⁶ For example, the Urban Institute’s Housing Opportunity and Services Together (HOST) Initiative uses a 2Gen approach to support families in public and subsidized housing. Despite this growing popularity, there is to date insufficient research on the effectiveness of such programs. One exception is Colorado’s 2Gen Project, a large-scale RCT focused on noncustodial parents. While this study did not find positive effects for a 2Gen model relative to traditional services, it only explored outcomes for parents rather than children. Rigorous studies of other family-centered

therapies, including Multidimensional Family Therapy (MDFT) and Psychoeducational Psychotherapy (PEP), which typically target specific maladaptive behaviors, have found evidence of positive impacts on child outcomes.

4.1. Colorado’s 2Gen Project

The state of Colorado developed a new service model through the 2Gen Child Support Services Transformation Project. Distinct from their original model of strictly parent-focused, enforcement-based services, the 2Gen model focused on resources and interventions to benefit the entire family, including job skills training, employment support, child development and education, parenting skills and visitation, health and wellbeing, financial literacy, transportation, and other community supports.

A large RCT in Colorado studied the impact of this new 2Gen model relative to traditional, enforcement-based case management services for noncustodial parents across 11 counties (Clemens et al., 2019). At six months, they did not find any differences between the treatment and control groups in terms of frequency of payments or share paid of amount owed. They also did not detect effects on employment status, hours worked, or frequency of interactions with children. They point to lack of full fidelity to the 2Gen model as one potential reason for not finding effects, since counties were still in transition to a full implementation of the model when the study was launched. Furthermore, this research focused solely on parent outcomes.

4.2. Multidimensional Family Therapy (MDFT)

MDFT utilizes psychotherapy to promote healthy behaviors by incorporating not only the adolescent, but also their parents and other close family members into the therapy. It is usually administered by a trained professional in some combination of

⁵ For some history and background information, see Cornell Project 2Gen’s website: <http://2Gen.bctr.cornell.edu/>

⁶ See their website: <https://ascend.aspeninstitute.org/national-network/>

individual and family sessions. For the duration of the treatment, families work on emotional management, communication, and healthy habit-forming (Liddle et al., 2001). Robust evidence shows that MDFT is effective in decreasing youth substance use (e.g., Greenbaum et al., 2015; Liddle et al., 2009; and Rigter et al., 2013). There is also research supporting its efficacy in decreasing criminal activity (Van der Pol et al., 2017), unprotected sexual acts (Rowe et al., 2016), and negative psychiatric externalizing symptoms such as “arguing, being mean or destructive, getting into fights, stealing, setting fires” of youth (Schaub et al., 2014). Furthermore, MDFT’s effects on comorbidity are noteworthy. Youth who concurrently struggle with substance abuse and poor mental health often saw greater improvement with MDFT than the care as usual (Liddle et al., 2018, Dakof et al., 2015, and Liddle et al., 2009). Relative to Residential Treatment, MDFT for co-occurring disorders reduced youth substance use, delinquent behaviors, and both internalizing and externalizing symptoms (Liddle et al., 2018).

Most MDFT studies analyze MBH or substance use outcomes. One study, however, linked MDFT to school performance. This 16 week program worked with adolescents and families to build trust, relationships, problem-solving, reaction management, and application to the real-world. Youth who participated in MDFT “went from below average grades to passing grades in just over 1 year” (Liddle et al., 2001). The academic outcomes of MDFT exceeded that of the other treatment arms in this trial, which included Adolescent Group Therapy (AGT) and Multifamily Educational Interventions (MFEI).

MDFT has been successful in helping youth struggling with mental, behavioral, or concurrent issues. One unique aspect of MDFT is how it can be tailored to help youth overcome specific issues, ranging from aggression, criminal activity, unsafe sex, substance

abuse, and more. Its linkage in Liddle et al. (2001) to academic outcomes is also promising. MDFT has strong potential for further application and study.

4.3. Psychoeducational Psychotherapy (PEP)

Another family-centered approach that has been implemented for youth with mood disorders is called Psychoeducational Psychotherapy (PEP) (Fristad et al., 2011). PEP includes separate therapy sessions for parents and their child and can be conducted for individual families or multiple families simultaneously. An RCT of multi-family PEP for children ages 8-12 with major mood disorders shows evidence of a positive impact on depression rating scores (Fristad et al., 2009). Some studies suggest that pairing PEP with omega-3 fatty acid supplements, may lead to behavioral improvements in children (Fristad et al., 2015; Young et al., 2016).

4.4. Family-Based Social Work

Another approach is home-based social work to target a particular behavioral problem. One such program was geared toward youth who had deliberately poisoned themselves. The idea stems from an understanding that self-poisoning in adolescents is often associated with family dysfunction, so a family-based approach would be effective. The intervention included an assessment session plus four intensive, family-centered, home-based sessions focused on intra-familial communication, behavioral techniques, and problem-solving. Results showed no significant differences from the control group in score-based measurements of suicidal ideation, hopelessness, and family functioning, and only those youth without major depression saw a decrease in suicidal ideation (Byford et al., 1999).



5. Conclusion

5.1. Future Questions

Identifying children in need. Although there is a significant body of evidence surrounding MBH interventions for youth, further research can fill in some of the remaining gaps and questions. One of the most significant and widely applicable places for improvement is flagging systems. These are the protocols by which teachers or community members flag and refer youth who are exhibiting symptoms of a mental or behavioral issue to assistance. To make flagging systems more robust, teachers and community members can be trained on early symptom recognition and made aware of programs that children in need can access. This proactive measure ensures that the intervention is taken before the issue becomes too severe. As programs that address this are implemented, RCTs should also be conducted to validate their effectiveness.

Increasing take-up. Another area for further research is increasing take-up. For example, online and multimedia MBH solutions have many benefits including being low-cost, easy to administer to large and disparate audiences, and stigma-reducing. However, these programs tend to have low take-up, which is an issue since many MBH issues require repeated and consistent effort. Take-up is also a concern for in-person MBH interventions. Innovative solutions accompanied by rigorous impact evaluation

are necessary to make the numerous programs mentioned above available to a wider audience.

Catering to specific needs of different groups. MBH issues tend to affect subgroups in various ways. Some of these subgroups include socioeconomic status, race, gender, age, foster care, justice-involvement, pregnant or parenting, ACE score, citizenship status, and more. The field would benefit from research studies analyzing how best-in-class programs affect each of these subgroups. In some instances, universal programs might be the most effective, but in others certain programs will be best suited to certain subgroups.

Understanding long-term impacts. The greatest gap in the literature is a linkage between MBH interventions and education and economic outcomes. Education and economic outcomes require long term analysis, which takes years to execute. However, by collecting personally identifying information from study participants, researchers can link study data to administrative records such as the National Student Clearinghouse and state unemployment insurance records. These methods are typically less costly than long-term surveys, and have the potential to provide more complete coverage of the study sample. If MBH interventions can be linked to education and economic outcomes, then it will be easier to leverage foundations and policymakers to support these programs and empower more youth. It is a crucial gap in the literature that, if filled, could entirely change the MBH landscape for youth.

5.2. Conclusion

While many questions remain on how to design MBH interventions to be the most beneficial for youth, much has also been learned. For example, among child-centered interventions, evidence shows that SEL, CBT, mentoring, and values affirmation exercises are all effective at improving MBH.



Particular problems facing youth, especially pre-teens and teens, include issues of low participation rates, instances of co-occurring disorders, and stigma. To encourage high participation rates of youth, a self-monitoring component may be effective. For youth suffering from both a mental health problem and a behavioral health problem simultaneously, interventions should take care to target both problems together. Another important consideration is stigma associated with participating in MHB interventions. Online and multimedia interventions also have demonstrated promise as a potential solution to this, but bring about special concerns of credibility, confidentiality, and anonymity.

There is less evidence on family-centered or 2Gen models. Some research has shown the effectiveness of particular therapies, including MDFT and PEP, on changing targeted behaviors. However, more research is needed on 2Gen interventions and their impact on broader child and family outcomes.

The economic costs of a childhood MBH problem are daunting. Smith et al. (2010) find that such

problems are associated with limited adult incomes through increased problems in working, difficulty in finding or keeping a spouse, and a lower earnings capacity of one's partner. They estimate a childhood psychological condition leads to "a lifetime cost in lost family income of approximately \$300,000 and... if one in 20 adult Americans experienced these psychological problems during their childhood years (about the current prevalence), total lifetime economic damages for all those affected of 2.1 trillion dollars."

Every day that a child's MBH problem goes unaddressed compounds the cost placed on themselves, their family, and overall society. Although these costs may seem insurmountable, this literature review finds hope that the narrative can be changed. MBH interventions not only impact the youth directly, but they have positive externalities on families, peers, coworkers, and more. Numerous interventions have shown to empower youth to live happy, healthy, and fulfilling lives.



References

- Anderson, R., Ukoumunne, O.C., Sayal, K., Phillips, R., Taylor, J.A., Spears, M., Araya, R., Lewis, G., Millings, A., Montgomery, A.A. and Stallard, P. (2014). Cost-effectiveness of classroom-based cognitive behaviour therapy in reducing symptoms of depression in adolescents: a trial-based analysis. *J Child Psychol Psychiatr*, 55, 1390-1397. <https://doi.org/10.1111/jcpp.12248>
- Asarnow, J.R., Rozenman, M., Wiblin, J., Zeltzer, L. (2015). Integrated Medical-Behavioral Care Compared With Usual Primary Care for Child and Adolescent Behavioral Health: A Meta-analysis. *JAMA Pediatr*, 169(10), 929-937. doi:10.1001/jamapediatrics.2015.1141
- Bannink, R., Broeren, S., Joosten-van Zwanenburg, E., van As, E., van de Looij-Jansen, P., Raat, H. (2014). Effectiveness of a Web-Based Tailored Intervention (E-health4Uth) and Consultation to Promote Adolescents' Health: Randomized Controlled Trial. *J Med Internet Res*, 16(5), 143.
- Bitsko R.H., Claussen A.H., Lichstein J., et al. Mental Health Surveillance Among Children — United States, 2013–2019. *MMWR Suppl* 2022;71(Suppl-2):1-42. DOI: <http://dx.doi.org/10.15585/mmwr.su7102a1>
- Berry, V., Axford, N., Blower, S. et al. (2016). The Effectiveness and Micro-costing Analysis of a Universal, School-Based, Social-Emotional Learning Programme in the UK: A Cluster-Randomised Controlled Trial. *School Mental Health*, 8, 238-256. <https://doi.org/10.1007/s12310-015-9160-1>
- Brådvik L. (2018). Suicide Risk and Mental Disorders. *Int J Environ Res Public Health*. 15(9):2028. doi: 10.3390/ijerph15092028. PMID: 30227658; PMCID: PMC6165520.
- Butler, A. C. (2014). Poverty and adolescent depressive symptoms. *American Journal of Orthopsychiatry*, 84(1), 82.
- Byford, S., Harrington, R., Torgerson, D., Kerfoot, M., Dyer, E., Harrington, V., Woodham, A., Gill, J., McNiven, F. (1999). Cost-effectiveness analysis of a home-based social work intervention for children and adolescents who have deliberately poisoned themselves. Results of a randomised controlled trial. *Br J Psychiatry*, 174, 56-62. doi: 10.1192/bjp.174.1.56. PMID: 10211152.
- Bywater, T., Berry, V., Blower, S., Bursnall, M., Cox, E., Mason-Jones, A., McGilloway, S., McKendrick, K., Mitchell, S., Pickett, K., Richardson, G., Solaiman, K., Teare, M.D., Walker, S., Whittaker, K. (2022). A proportionate, universal parenting programme to enhance social-emotional well-being in infants and toddlers in England: the E-SEE Steps RCT. *National Institute for Health and Care Research*. PMID: 35700307.
- Centers for Disease Control and Prevention. (2020). Youth Risk Behavior Survey Data Summary & Trends Report 2009-2019.
- Centers for Disease Control and Prevention. (2022, July 8). *Mental health symptoms in school-aged children in four communities*. Centers for Disease Control and Prevention. <https://www.cdc.gov/childrensmentalhealth/features/school-aged-mental-health-in-communities.html>
- Centers for Disease Control and Prevention. (2022, June 3). *Data and Statistics on Children's Mental Health*. Centers for Disease Control and Prevention. <https://www.cdc.gov/childrensmentalhealth/data.html#:~:text=1%20in%206%20U.S.%20children,%2C%20behavioral%2C%20or%20developmental%20disorder>.
- Clemens, E. V., Sheesley, A. P., Moses, S., & Davis, L. (2019). Transforming Colorado's Child Support Services to a Two-Generation Approach.
- Cohen, G., et al. (2006). Reducing the Racial Achievement Gap: A Social-Psychological Intervention. *American Association for the Advancement of Sciences*, 313(5791), 1307-1310. DOI: 10.1126/science.1128317
- Coker, K. L., Smith, P. H., Westphal, A., Zonana, H. V., & McKee, S. A. (2014). Crime and psychiatric disorders among youth in the US population: an analysis of the National Comorbidity Survey-Adolescent Supplement. *Journal of the American Academy of Child and Adolescent Psychiatry*, 53(8), 888-898. e8982. <https://doi.org/10.1016/j.jaac.2014.05.007>
- Collaborative for Academic, Social, and Emotional Learning (CASEL). (2021, September 20). *Social and Emotional Learning: A Key to Developing the Next Generation of Leaders*. CASEL. <https://casel.org/social-and-emotional-learning-a-key-to-developing-the-next-generation-of-leaders/>
- Cook, P., Dodge, K., Farkas, G., Fryer, R., Guryan, J., Ludwig, J., Mayer, S., Pollack, H., Steinberg, L. (2015). Not Too Late: Improving Academic Outcomes for Disadvantaged Youth. *Institute for Policy Research Northwestern University*. http://www.k12accountability.org/resources/At-Risk-Students/Not_Too_Late_for_Disadvantaged_Youth.pdf
- Crean, H. F., & Johnson, D. B. (2013). Promoting Alternative Thinking Strategies (PATHS) and elementary school aged children's aggression: results from a cluster randomized trial. *American Journal of Community Psychology*, 52, 56-72.
- Dakof, G. A., Henderson, C. E., Rowe, C. L., Boustani, M., Greenbaum, P. E., Wang, W., Hawes, S., Linares, C., & Liddle, H. A. (2015). A randomized clinical trial of family therapy in juvenile drug court. *Journal of family psychology : JFP : journal of the Division of Family Psychology of the American Psychological Association (Division 43)*, 29(2), 232-241. <https://doi.org/10.1037/fam0000053>
- Deady, M., Mills, K.L., Teesson, M., Kay-Lambkin, F. (2016). An Online Intervention for Co-Occurring Depression and Problematic Alcohol Use in Young People: Primary Outcomes From a Randomized Controlled Trial. *J Med Internet Res*, 18(3), 71. doi: 10.2196/jmir.5178
- Dierdre, C., Doyle O. (2020). Should Early Health Investments Work? Evidence from an RCT of a Home Visiting Programme. *Geary Institute for Public Policy*. 1-42
- Domitrovich, C. E., Cortes, R. C., & Greenberg, M. T. (2007). Improving young children's social and emotional competence: a randomized trial of the preschool "PATHS" curriculum. *The Journal of Primary Prevention*, 28, 67-91.
- Dowling, K., Simpkin, A., Barry, M. (2019). A Cluster Randomized-Controlled Trial of the MindOut Social and Emotional Learning Program for Disadvantaged Post-Primary School Students. *Journal of Youth and Adolescence*, 48, 1245-1263. <https://link.springer.com/article/10.1007/s10964-019-00987-3>
- Duckworth, A.L., Kirby, T.A., Gollwitzer, A., Oettingen, G. (2013). From Fantasy to Action: Mental Contrasting With Implementation Intentions (MCII) Improves Academic Performance in Children. *Social Psychological and Personality Science*, 4(6), 745-753. DOI:10.1177/1948550613476307
- Chicago Police Department. (2020). *2020 Annual Report*. Chicago Police Department. https://home.chicagopolice.org/wp-content/uploads/Annual_Report_2020.pdf
- Durlak, Joseph A., Roger P. Weissberg, Allison B. Dymnicki, Rebecca D. Taylor, and Kriston B. Schellinger (2011). The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions. *Society for Research in Child Development*, <https://doi.org/10.1111/j.1467-8624.2010.01564.x>
- Eisen, M., G. Zellman, and D. Murray (2003) Evaluating the Lions-Quest "Skills for Adolescence" drug education program: Second-year behavior outcomes. *Addicting Behaviors*, 28, 883-897. <https://www.sciencedirect.com/science/article/pii/S0306460301002921>
- Fristad, M. A., Arnold, J. S. G., & Leffler, J. M. (2011). *Psychotherapy for children with bipolar and depressive disorders*. Guilford Press.
- Fristad M.A., Young A.S., Vesco A.T., Nader E.S., Healy K.Z., Gardner W., Wolfson H.L., Arnold L.E. (2015). A Randomized Controlled Trial of Individual Family Psychoeducational Psychotherapy and Omega-3 Fatty Acids in Youth with Subsyndromal Bipolar Disorder. *Journal of Child and Adolescent Psychopharmacology*. 25(10):764-74. doi: 10.1089/cap.2015.0132. PMID: 26682997; PMCID: PMC4691654.

References

- Fristad M.A., Verducci J.S., Walters K., Young M.E. (2009) Impact of Multifamily Psychoeducational Psychotherapy in Treating Children Aged 8 to 12 Years With Mood Disorders. *Archives of General Psychiatry*, 66(9):1013-1021. doi:10.1001/archgenpsychiatry.2009.112
- Garmy, P., Clausson, E.K., Berg, A., Steen Carlsson, K., Jakobsson, U. (2019). Evaluation of a school-based cognitive-behavioral depression prevention program. *Scandinavian Journal of Public Health*, 47(2), 182-189. doi:10.1177/1403494817746537
- Ghandour RM, Sherman LJ, Vladutiu CJ, Ali MM, Lynch SE, Bitsko RH, and SJ Blumberg (2018). Prevalence and treatment of depression, anxiety, and conduct problems in U.S. children. *The Journal of Pediatrics*. <https://doi.org/10.1016/j.jpeds.2018.09.021>
- Gollwitzer, A., Oettingen, G., Kirby, T.A. et al. (2011). Mental contrasting facilitates academic performance in school children. *Motivation and Emotion*, 35, 403-412. <https://doi.org/10.1007/s11031-011-9222-0>
- Greenbaum, P. E., Wang, W., Henderson, C. E., Kan, L., Hall, K., Dakof, G. A., & Liddle, H. A. (2015). Gender and ethnicity as moderators: Integrative data analysis of multidimensional family therapy randomized clinical trials. *Journal of family psychology: JFP: journal of the Division of Family Psychology of the American Psychological Association* (Division 43), 29(6), 919-930. <https://doi.org/10.1037/fam0000127>
- Grossman, Baldwin, J., Tierney, J.P. (1998). Does Mentoring Work? An Impact Study of the Big Brothers Big Sisters Program. *Evaluation Review*, 22, 403-426.
- Hart, S.C., DiPerna, J.C., Lei, P-W., Cheng W. (2020). Nothing Lost, Something Gained? Impact of a Universal Social-Emotional Learning Program on Future State Test Performance. *Educational Researcher*, 49(1), 5-19. doi:10.3102/0013189X19898721
- Heller, S. B., Shah, A. K., Guryan, J., Ludwig, J., Mullainathan, S., & Pollack, H. A. (2017). Thinking, Fast and Slow? Some Field Experiments to Reduce Crime and Dropout in Chicago. *The quarterly journal of economics*, 132(1), 1-54. <https://doi.org/10.1093/qje/qjw033>
- Hennessey, A., Humphrey, N. (2020). Can social and emotional learning improve children's academic progress? Findings from a randomised controlled trial of the Promoting Alternative Thinking Strategies (PATHS) curriculum. *Eur J Psychol Educ*, 35, 751-774. <https://doi.org/10.1007/s10212-019-00452-6>
- Iwundu, C. N., Chen, T. A., Edereka-Great, K., Businelle, M. S., Kendzor, D. E., & Reitzel, L. R. (2020). Mental Illness and Youth-Onset Homelessness: A Retrospective Study among Adults Experiencing Homelessness. *International journal of environmental research and public health*, 17(22), 8295. <https://doi.org/10.3390/ijerph17228295>
- Jenner, E., Lass, K., Walsh, S., Demby, H., Leger, R., & Falk, G. (2021). Effects of Cross-Age Peer Mentoring Program Within a Randomized Controlled Trial. *The Policy and Research Group*, March 2021.
- Kahl, B., Miller, H., Cairns, K., Giniunas, H., Nicholas, M. (2020). Evaluation of ReachOut.com, an Unstructured Digital Youth Mental Health Intervention: Prospective Cohort Study. *JMIR Ment Health*, 7(10), 21280. <https://mental.jmir.org/2020/10/e21280>
- Kauer, S.D., Reid, S.C., Croke, A.H.D., Khor, A., Hearps, S.J.C., Jorm, A.F., Sancu, L., Patton, G. (2012). Self-monitoring Using Mobile Phones in the Early Stages of Adolescent Depression: Randomized Controlled Trial. *J Med Internet Res*, 14(3), 67.
- Kessler, R.C., Amminger, G.P., Aguilar-Gaxiola, S., Alonso J., Lee S., Ustun T.B. Age of onset of mental disorders: a review of recent literature. *Current Opinion in Psychiatry*. 2007 Jul;20(4):359-64. doi: 10.1097/YCO.0b013e32816ebc8c. PMID: 17551351; PMCID: PMC1925038.
- Kramer, J., Conijn, B., Oijevaar, P., Riper, H. (2014). Effectiveness of a Web-Based Solution-Focused Brief Chat Treatment for Depressed Adolescents and Young Adults: Randomized Controlled Trial. *J Med Internet Res*, 16(5), 141.
- Lee, Y., Barendregt, J., Stockings, E., Ferrari, A., Whiteford, H., Patton, G., & Mihalopoulos, C. (2017). The population cost-effectiveness of delivering universal and indicated school-based interventions to prevent the onset of major depression among youth in Australia. *Epidemiology and Psychiatric Sciences*, 26(5), 545-564. doi:10.1017/S2045796016000469
- Liddle, H. A., Dakof, G. A., Parker, K., Diamond, G. S., Barrett, K., & Tejada, M. (2001). Multidimensional family therapy for adolescent drug abuse: results of a randomized clinical trial. *The American journal of drug and alcohol abuse*, 27(4), 651-688. <https://doi.org/10.1081/ada-100107661>
- Liddle, H.A., Dakof, G.A., Rowe, C.L., Henderson, C., Greenbaum, P., Wang, W., Alberga, L. (2018). Multidimensional Family Therapy as a community-based alternative to residential treatment for adolescents with substance use and co-occurring mental health disorders. *Journal of Substance Abuse Treatment*, 90, 47-56. <https://doi.org/10.1016/j.jsat.2018.04.011>.
- Liddle, H. A., Rowe, C. L., Dakof, G. A., Henderson, C. E., & Greenbaum, P. E. (2009). Multidimensional family therapy for young adolescent substance abuse: Twelve-month outcomes of a randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 77(1), 12-25. <https://doi.org/10.1037/a0014160>
- Martinez, C. R., Jr., & Eddy, J. M. (2005). Effects of culturally adapted parent management training on Latino youth behavioral health outcomes. *Journal of Consulting and Clinical Psychology*, 73(5), 841-851. <https://doi.org/10.1037/0022-006X.73.5.841>
- Miller, C. *Mental Health Disorders and Teen Substance Use*. Child Mind Institute. <https://childmind.org/article/mental-health-disorders-and-substance-use/>
- National Center for Drug Abuse Statistics. *Drug Use Among Youth: Facts & Statistics*. National Center for Drug Abuse Statistics. <https://drugabusestatistics.org/teen-drug-use/>
- National Center for Education Statistics. *Trends in High School Dropout and Completion Rates in the United States*. National Center for Education Statistics. <https://nces.ed.gov/programs/dropout/intro.asp>
- Now is the Time. *Issue Brief: Mental Health and Academic Achievement*. New Hampshire Department of Education. https://www.education.nh.gov/sites/g/files/ehbemt326/files/inline-documents/mental_health_and_academic_achievement.pdf
- Office of the Surgeon General (OSG). Protecting Youth Mental Health: The U.S. Surgeon General's Advisory [Internet]. Washington (DC): US Department of Health and Human Services; 2021. PMID: 34982518.
- Rivers, S., Brackett, M., Reyes, M., Elbertson N., Salovey, P. (2013). Improving the Social and Emotional Climate of Classrooms: A Clustered Randomized Controlled Trial Testing the RULER Approach. *Prevention Science*, 14, 77-87. <https://link.springer.com/article/10.1007/s11121-012-0305-2>
- Rowe, C., Alberga, L., Dakof, G., Henderson, C., Ungaro, R., Liddle, H. (2016). Family-Based HIV and Sexually Transmitted Infection Risk Reduction for Drug-Involved Young Offenders: 42-Month Outcomes. *Family Process*, 55(2) 305-320.
- Rudd, B.N., Last, B.S., Gregor, C., Jackson, K., Berkowitz, S., Zinny, A., Kratz, H.E., Cliggitt, L., Adams, D.R., Walsh, L.M. and Beidas, R.S. (2019). Benchmarking Treatment Effectiveness of Community-Delivered Trauma-Focused Cognitive Behavioral Therapy. *Am J Community Psychol*, 64, 438-450. <https://doi.org/10.1002/ajcp.12370>

References

- Schaub, M.P., Henderson, C.E., Pelc, I. et al. (2014). Multidimensional family therapy decreases the rate of externalising behavioural disorder symptoms in cannabis abusing adolescents: outcomes of the INCANT trial. *BMC Psychiatry* 14, 26. <https://doi.org/10.1186/1471-244X-14-26>
- Schonert-Reichl, K. A., Oberle, E., Lawlor, M. S., Abbott, D., Thomson, K., Oberlander, T. F., & Diamond, A. (2015). Enhancing cognitive and social-emotional development through a simple-to-administer mindfulness-based school program for elementary school children: A randomized controlled trial. *Developmental Psychology*, 51(1), 52-66. <https://doi.org/10.1037/a0038454>
- Seroczynski, A. D., Evans, W., Jobst, A.D., Horvath, L., Carozza, G. (2015). Reading for Life and Adolescent Re-Arrest: Evaluating a Unique Juvenile Diversion Program. *2015 Fall Conference: The Golden Age of Evidence-Based Policy*.
- Sherman, D. K., Hartson, K. A., Binning, K. R., Purdie-Vaughns, V., Garcia, J., Taborsky-Barba, S., Tomassetti, S., Nussbaum, A. D., & Cohen, G. L. (2013). Deflecting the trajectory and changing the narrative: How self-affirmation affects academic performance and motivation under identity threat. *Journal of Personality and Social Psychology*, 104(4), 591-618. <https://doi.org/10.1037/a0031495>
- Shoshani, A., and Steinmetz, S. (2014). Positive Psychology at School: A School-Based Intervention to Promote Adolescents' Mental Health and Well-Being. *Journal of Happiness Studies*, 15, 1289-1311. <https://doi.org/10.1007/s10902-013-9476-1>
- Smith, J. P., & Smith, G. C. (2010). Long-term economic costs of psychological problems during childhood. *Social science & medicine* (1982), 71(1), 110-115. <https://doi.org/10.1016/j.socscimed.2010.02.046>
- Stallard, P., Skryabina, E., Taylor, G., Phillips, R., Daniels, H., Anderson, R., & Simpson, N. (2015). Can School-based CBT Programmes Reduce Anxiety in Children? Results From the Preventing Anxiety in Children Through Education in Schools (PACES) Randomised Controlled Trial. *European Psychiatry*, 30(S1), 1-1. doi:10.1016/S0924-9338(15)30152-8
- Stein, B.D., Jaycox, L.H., Kataoka, S.H., et al. (2003). A Mental Health Intervention for Schoolchildren Exposed to Violence: A Randomized Controlled Trial. *JAMA*, 290(5), 603-611. doi:10.1001/jama.290.5.603
- Substance Abuse and Mental Health Services Administration (SAMHSA) (2011). Leading change: A plan for SAMHSA's roles and actions 2011-2014. *HHS Publication No. (SMA) 11-4629*. Rockville, MD: Author.
- Substance Abuse and Mental Health Services Administration (SAMHSA) (2020). Key substance use and mental health indicators in the United States: Results from the 2019 National Survey on Drug Use and Health (HHS Publication No. PEP20-07-01-001, NSDUH Series H-55). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/>
- Taussig, H. N., Weiler, L. M., Garrido, E. F., Rhodes, T., Boat, A., & Fadell, M. (2019). A Positive Youth Development Approach to Improving Mental Health Outcomes for Maltreated Children in Foster Care: Replication and Extension of an RCT of the Fostering Healthy Futures Program. *American journal of community psychology*, 64(3-4), 405-417. <https://doi.org/10.1002/ajcp.12385>
- The Trevor Project. (2022). *2022 National Survey on LGBTQ Youth Mental Health*. The Trevor Project. <https://www.thetrevorproject.org/survey-2022/>
- Tolou-Shams, M., Yonek, J., Galbraith, K., Bath, E. (2019). Text Messaging to Enhance Behavioral Health Treatment Engagement Among Justice-Involved Youth: Qualitative and User Testing Study. *JMIR Mhealth Uhealth*, 7(4), 10904.
- Ulfssdotter, M., Enebrink, P & Lindberg, L. (2014). Effectiveness of a universal health-promoting parenting program: a randomized waitlist-controlled trial of All Children in Focus. *BMC Public Health*, 14, 1083. <https://doi.org/10.1186/1471-2458-14-1083>
- U.S. Department of Health and Human Services. (1999). *Mental health: A report of the surgeon general*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.
- van der Pol, T. M., Henderson, C. E., Hendriks, V., Schaub, M. P., & Rigter, H. (2018). Multidimensional Family Therapy Reduces Self-Reported Criminality Among Adolescents With a Cannabis Use Disorder. *International Journal of Offender Therapy and Comparative Criminology*, 62(6), 1573-1588. <https://doi.org/10.1177/0306624X16687536>
- Walker, D., Cardin, J., Chawla, N., Topp, D., Burton, T., MacDermid Wadsworth, S. (2014). Effectiveness of a multimedia outreach kit for families of wounded veterans. *Disability and Health Journal*, 7(2), 216-225. <https://doi.org/10.1016/j.dhjo.2013.11.004>
- Young, A.S., Arnold, L.E., Wolfson, H.L. et al. (2017). Psychoeducational Psychotherapy and Omega-3 Supplementation Improve Co-Occurring Behavioral Problems in Youth with Depression: Results from a Pilot RCT. *J Abnorm Child Psychol* 45, 1025-1037. <https://doi.org/10.1007/s10802-016-0203-3>
- Youth.gov. *Co-occurring Disorders*. Youth.gov. <https://youth.gov/youth-topics/youth-mental-health/co-occurring>
- Youth.gov. *Federal Data*. Youth.gov. <https://youth.gov/youth-topics/violence-prevention/federal-data#:~:text=Each%20day%2C%20approximately%2012%20young,for%20nonfatal%20assault%2Drelated%20injuries.&text=Youth%20violence%20is%20costly>
- Youth.gov. *Key Terms Related to the Mental Health Continuum*. Youth.gov. <https://youth.gov/youth-topics/youth-mental-health/key-terms-related-mental-health-continuum>
- Youth.gov. *Prevalence of Mental Health Disorders Among Youth*. Youth.gov. <https://youth.gov/youth-topics/prevalence-mental-health-disorders-among-youth>
- Zhai, F., Raver, C., & Jones, S. (2015). Social and emotional learning services and child outcomes in third grade: Evidence from a cohort of Head Start participants. *Children and Youth Services Review*, 56, 42-51. <https://doi.org/10.1016/j.childyouth.2015.06.016>

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