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Treating Adolescents with Family-Based Mindfulness

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Overview

The financial, societal, and human cost of adolescent mental health problems, most noticeably substance use problems, dysfunctional and criminal behavior, and compounding coexisting disorders are considered to be enormous and typically extend into adulthood. According to Miller (2004), the total cost of adolescent behavior problems in the USA in 1998 amounted to $437 billion (see Table 1.1). Only adjusting for the inflationary time-value of the dollar, the 2014-cost would be $625 billion, or 2.6 times the projected total 2014 national expenditure on mental health and substance abuse (MHSA).

Besides, adolescent behavioral and mood disorders generally exist in the context of proximal family problems, including parental mental health issues, substance abuse, domestic violence, and child abuse. These complex constellations of problems are difficult to treat with effectiveness and durability, and the probability of relapse and maturation into adult disorders are significant. For all these reasons, it is ever more important to promote a treatment system that has been proved successful for use with this adolescent population.

Franklin D. Roosevelt has said in 1940: "We cannot always build a future for our youth, but we can build our youth for the future." Children and adolescent mental health is one of the responsibilities that we must hold dearly as treating professionals. While some has said before that "The deepest definition of youth is life as yet untouched by tragedy," this is unfortunately rarely the case anymore as the impact that embattled parents and societies pass onto their children robs them every day of this privilege. In recognizing the apparent lack of an effective treatment approach for adolescents with problem behaviors, Dr. Jack Apsche developed a new contextual therapy, which he termed Mode Deactivation Therapy (MDT). Built on a cognitive theory framework, a unique approach to create functional alternative beliefs (FABs) was infused with elements from Acceptance and Commitment Therapy (ACT), Dialectical Behavior Therapy (DBT), and mindfulness practice. More than

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FACTORS	IMPACTS	MANIFESTATIONS	Compounding Deprivations	OUTCOMES	Outcomes
				Emotional and behavioral problems in later life	Individual
				Dissociative and somatoform disorders	
				Chronic conduct and behavioral disorders	
		Conduct and behavioral disorders		Suicide, self -harm, Accident & Emergency admissions	
		Depression and anxiety		Drug and alcohol problems, homelessness, poor physical health	
		Self-harm and suicidality		Serious mental illness in adulthood	
		Substance misuse		Unwanted pregnancy	
		Eating disorders		Reckless and aggressive behavior	
		Family/foster breakdown		Pro-social isolation and unstable relationships	
		Social communications/ASD		Contact with criminal justice	
		Early psychosis		Trans-generational parenting problems, neglect, and abuse	
Neuro-development and biological	Emotional and mental disturbance	Problematic personality development		Failing education, long - term under -employment	
Early trauma, neglect, abuse, and deprivations	Delayed or damaged personality development	Learning difficulties		Crime, violence, and prison	
Social and family factors	Difficulties in learning, communication, relationships, and behavior	Hyperkinetic/ADHD		Inpatient, residential placement, insecure accommodation	Social
Pre-natal & infancy →	Childhood	→ Adolescence		→ Adulthood	

Table 1.1 A developmental view of psychopathology in youth

30 separate research studies to date proved the effectiveness of MDT with empirical evidence and demonstrated its superiority compared to other therapy approaches for an adolescent population with behavior and other coexisting problems. These include substance abuse, post-traumatic stress disorder (PTSD), anxiety, depression, aggression, and suicidality. Overall, more than 90 % of participants in the research studies reported a history of childhood physical and sexual abuse, neglect, and exposure to violence. These circumstances commonly lead to core beliefs created as a protective response mechanism. Although these may not be appropriate in other daily situations, thoughts and emotions are automatically activated, which results in dysfunctional behavior to which affected persons generally respond negatively. Hereby, the circle of negative beliefs and dysfunctional behavior is further reinforced and strengthened.

MDT studies have proven that the unique combination of mode deactivation techniques, validation, clarification, and redirection (VCR) of core beliefs, acceptance, and mindfulness is effective in almost eliminating dysfunctional behaviors during and after treatment. This is especially true in a family therapy context. The family's beliefs are explored individually and collectively, and by treating the family as a unit in the process; dissonance is decreased, which further reduces the stress on the adolescent. We believe that our research has demonstrated with empirical evidence that the family-based mode deactivation methodology is superior to other cognitive-behavioral derived contextual therapies for the treatment of adolescents with problem behaviors. Therefore, in the context of the high cost impact of adolescent behavior disorders on the economy and societies, it is important to promote the family-based mode deactivation methodology among practitioners, families, and others who could benefit from its application. After all, youth are the future of the world, which is so desperate in need of thrifty and healthy new hands.

In this chapter, the need for an effective methodology to treat adolescents with complex behavioral and comorbid disorders effectively will be established. This problem continues to have a high impact on families, societies, and institutions, and an effective intervention is required to reduce the damaging effects. Many therapy approaches, most noticeably cognitive-behavior and derived therapies, have gained much attention and applications in the last decade or two. However, to a large extent empirical evidence of its success in dealing with challenging and difficult-to-treat adolescent populations and their distressed families remain lacking. Research has provided proof that the mode deactivation methodology is effective and superior and therefore there is a requirement to promote and establish the knowledge and practice as widely as possible. In this chapter, the apparent extent of the adolescent behavioral problems is quantified and a cost-benefit analysis offered for family-based MDT for which supporting performance evidence is provided in detail in Chap. 5 when the empirical research is covered. An introductory discussion reflects on the broad conceptualization of MDT while offering reasons why the approach seems to be effective and superior in the treatment of this adolescent population.

Adolescent Problem Behaviors by the Numbers

While the adolescent arrest rate appears to have steadily declined in the past decade or two (see Fig. 1.3), the same cannot be said about conduct and emotional problems, and suicidal behavior. Although more recent numbers are not readily available, Collishaw, Maughan, Goodman, and Pickles (2004) illustrated a definite increase in conduct problems among boys and girls in the 15 years leading up to the new millennium (Fig. 1.1). Thereafter, the trend seemed to have stabilized in the following 5 years.

Similarly, albeit at a slightly less expansive rate, emotional problems have also increased in the same period. Hagell (2009, 2012) has reported evidence that contributed these trends mostly to changes to family structure (e.g., more cohabitation, more single, and step-parent families), increasing maternal employment,

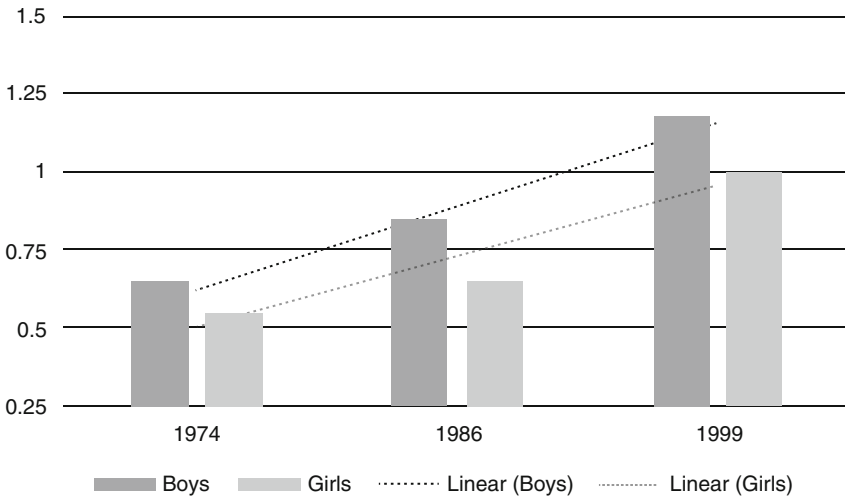

Fig. 1.1 Adolescent conduct problems by gender, 1974–1999

poorer family economic circumstances, increase in self-reported distress among parents, and decline in parental mental health. An awareness and understanding of these trends and factors are important in the analysis and reflection of interventions for adolescents that are holistic and sustainable (Fig. 1.2).

Although there is a tendency to exaggerate the problem of serious youth behavioral problems, especially pertaining to violent crimes and suicides, the occurrence remains unacceptably high. According to the Federal Bureau of Investigations (FBI), in 2012 almost 400 per 100,000 of the male adolescent population between ages 12 and 24 were arrested for violent crime index offenses, including murder, rape, robbery, and aggravated assault. The corresponding arrest rate for all offenses was 20 times higher. Homicide was the second largest cause of death for this population group.

According to statistics by the Center for Disease Control and Prevention (CDC), suicide was the third most common cause of death for US adolescents, resulting in about 4,600 deaths of youths between the ages 10 and 24 per year. However, those who have thought about, planned, or attempted suicide are much more, and even then, numbers are probably significantly underreported. A nationwide survey found that 16 % of all grade 9–12 students seriously considered suicide, 13 % reported creating a plan, and 8 % attempted suicide in the 12 months preceding the survey. According to 2014 CDC statistics, each year, 157,000 youths between ages 10 and 24 receive medical care for self-inflicted injuries in the USA. Furthermore, when looking at trends in Fig. 1.4, there seems to be a recent uptick in completed, attempted, and planned youth suicides.

Risky sexual behavior is another area of concern among adolescents. In the last 20 years, both teen pregnancies and birth rates have been steadily decreasing

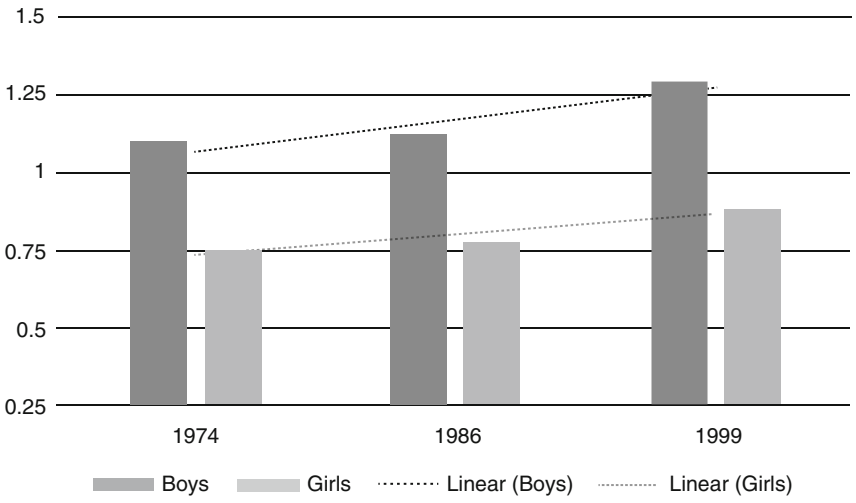

Fig. 1.2 Adolescent emotional problems by gender, 1974–1999

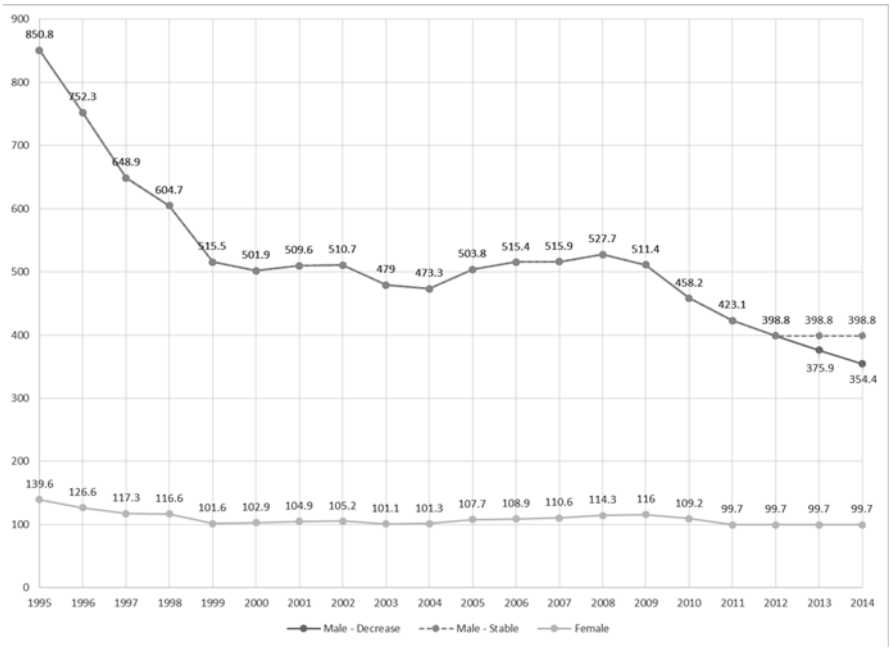

Fig. 1.3 U.S. Youth Violent Crime Statistics (1995–2014), males and females, ages 12–24 years. *Source*: Annual Arrest Rates Reported by the FBI Criminal Justice Information Services Division

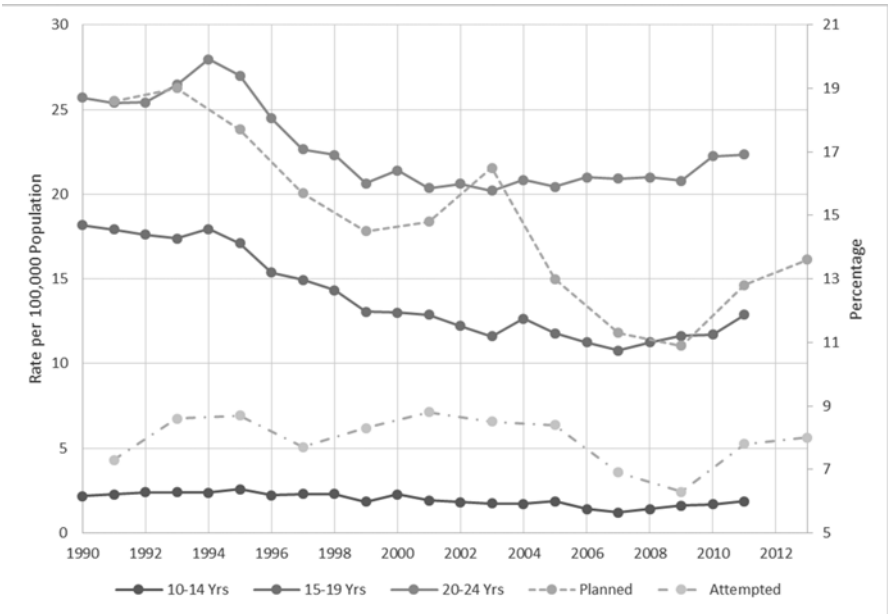

Fig. 1.4 U.S. National Suicide Statistics (1991–2011), males by age group. *Source*: Center for Disease Control and Prevention

(see Fig. 1.5), although increasing proportions of adolescents reported engaging in sexual activity. According to the CDC, in 2013, almost 50 % of high school students in the USA had sexual intercourse before. This ratio is significantly associated with academic performance, with as much as 69 % of students with D- and F-grades engaging in sexual activity, about one-half of them with four or more partners, and one-fourth of them has sexual intercourse for the first time before age 13.

The use of alcohol and drugs among high school students in the USA has been relatively stable in the past 10 years (see Fig. 1.6), but remains at problematic levels. About one in five students reported binge drinking at least once during the 30 days before a CDC national survey conducted in 2013, while at least one in four used drugs at the time. In addition, the prevalence of behaviors that commonly contribute to violence is also high. In 2013, 18 % of high school students carried a weapon, 7 % were threatened or injured with a weapon on school property, 25 % were involved in a physical fight, 3 % were injured in a physical fight, and 20 % reported being bullied on school property.

When viewed together, these statistics still represent an epidemic of compound behavioral problems that are linked to other factors of family and personal functioning. Deviant or dysfunctional behavior and school performance are often surface indicators of deeper issues such as emotional distress, adverse home environment, lack of self-regulation and social skills, and a history of child maltreatment. These problems all have a cognitive component in common that, when understood in the youth's context, can be managed, which is important as problem behaviors such as

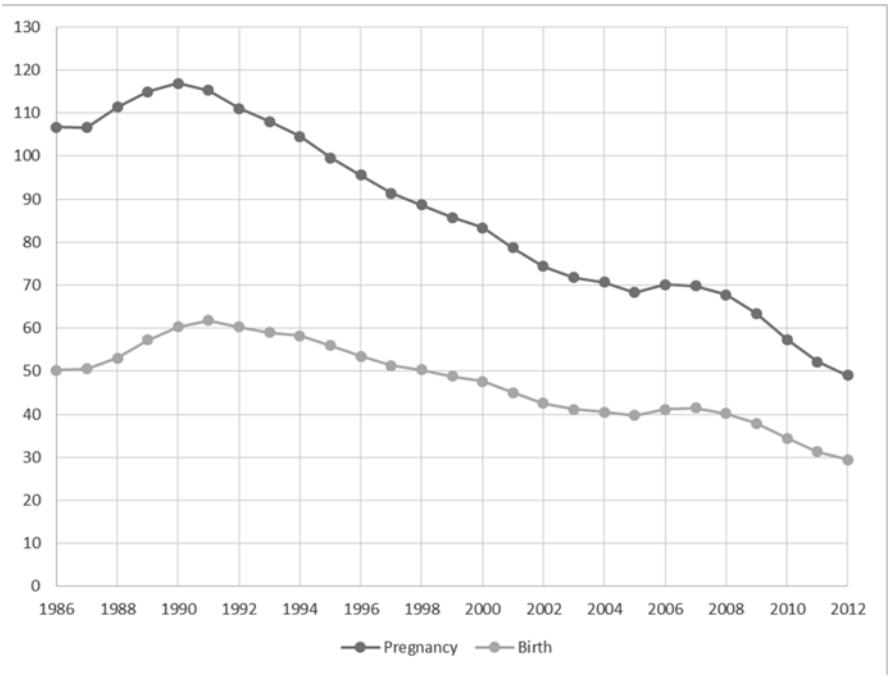

Fig. 1.5 US teenage pregnancy and birth rate per 1,000 girls aged 15–19. *Source*: Kost and Henshaw (2010)

school truancy, using alcohol and drugs, bullying, fighting, shoplifting, stealing, and other risky behaviors have potentially serious consequences for adolescents, their family, friends, school, and community (Bartlett, Holditch-Davis, & Belvea, 2007). With few exceptions, adolescent problems have their roots in their family's behaviors and interrelational connections. Therefore, where possible, adolescent problems should be addressed in the family context, with parent(s)/caregiver(s) participating in the therapeutic process. Thereby, a much more holistic course is taken that has proven to be more effective and sustainable. A family's beliefs and behaviors form a complex and dynamic network, which is highly reinforcing. Family-based adolescent interventions are relatively modern and yet to be convincingly established, especially in terms of consistency, statistically significant effect sizes, and treatment retention (see Chap. 14: MDT in the Wider Social Context, for a comparison of different methods and conditions). Although promising treatment are starting to emerge—including Brief Strategic Family Therapy (BSFT), Family Behavior Therapy, Functional Family Therapy, Multidimensional Family Therapy (MDFT), and Multisystemic Treatment—they are still deemed "probably efficacious" and "promising" (Austin, Macgowan, & Wagner, 2005). Also, internalized disorders such as Obsessive-Compulsive Disorder (OCD), social anxiety, and other nonaggressive dysfunctional behaviors (e.g., eating disorders, substance abuse) appear to be more successfully treated with other existing family-based approaches,

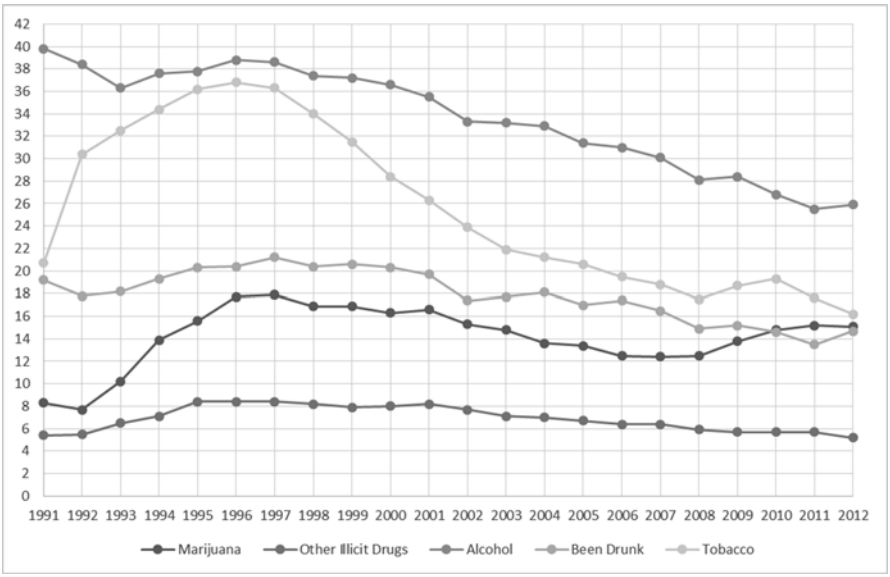

Fig. 1.6 30-day prevalence of use of various drugs for grades 8, 10, and 12 combined. *Source*: Johnston, O'Malley, Bachman, and Schulenberg (2014)

but not adolescent conduct disorders, personality disorders, aggressive behaviors, or a hybrid of these with comorbid conditions (Miklowitz, 2012; Segool & Carlson, 2008; Watson & Rees, 2008). It is our assertion that MDT is different.

Family-Based Mindfulness Therapy for Adolescents

As mentioned before, family-based interventions for adolescent problems are relatively new and unproven, but received growing attention in the past 10 years. The integration of the concepts and techniques of mindfulness in family approaches remains very novel and largely untested. A Pubmed search for the key phrase "adolescent psychotherapy" revealed a rapid increase in publications over the past 15 years (Fig. 1.7). The majority of these are not in a family context, but the trend does give an indication of the acknowledgement and growing importance of finding effective interventions for adolescent behavioral and mental health problems.

The next Pubmed search contained the key phrase "family therapy" and revealed a similar trend, although the rapid increase in activity started slightly earlier, nearly 20 years ago, and did not attract as much attention. Nevertheless, the fast growth is indicative of the understanding that the family unit as a system is vital in the onset, development, and maintenance of intra- and interpersonal distress. Although the efforts emphasizes family relationships as an important factor in psychological health, broad approaches and techniques are utilized that do not necessarily focus on adolescent issues (Fig. 1.8).

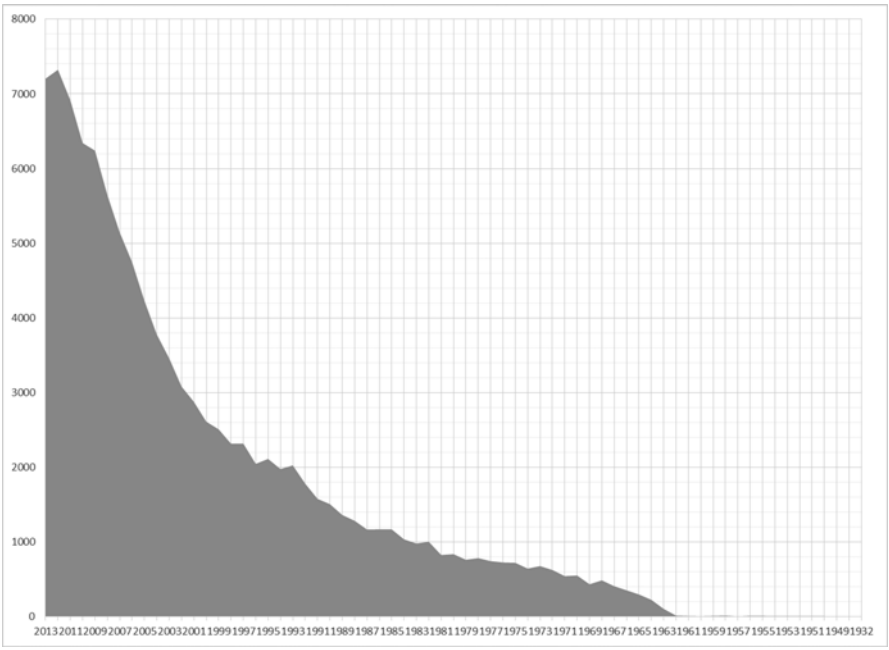

Fig. 1.7 Pubmed search results—adolescent psychotherapy

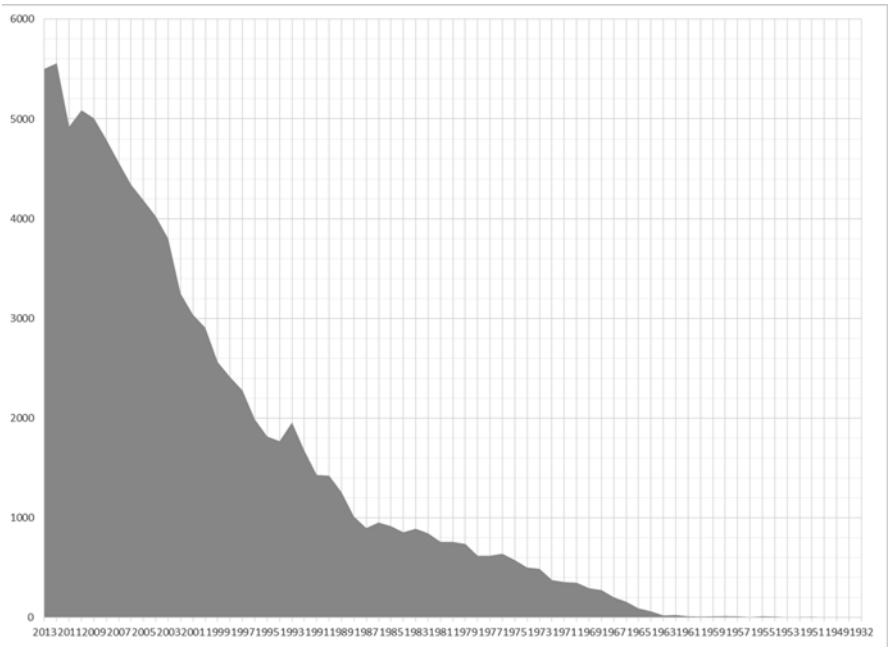

Fig. 1.8 Pubmed search results—family therapy

The following, and last, Pubmed search used "mindfulness" as key word and was most revealing as it illustrates the tremendous surge in the popularity of mindfulness in the mental health field in the past 5 years. As such, mindfulness has not only shown up on the therapy couch, but in popular culture as well, and is accompanied by much scientific research in areas such as neuroscience and psychotherapy. Many therapeutic systems have begun to recognize the powerful effect that an accepting awareness has on relaxation, finding inner peace, and enhancing mental capacities. The practice of mindfulness with adolescents is even a more recent application that has barely started to gain momentum and did not yet test longer-term follow-up outcomes (Huppert & Johnson, 2010). As expected, another recent study proposed that adolescent mindfulness is positively correlated with quality of life, academic competence, and social skills and negatively correlated with somatic complaints, internalizing symptoms, and externalizing behavior problems (Greco, Baer, & Smith, 2011) (Fig. 1.9).

The developer of MDT, Dr. Jack Apsche, recognized the potential that mindfulness techniques have in a family-based therapy approach for adolescents, but also that there are many potential routes to achieve mindfulness. Exercises were adapted specifically for use with adolescents, which differ significantly from other approaches as it makes more use of guided meditation, breathing, and imagery to reduce fear and avoidance and increase relaxation and acceptance. These exercises

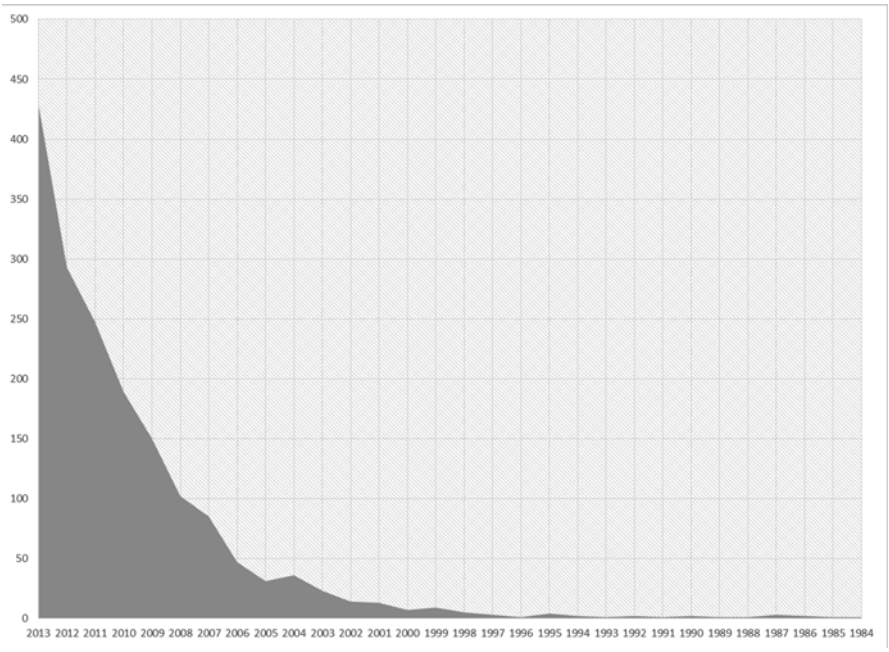

Fig. 1.9 Pubmed search results—mindfulness

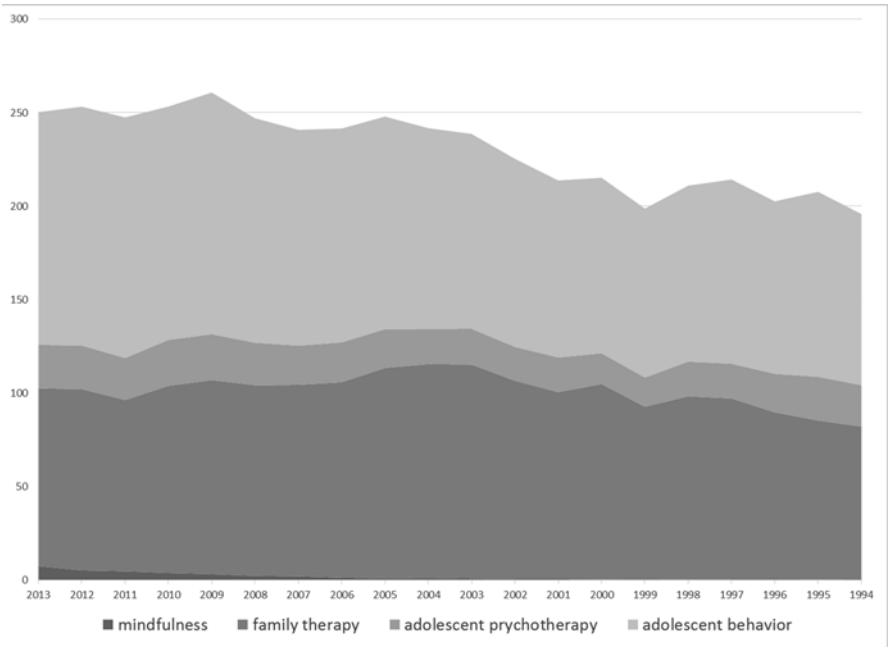

Fig. 1.10 Relative trend of selected Pubmed search results

were "translated into brief, safe relaxation exercises to promote awareness of where the youth is with his emotions and feelings" (Apsche, 2011, p. 299). Family participation in mindfulness practice is valuable to share the experience and be aligned in understanding and application of the concepts. In Figs. 1.10 and 1.11, the relative and comparative trends of the selected key phrases and words are compared.

Here, we can see more clearly how the interest in mindfulness, although outpacing the other in growth rate, still remains extremely novel and unexplored. Figure 1.3 was scaled to "normalize" all number of search results to one in 2013. Again, it is evident how mindfulness are starting to catch up only in the last two years, while adolescent behavior and psychotherapy continues to grow steadily, and publications on family therapy have lost momentum and seem to be in a slight decline, compared to the other research terms.

Much more time and attention will be invested later on discussing the dynamics and developmental pathways of various adolescent problems, but here just a brief introduction is offered to emphasize the trajectory that most presentations usually take. The basic concept is derived from the developmental heterotopia of trauma model by Schmid, Petermann, and Fegert (2013). Its construction is similar to the developmental view in Table 1.1, where early childhood issues are most often related to emotional, attachment, and regulation problems initiated by cumulative trauma (Swart & Apsche, 2014d). At school age and early adolescence, these

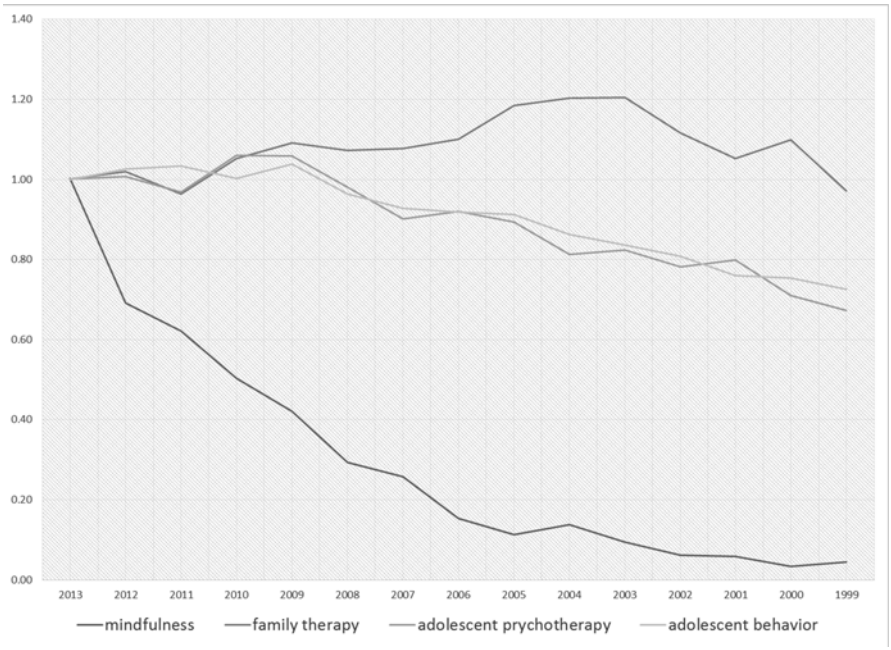

Fig. 1.11 Comparative growth of selected Pubmed search results

disturbances typically develop into behavioral disorders (e.g., Conduct Disorder, Oppositional Defiant Disorder), affective spectrum disorders (e.g., depression, anxiety, bipolar disorders, OCDs, eating disorders, and ADHD), stress and trauma-related disorders (e.g., PTSD), and substance abuse. Affective spectrum disorders are often viewed as a broad group of disorders that commonly occur together in individuals and seem to share common causal factors (Hudson et al., 2003). This level of symptom complexity that is linked to childhood cumulative trauma and expressed as self-regulatory disturbances in commonly viewed as difficult-to-treat (Cloitre et al., 2009; Schmid et al., 2013). The family-based MDT process is geared toward capturing and addressing the role of trauma and avoidance in the full range of the youth's emotional and behavioral symptoms. These internal and external expressions are actively explored and managed in MDT by identifying, validating, and accepting the core beliefs that underlie and are reinforced by continued distress.

Before birth and at a very young age, predisposing inherited factors exist, which interact with environmental conditions to influence the likelihood that a positive or negative trajectory for the child will be set in motion. With continued negative experiences, the child develops internal emotional damage that adversely affects their ability to learn and grow in order to interpret and find meaning in their self and surroundings. They also typically have increasing problems in forming and sustaining healthy attachments. Into adolescence, emotional and developmental difficulties are

manifested in a widening range of disturbances and behaviors, which again depend on the presence and interaction of internal and external risk and protective factors. Childhood and adolescent stages are important periods as a lack of effective interventions lead to even more serious and chronic problems into adulthood that usually also affects the person's own partner, children, family, and community later on. Problems become increasingly difficult to resolve and require escalating levels of resources that are aimed at containing the poor outcomes rather than recovery. Although the developmental model does not propose that someone with deprivation in early life will always lead to mental health and behavioral problems, the probability increases significantly if an effective intervention at the appropriate time does not change the trajectory. This book will establish the facts that MDT is such an effective intervention for adolescents with behavior problems and other complex, coexisting conditions that achieve sustainable, positive emotional, cognitive, and behavioral changes.

Cost-Benefit Analysis

As all resources, personal, private, and public, are increasingly strained, it is also important to develop strategies, policies, and interventions that take cognizance of this fact. In order for any personal intervention, including psychotherapy, to attract interest nowadays, it has to be cost-effective, i.e., robust, sustainable, consistent, applied at the right time, have the potential to produce greater good (e.g., returns, savings) than harm (e.g., cost, investment), and (of course) ethical. We believe, and will demonstrate, that all of these elements are present in the application of MDT practice, especially as it applies to a vulnerable and critical population that can generate broad negative consequences if left without care. Adolescents with serious behavior problems and complex comorbidity is such a population that has been failed by other approaches, only to affect later generations and communities and nations as a whole. In the current section, the estimated cost of adolescent behavior problems is calculated and discussed under US conditions, the effectiveness of MDT based on available evidence is summarized, and weighed against the costs to implement and execute an MDT treatment program to determine the cost-effectiveness of the intervention.

Cost of Adolescent Behavior Problems

According to the US National Vital Statistics System for Mortality, homicide and suicide are the second and third highest leading causes for adolescent deaths between ages 12 and 19 (after motor vehicle traffic accidents). These two types of behavior are strongly associated with a negative developmental pathway that requires proper intervention, but are also associated with coexisting problems and

Table 1.2 Number of problem youth ages 12–20 and cost by risk in the USA

Risk category	Number of youth	Cost/youth ($) 1998	Cost/youth ($) 2014
Violent criminal	300,000	1,097,600	1,601,957
Binge drinker	4,817,000	68,800	100,414
Cocaine/heroin abuser	674,000	893,800	1,304,509
High-risk sex partner	6,337,000	34,000	49,623
Female	2,505,000	60,100	87,717
Male	3,532,000	13,300	19,411
Smoker	6,286,000	412,900	602,631
High school dropout	519,000	272,900	398,300
Suicide attempter	99,000	173,000	252,495
Youth with all problems	Unknown	2,507,100	3,659,135

Source: Miller (2004)

Table 1.3 The cost of adolescent behavior problems in the USA

Problem behavior	US National ($ billion) 1998	US National ($ billion) 2014
Antisocial behavior	166	242
Substance use	65	95
High-risk sexual behavior	48	70
High school dropout	142	207
Suicide attempts	16	23
Total cost	437	638

Source: Miller (2004)

dysfunctional and risky behaviors. Miller (2004) estimated the cost per adolescent that applied in 1998 for different types of aberrant behaviors (Table 1.2). These costs were converted to current monetary value by applying long-term inflation. According to the Bureau of Labor Statistics, the cumulative rate of inflation between 1998 and 2014 is 46.0 %—measured as the Consumer Price Index (CPI).

Miller (2004) continued to relate adolescent behavior problems to an estimated total annual cost (Table 1.3). Again, taking into account the change of the value of a dollar between 1998 and 2014, and assuming that the number of youth with behavioral problems is on the same level as in 1998, the annual costs are converted to 2014 values in Table 1.2. However, it can be noted that, when taking population growth as reported by the U.S. Census Bureau into account, youth crime (in terms of arrests) in fact demonstrated a net decrease of 22.6 % for violent crimes between 1998 and 2014 (refer to Fig. 1.4). According to FBI statistics, total arrests decreased from 2.36 million to 1.47 million from 1998 to 2011—a gross decrease of 37.7 %. Over the last 16 years, the U.S. Census Bureau estimated a population increase among 12–17-year-olds of almost 5 %. Therefore in net real terms, the violent crime and total arrest rates for adolescents in the USA have decreased by 18 % and 33 %,

respectively, in this time. Similar trends are reported for other countries, such as the England and Wales (Ministry of Justice, 2014), and Australia (Australian Institute of Criminology, http://www.aic.gov.au/statistics/homicide/offenders.html). However, other (nonpersonal) facts strongly influence these statistics, including politics, policy, and criminal justice responses, interpretations, and applications. When considering all dysfunctional and problematic behaviors among youths and the factors that contribute to it, the picture is not so encouraging. As illustrated previously, many forms of risky and potentially harmful behaviors remain at alarming levels and some continue to increase steadily. The consequential human and financial costs are an additional burden on already strained systems that can be prevented in part or reduced by proper and effective interventions.

The estimated total annual cost of youth problem behavior in 2014 monetary value represents almost 4 % of the total US gross domestic product (GDP), or just more than half of the total budgeted health care spending for 2014. These comparisons illustrate the size and severity of the tangible impact that problematic behavior among youth has on national systems, but still does not account for the direct negative effects on the youth's micro- and meso-systems, as well as trans-generational transmission of problems. This underscores the importance and value of an effective intervention for youth behavioral and emotional problems.

MDT Effectiveness

In this section, an attempt will be made to relate the reported performance of MDT to actual adolescent behavioral changes after treatment, which can be used to derive estimates of measurable benefits and reduced harm. Empirical studies of family-based and individual MDT have consistently demonstrated improvements above 30 % using Child Behavior Checklist (CBCL), State-Trait Ander Expression Inventory (STAXI-2), and Devereux Scales of Mental Disorders (DSMD) outcomes (Swart & Apsche, 2014c; see also Chap. 5: Empirical Status of MDT). In an experimental group of suicidal and parasuicidal youths, the average Beck Depression Inventory (BDI-II) scores decreased by more than 75 % post-treatment (Swart & Apsche, 2014). In all instances, effect sizes were large. Of course, these measurements are only self-reported indications of thoughts and experiences of anger and depression, which do not readily translate to reduced harm, risk, and recidivism.

The MDT research studies also utilized behavioral monitoring, which, although it is a more subjective method with less formalized inter-rater reliability, produces results that are nevertheless qualitatively useful to track potentially harmful behavioral incidents. In terms of aggression, elimination of both physical and sexual post-treatment incidents were above 90 % (Apsche, Bass, & Siv, 2006; Swart & Apsche, 2014a, 2014b), with follow-up results at up to 18 months even better. Similarly, in the suicidal and parasuicidal group, self-harm incidents were reduced by more than 95 % after treatment (Swart & Apsche, 2014). Thus, assuming that all participants engaged in aggressive or suicidal/parasuicidal behavior prior to intake—in

line with participant screening criteria—at least 90 % did not engage in similar harmful behavior after treatment, and sustain the improvement over time. If we assume conservatively that half of the participants with the typical MDT intake profile would have engaged in a violent offense by age 20 (e.g., 50 out of 100), then MDT treatment would prevent 90 % of these adolescents from committing a violent offense after treatment (e.g., 45 out of 50). Such positive outcomes are also associated with improvements in other negative and potentially harmful behaviors such as substance abuse, high-risk sexual activities, high school dropout, and suicidal/parasuicidal behavior.

Cost-Benefit of MDT

Based on evidence of the effectiveness of MDT, and the conservative assumptions previously made, treatment would prevent 45 out of 100 clients from engaging in violent behaviors after treatment, while also achieving secondary gains. Five clients would continue to engage in violent and aggressive acts post-treatment, while we conservatively assume that 50 clients would not have engaged in a violent crime—whether they underwent the MDT program or not—although they would have certainly benefited in terms of lower risk, less distress, more positive and conforming behaviors, and so forth. However, the cost "savings" in terms of their improvements are considered indeterminate.

Per 100 clients who undergo the complete MDT program in a residential setting, the total cost is calculated as follows, based on an operating MDT facility in Virginia, USA that accommodates 50 patients at a time on a program lasting 8 months average.

Therefore, the total cost of one patient to complete an 8-month MDT program is calculated at $184,813. Now, as before, we assume that out of 100 patients treated, 45 is prevented from committing a violent act afterwards as a direct result of the MDT treatment, which is based in part on the proven effectiveness on MDT. Based on estimates by Miller (2004), the costs associated with one violent youth are $1.6 million (see Table 1.2). Depending on other coexisting problematic behaviors, the total cost per youth could increase to over $3.6 million.

Based on the figures in Table 1.4, for 100 individual adolescents to complete an MDT program would amount to $18.5 million. By preventing 45 from engaging in violence as a direct outcome of the MDT intervention, $72.0 million in direct and indirect spending and costs would be saved. If the secondary benefits of improved behavior beyond violence are taken into account, these savings could increase to more than $162.0 million. And then, we have not considered behavioral improvements that those 55 who would in any case not have engaged in a violent offense in all likelihood achieved, as well as other secondary benefits that the family unit and members, including parents, caregivers, and siblings received, such as improved family functioning, behavior, social and other skills, quality of relationships, and general well-being. It should be clear that, conservatively speaking, for each dollar

Table 1.4 Costs to provide MDT residential care

Cost component	Annual cost ($1,000)	Cost/patient ($)
Clinical supervision and training	25	333
Staff and patient MDT materials	15	200
Clinicians	110	1,467
Support personnel	461	6,147
Direct operating (consumables, etc.)	11,850	158,000
Fixed (rent, utilities, etc.)	1,400	18,667
Total costs	13,861	184,813

that is "invested" in a patient on an MDT program, at least between $3.9 and 8.8 is saved on continued mental health costs, victim and medical services, criminal justice costs, productivity loss, and so forth. This is an incredible saving to achieve, which spans far beyond monetary value. Not only is the harm prevented and present well-being improved, but future generations will also benefit from improved mental health and behavior in families and communities.

FMDT in a Nutshell

The theoretical framework and methodology is covered in detail in Chap. 4 and Part 2, respectively. As an introduction, only the most salient concepts and steps are briefly summarized, starting with the overarching principles of family-based MDT.

FMDT Philosophy and Theory

The mode deactivation theory was developed by Dr. Jack Apsche from the early 2000s when he recognized some of the shortcomings of the prevailing cognitive-behavioral approaches at the time, especially as it pertains to the treatment of adolescents with behavioral and complex comorbid conditions. In particular, the construct of MDT is based on Aaron's Beck's concept of modes driving psychological functioning. Beck (1996) highlighted shortcomings of cognitive theory and suggested that a more adaptive and robust methodology is required to address the multiplicity of symptoms in the cognitive, affective, motivational, and behavioral domains. Many of psychological responses, even seemingly dysfunctional ones, are "normal" responses to real or perceived life events. Beck also believed that cognitive theory did not adequately address the relation of content, structure, and function in personality, and its apparent continuity with many psychological phenomena, as well as the relationship between conscious and unconscious processing of information that