What Seems to be Working Here?

Identifying Common Elements in Brief Emotion Regulation Interventions for Children and Adolescents – A Systematic Review

Maria Bækken

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University of Oslo

Department of Pedagogy

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ABSTRACT

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By	Maria Bækken
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Background and Rationale. There is a need to increase the feasibility and effectiveness of psychological interventions. The overall purpose of this thesis is to investigate whether intervention elements from existing interventions targeted toward emotion regulation can be limited to so-called common elements, and whether these can possibly be used in more flexible ways in the mental health service's work with mental health problems in children and adolescents. A proposition has been made of the possibility of treating underlying psychopathology with these common elements. Common elements can be defined as a set of singular characteristics and intervention content, e.g., strategies and techniques, that are used frequently across multiple intervention studies. A key assumption will therefore be that different interventions utilize several of the same strategies and / or elements, and that these elements may give positive results independently of the intervention. However, there will not be a hypothesis that some of the elements are better than others; this is an exploratory review. **Method.** This thesis identified common practice, process and implementation elements from emotion regulation interventions aimed at children and adolescents. Using a common element methodology, elements from 39 intervention studies were identified. Separate analyses were performed on the total sample of intervention conditions (n = 45), as well as the sample that consisted of so-called winning intervention conditions (n = 23). **Results.** A total of six common practice elements were identified in the total sample: *1) Training in emotion regulation, unspecified, 2) Mindfulness exercise, unspecified, 3) Mindful breathing, 4) Mindfulness of thoughts/thought awareness, 5) Practice awareness, unspecified, and 6) Integration of mindfulness practice in daily life.* As for the winning sample, there was identified 12 common practice elements. Six of these elements include the ones that were identified for the total sample, in addition to 6 new

ones that are specific to this sample. The elements that are specific to the winning sample were: *1) Enhance own emotion recognition, insight into emotions, 2) Training in emotion recognition and differentiation, unspecified, 3) Emotional management, unspecified, 4) Psychoeducation, not specific, 5) Psychoeducation, about mindfulness, and 6) Self-exploration/self-monitoring of thoughts and feelings, unspecified.*
The most common combinations of practice, process and implementation elements were also identified in both samples. The differences between the common elements in the total and winning samples were based first and foremost on the presence or absence of common elements from the following categories: *training in emotion recognition and differentiation, training in preventing maladaptive behavioral response to emotional distress, psychoeducation and self-exploration / self-monitoring,* where elements from these categories were greatly more common in the winning sample. **Conclusion.** The common element methodology used in this thesis is very new, and more research is undoubtedly needed within this methodology. By identifying common elements from interventions aimed at emotion regulation difficulties in children and adolescents, systematic methods can potentially be integrated into evidence-based practice in flexible ways.

The work in this thesis is based on an ongoing project at The Regional Center for Child and Adolescent Mental Health (RBUP).

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1 INTRODUCTION

1.1. Background

The majority of children and adolescents in Norway reports good psychological health (Suren et al., 2018). Nevertheless, there are many who get diagnosed with some type of mental disorder during childhood and adolescence. For several of them, this may represent long-term or lifelong problems (Bakken, 2017). This can include lasting personal suffering, disturbance in developmental progression, and significant impact on social, professional, and relational functioning, as well as a higher chance of falling prey to mental illness in adulthood (Gee et al., 2015).

The prevalence of depression, anxiety, eating disorders, and adjustment disorders are higher among girls than boys after the reach of puberty, where depression rates for girls are about twice as high than the rated for boys. There is an increasing proportion of teenage girls reporting symptoms of anxiety and depression compared to earlier surveys. As of 2018 around five per cent of Norwegian children and adolescents aged 0-17 years are treated every year by a mental healthcare provider (Suren et al., 2018). Mental health problems among children and adolescents have become one of the major health and well-being issues in developed countries all over the world (Gee et al., 2015). Children and adolescents often face complex psychological difficulties, and the symptom expression can therefore fulfil the criteria of several diagnoses. For example, children with depression can usually also suffer from anxiety, and vice versa. Children who are diagnosed with ADHD and other behavioural disorders usually also suffer from mood and/or anxiety disorders more often than other children (Suren et al., 2018). When discussing treatment for these mental health problems, it is important to remember that many individuals who would profit from clinical interventions do not receive them in a well-timed manner (Gross & Jazaieri, 2014).

Many of the possible interventions come with great costs, but little proof for the effectivity of the program itself, i.e., they are not evidence-based (Dorsey et al., 2016). The creation of intervention programs takes both time and money, and with the quick distribution of most programs, program evaluation in a natural treatment setting is often not a priority (Morgan et al., 2018). Many of the evidence-based interventions are designed and conducted in non-natural settings within a clear research framework with clear criteria, and they are often designed to treat one specific illness with little applicability across diagnoses (Gee et al.,

2015). However, program evaluation is crucial in securing both implementability and the absence of adverse effects (Chorpita et al., 2011; Morgan et al., 2018).

Despite the growing development and newfound awareness of manualized evidence-based interventions, there are some big barriers that should be considered. Firstly, these interventions are often copyrighted, and therefore not easily accessible for everyone. The copyright brings with it several practical and monetary limitations, and thus the cost itself can be limiting. Second, there is not a high availability of the evidence-based interventions in public mental health settings (Dorsey et al., 2016). Third, there is already a plethora of existing interventions to choose from, and the development of new interventions is on a steady incline. The sheer amount of choices is a hindrance in and of itself since it is becoming increasingly more difficult to know which treatment to select (Lee et al., 2014). There is also a gap between the demand and capacity for mental health treatment aimed towards children and adolescents, and new innovative models of care is needed. Despite the ever-growing advances in evidence-based interventions, there remains a significant discrepancy between the numbers of children *requiring* and the number of children *receiving* treatment (Gee et al., 2015).

Elements that are frequently used among effective interventions are probably more likely to contribute to effectiveness, than their less used counterparts. Identifying these common elements may provide a greater understanding of intervention optimization, and give better insight into implementability, efficiency and feasibility (Chorpita et al., 2011; Engell et al., 2020). Elements are specific actions, procedures, and activities that the practitioner and user carry out in treatment (Engell et al., 2020). Moving the level of knowledge from the program level to the elemental level can help to build a better bridge between research and practice and thus enable us to reach more children and adolescents with effective help.

1.2. A General Factor for Psychopathology

Mental disorders have traditionally been viewed as categorical and distinct; the switch is either on or off. There has been a surge of new research challenging this categorical view, suggesting that many disorders are dynamic and existing on a continuum (Caspi et al., 2014). Research has shown that the correlation between, and along the spectrum of, psychiatric diagnoses is quite high, without an obvious reason as to why. An attempt to explain this was by proposing the idea of a general psychopathology tendency, which has been dubbed the p-factor (Caspi et al., 2014). The p-factor refers to an underlying vulnerability for

psychopathology, that goes across the classic diagnostic categories. This builds upon the already known notion of the G-factor; the general intelligence factor (Harden et al., 2020; Kjøbli et al., 2020a). The idea of a p-factor addresses the high comorbidity between psychiatric disorders; if you have psychiatric problems in one area, you are more likely to develop/have problems in related areas as well (Caspi et al., 2014).

The traditional approach to diagnoses and diagnostic criteria is also problematic since there are diagnostic manuals where two people with the same clinical diagnoses only have one symptom in common. This can be seen in the diagnosis of major depressive disorders from DSM-IV (American Psychiatric Association, 2013). To get this diagnosis, you need the presence of 5 of 9 symptoms, which means that two people with the same diagnosis may have vastly different problems. Whether these people can be treated the same way due to the heterogeneity of their diseases poses an interesting question (Gross & Jazaieri, 2014).

Caspi et al. (2014) proposed that the notion of p could explain the persistent nature of psychological problems, since psychological problems are often long-lasting. Statistical models throughout research have pinpointed one unknown dimension; The p-factor - and it has been proposed that this factor can explain large parts of the correlation between psychological problems. But exactly what this factor is, is still undecided.

Even though there is still uncertainty as to what exactly the p-factor consists of, the notion of it might increase interest in developing and testing transdiagnostic interventions to possibly treat it. Transdiagnostic interventions means an approach to treatment that is applicable to several comorbid disorders (Barlow et al., 2017). An example for a transdiagnostic viewpoint is the notion that the attribute of neuroticism increases the general sensitivity one has for developing psychopathology, or that poor emotional control can cause or coincide with behavioural problems (Johnson et al., 2013)

One of the possible explanations as to what the p-factor is, is tied to the idea of emotions and emotion regulation. Multiple studies over the past decades have all argued that difficulties with emotion regulation seem to be a central part in the development and maintenance of psychopathology (Sloan et al., 2017). This is backed by research showing that interventions aimed at improving emotion regulation have shown to be promising for prevention and treatment for a plethora of mental health problems (Heleniak et al., 2016; Kjøbli et al., 2020a).

The notion that the p-factor is closely tied to emotions and emotion regulation is backed by Carver et al. (2017) who had a more functional view of psychopathology and the p-factor. They proposed adapting a dual-process model to their interpretation of the p-factor. People are either more likely to react 1) reflexively; quickly and highly influenced by emotions, or 2) reflective; slower and more evaluative. Their research suggested that people who are dominated by a more reflexive system are more susceptible to developing psychopathology than those who are more prone to the influence of a reflective system. They proposed that people who are more prone to being highly reactive to emotions are therefore also more prone to developing psychopathology, than their less reactive counterparts (Carver et al., 2017). Carver et al. (2017) does not provide any insight into what types of psychopathology one may develop, only that being highly reactive to emotional stimuli might lead to psychological problems in general. What these problems are, will depend on other elements all together.

1.2.1. Emotion Regulation

Throughout history, people have been wondering how to best deal with their emotions. Emotions are often extremely helpful. Amongst other things, emotions can direct and redirect attention to important aspects of our environment, optimize intake, aid in decision making, and facilitate social interactions. They can, however, also be harmful if they are of the wrong type, intensity or longevity in a given situation – these are the moments when the *regulation of emotions* is key (Gross, 2013).

Aristotle suggested over 2,000 years ago that emotions can either be adaptive or maladaptive. Adaptive emotions are expressed in the right way, last over the right amount of time, arise in the right circumstances, and are the right response to the right things while maladaptive emotions are the opposite. If one supports this way of thinking, it follows logically that individuals with psychopathology may have problems with emotional intensity, duration, frequency and type of emotion (Gross & Jazaieri, 2014)

Only in recent decades has the field of emotion regulation begun to emerge as a relative independent research domain (Gross, 1998). The concept of emotion regulation (ER) has proven rather difficult to define, as the construct is quite multidimensional (Sloan et al., 2017). There have been countless definitions and attempts to provide a meaningful model of ER over the years – but the concept has yet to have a clear and concise meaning. The understanding of ER in this thesis builds upon the broad definition provided by Jonathan Gross in 1998:

> Emotional regulation refers to the process by which individuals influence which emotions they have, when they have them, and how they experience and express their feelings. Emotional regulation can be automatic or controlled, conscious or unconscious, and may have effects at one or more points in the emotion generative process (Gross, 1998, s. 275).

This definition can encompass many different activities as emotion regulatory (Gross, 2013). For example, screaming into a pillow when you are angry, calling your mother when you are feeling sad, working out after a demanding workday, watching the same TV-show time and time again. This definition of ER includes both the positive as well as the negative feelings, along with how one can strengthen them, use them, and control them (Chowdhury, 2021). There are several hundreds of thousands of emotion-provoking stimuli that people are faced with each day, and most of them will require some form of action or response. When the mind is constantly bombarded with stimuli, it is to be expected that the mind will try to shield itself from negative emotions by means of ignoring them or contemplating on them. ER will act as a modifier; it can help filter out the most important information and motivate in a way that does not cause stress or a fear response (Chowdhury, 2021; Gross, 1998).

Studies on ER indicated a correlation between ER and depression management, e.g., higher emotional control correlates with lower levels of anxiety and depression. For example, someone with fewer ER-strategies is more likely to be more influenced by his or her emotions. On the other hand, someone with more effective ER-strategies will have a better control of his or her emotions. ER can allow people to carefully consider what affective outcomes one should act on, and which one should not (Chowdhury, 2021). There are estimates that about 40% to 75% of mental diagnoses can be characterized by emotion regulation problems (Gross & Jazaieri, 2014).

Emotion regulation strategies refer to how people try to achieve their emotion regulatory goals. Many psychiatric disorders appear to entail problematic ER strategies and poor implementation of them (Gross & Jazaieri, 2014). Some well-known ER-strategies are: Self-awareness, mindful awareness, cognitive reappraisal, adaptability, self-compassion and emotional support (Chowdhury, 2021), but there are a plethora of ER-strategies that can be implemented to achieve emotion regulation-goals (Gross & Jazaieri, 2014).

Now, when the process of ER fails to influence emotion generation in the desired way, this can take one of two forms: ER-failure, which is not engaging in ER when it would be useful to do so, and emotion dysregulation. The latter is using an ER-strategy that is poorly fitted the situation (Aldao et al., 2010; Gross, 2013). Emotion dysregulation is a transdiagnostic process contributing to nearly all common sorts of psychopathology in adults and adolescents (Aldao et al., 2010; Weissman et al., 2019). Gross and Jazaieri (2014) defines emotion dysregulation as such:

> "Emotion dysregulation can be considered to be an umbrella term, such that emotion dysregulation may be due to either emotion-regulation failures (i.e., not engaging regulation when it would be helpful to do so) or emotion misregulation (i.e., using a form of emotion regulation that is poorly matched to the situation" (Gross & Jazaieri, 2014, s. 393)

Emotional dysregulation is linked to susceptibilities such as impulsivity, inhibition, and the occurrence of serious psychopathology transdiagnostically (Weissman et al., 2019).

The use of ER-strategies such as rumination, suppression, and avoidance to regulate emotions are linked to several mental disorders, such as anxiety, depression, substance abuse, and eating disorders (Aldao et al., 2010; Sloan et al., 2017). These findings provide a compelling argument for ER being an important transdiagnostic construct, related to an underlying dimension that spans across disorders (e.g., The p-factor; Sloan et al., 2017).

Weissman et al. (2019) examined a sample of 262 children and adolescents where large parts of the sample had experienced abuse during their upbringing. They examined whether the use of ER-strategies and their relationship to the presence or absence of psychopathology. Symptoms of psychopathology were measured continuously along the way, as well as after a period of 2 years. Weissman et al. (2019) used the following measures to try to define "p": Children's Depression Inventory (CDI-2), the Screen for Child Anxiety Related Emotional Disorders (SCARED), as well as Youth Self Report (YSR) and Child Behaviour Checklist (CBCL) to measure externalizing symptoms. Using confirmatory factor analysis, they estimated a general psychopathology factor (p-factor), which represented the comorbidity of internalizing and externalizing symptoms in the same individual. Emotional dysregulation was found to be a transdiagnostic link between childhood maltreatment and the presence of general psychopathology (Weissman et al., 2019).

If one says that ER- strategies are important for maintaining good mental health (Baker, 2019; Chowdhury, 2021), the following questions arise: What good ER- strategies can one actually use?

Mindfulness. The concept of mindfulness pertains to purposefully bringing one's attention to the internal and external experiences taking place in the moment. The capacity to be mindful is crucial when people experience an emotionally charged state (Baer, 2003). These skills are often taught through an assortment of meditation exercises. These exercises often encourage people to attend to the experiences they are continuously experiencing each and every moment, i.e., bodily sensations, thoughts, and emotions (Baer, 2003; Baker, 2019).

Recognizing rumination. Rumination consists of repeatedly dwelling upon your own blunders, disappointments, or flaws. People may engage in depressive rumination in unsuccessful attempts at reducing negative emotions, but ironically, this strategy increases negative emotions, weakens goal-directed action, and can wear down relationships. Rumination is viewed as a strategy that upholds both unipolar depression, anxiety disorders and other internalizing difficulties (Aldao et al., 2016). Recognizing and challenging these ruminative thoughts and patterns are therefore important in improving one's emotion regulation and difficulties.

Self-awareness. Self-awareness pertains to the ability to focus on oneself and evaluate oneself. It is also an important skill to have with respect to seeing other people's perspectives, as well as exercising self-control, obtaining good self-esteem and having healthy standards set for oneself (Silvia & O'Brien, 2004). Other benefits from high levels of self-awareness includes better decision making-skills (Ridley et al., 1992), as well as being more proactive and accepting, as well as encouraging self-development (Ackerman, 2021). Poor self-awareness have been linked to higher levels of negative affect, higher levels of depression and anxiety as well as general dysfunction (Silvia & O'Brien, 2004).

Self-monitoring. People have varying abilities in their capacity to modify their behaviour to what is called for in specific situations, i.e., regulating themselves appropriately. People who are good at self-monitoring are more attentive to situational clues than others and have the ability to adapt their behaviour if the situation demands it (Holt et al., 2012).

Cognitive reappraisal. Cognitive reappraisal is a form of cognitive shift that involves seeing a potentially emotion-provoking situation in a way that changes its emotional effect (Gross et al., 2006). Mischel and Moore (1973) implicated this in their research on gratification. Their

findings suggested that if they showed children a way to think about candy in a more abstract ways, it decreased the children impulse to eat the candy, i.e., think of the candy as being in a glass box, and the children would be able to wait longer for gratification. The continuous use of cognitive reappraisal strategy correlates positively with psychological well-being, and correlates negatively with symptoms of psychopathology (Aldao et al., 2010)

Self-compassion. Self-compassion relates to acceptance toward the disliked qualities of oneself, as these traits often can cause psychological distress. This coincides with the notion that emotion regulation pertains to the ability to recognize, comprehend and accept negative emotions and to promote positive emotions (Bates et al., 2020).

These six ER-strategies are just some of the well-known and well-researched ER-strategies, but these are the ones that were deemed appropriate and relevant by this author for this review.

Good ER maintains psychological health and well-being, as well as aiding with negative life experiences and pressure (Aldao et al., 2010). If ER is indeed a transdiagnostic construct that is central to the upholding of psychopathology, then it logically follows that interventions targeted toward ER difficulties, and the strategies presented above, could provide measurable effects on other forms of psychopathology as well (Sloan et al., 2017).

1.3. Brief Interventions

There is not a consistent definition of what brief interventions actually entails (Wagner et al., 2017). It can include everything from one 5-minute treatment session to ten 1-hour long treatment sessions, and everything in between. The primary concept being an intervention that takes quite little time, but still yields positive results (Australian Government, 2004; Gee et al., 2015; Wagner et al., 2017). The entirety of the field of brief therapy challenges many of the assumptions of more traditional therapies. Traditional therapy tends to locate responsibility for change on the expertise of the therapist and view change as a long-term and difficult process (Campbell, 2012). Usual care can last from anything between a few weeks, months or even several years. It goes without saying that this course of treatment can be quite costly and resource-intensive (Wagner et al., 2017). In a meta-analysis of 447 randomized controlled trials of mental health treatments aimed at children and adolescents, Weisz et al. (2017) found that the number of sessions recorded in the treatment protocol was completely

unrelated and independent of the treatment effect - that is, long treatment is not synonymous with good effect.

Although the advantages of brief interventions certainly seem to outweigh the disadvantages, little research has been done to examine the actual effectiveness (Gee et al., 2015). The research that has been done does however provide a promising image. The potential effect of brief interventions are echoed by Schleider and Weisz (2017) meta-analysis on existing short single-session interventions. They included 50 studies in their synthesis, and concluded that these interventions were effective in reducing psychiatric dysfunction in children and adolescents, especially when it came to anxiety and behavioral problems (Schleider & Weisz, 2017).

In the study conducted by Walton et al. (2010) they investigated whether a brief intervention could be effective in treating alcohol abuse and violence and aggression problems in adolescents aged 14-18 years. The intervention group received only one session of 35 minutes, which focused on skills training, goal setting, feedback and role play. The control group received only a brochure with information on the negative effects of alcohol abuse. The results indicated that the intervention group had a measurable decrease in the prevalence of self-reported aggression and alcohol abuse. Their findings suggest that the use of brief interventions can certainly give good results in the treatment of alcohol and aggression problems (Walton et al., 2010). Some of the same findings is reiterated in Carey et al. (2006), who researched how brief motivational interventions would influence college students who were prone to heavy drinking. Their findings suggested that brief motivational interventions could provide a significant and lasting reduction of heavy drinking (Carey et al., 2006).

A brief behavioral intervention that was adapted from a manualized parent training intervention also proved to be more effective than its original and longer counterpart in the research done by Axelrad et al. (2009), and their findings were of statistical significance. Typically, similar parenting training interventions will last anything from 13-27 sessions, with Axelrad et al. (2009) cutting the number of sessions down to five. These five sessions addressed different core topics, all based on social learning and behavioral theory. Axelrad and colleagues took the knowledge from these theories and based the five sessions on how children learn desired behaviour, namely through modeling, reinforcement and feedback. This included parent training on how to provide more effective feedback, how they can help reduce negative behaviour in their children, setting boundaries, as well as appropriate use of time outs (Axelrad et al., 2009).

The effect of brief interventions on anxiety symptoms, cannabis and alcohol use is also in favour of brief interventions (Drislane et al., 2020). A sample of 780 drug addicts was randomized into one of three conditions: brief intervention given by therapist, brief intervention given by computer, or treatment as usual. The findings from Drislane et al. (2020) study showed that the intervention condition treated by the therapist had a significant decrease in both anxiety symptoms and cannabis use compared to the control group, but no significant decrease in alcohol use. The other intervention group (delivered by computer) showed no significant outcome, but showed a general improvement compared to the control group.

The effectiveness of brief interventions were further indicated by the studies conducted by Wagner et al. (2017). Wagner and colleagues compared outcomes in a group of Australian children seeking mental healthcare. The intervention group received a form of brief intervention that lasted for six sessions, ranging in duration from 60 to 90-minute sessions. The active control group got the standard treatment as usual, that lasted for a longer period. The study found that the brief intervention-group had significant symptom improvements. They concluded that a brief intervention-model allowed them to treat clients and their families in a timely manner, took less time than treatment as usual, and could produce equivalent levels of overall symptom reduction as the treatment as usual-group. They hypothesized that these types of brief interventions could be an effective first line treatment (Wagner et al., 2017).

The past few decades have provided useful insight into the long-term side effects of children who exhibit both internalizing and externalizing problems at a young age. Studies show that these side effects can continue well into adulthood (Axelrad et al., 2009). These findings give an incentive to produce better first line procedures and prevention interventions. This could lead to better public mental health in the long term. In addition to altering the course of significant psychological problems both at the individual and societal level, early intervention and prevention in first line treatment is also cost effective. Therefore, the need for effective, short-term behavioural intervention for young children and adolescents is crucial (Axelrad et al., 2009). If insignificant elements can be peeled away from the interventions, they may be easier to implement both in terms of time, money, and availability. Brief interventions could be an alternative to implement into first line services, providing a more flexible and easily accessible service to many people (Gee et al., 2015).

The notion of brief interventions is in and of itself more cost effective than traditional therapy and is easily implemented as well. There is also a potential that brief interventions could assist health care providers to utilise their scant resources across their entire spectrum of care (Gee et al., 2015). However, is there a way to dissect these brief interventions into smaller bits and pieces, that could yield positive outcomes on their own, or that could be re-assembled into more optimized interventions?

1.4. What are "Common Elements"?

In the last three decades, there has been an ever-increasing interest in research on manual-based programs aimed at both the prevention and treatment of mental health problems (Kjøbli et al., 2020b) . Although there are several individual studies that suggest that such programs have an effect, the overall picture is that the interventions have only low to moderate effects (Weisz et al., 2017). The programs and interventions available do not provide enough help to those who need it in a timely manner (Kjøbli et al., 2020b)

One explanation may be that the evaluation of program and intervention packages takes place on a general and comprehensive basis, and that the research has not been concerned with the individual elements in the treatment packages. Treatments are most often than not considered as a whole - a total package; is the *treatment* effective or not (Chorpita & Daleiden, 2009)? Is it possible to implement delimitable common elements, or do they have to be given as a part in a bigger intervention? This may possibly lead to the treatment being seen as more or less effective than the actual parts of the program package are by themselves. Is it possible to peel away unnecessary parts of the intervention, without reducing the effect to better increase implementability and make it more cost-effective? These questions bring with them an underlying desire to develop a different type of treatment. By peeling away insignificant elements, it might be possible to implement the actual effective and important elements earlier in the environment around children and adolescents (Kjøbli et al., 2020b).

Research on common elements, often called intervention components, intervention elements or common components is an expanding field within psychology (Chorpita et al., 2005; Murray et al., 2014). By identifying and understanding what is common across treatment, rather than what is different, one can gain important insight into what actually helps (Rith-Najarian et al., 2019).

There have been several attempts over the years to create methods on how to use delimitable content from effective interventions (Chorpita et al., 2005; Morgan et al., 2018). The goal is to delimit certain individual elements in order to investigate these further in a controlled setting, and see if they can be easily implemented in a more general and preventive context (Chorpita et al., 2011). A key assumption is therefore that different interventions employ many of the same strategies or elements, and that these can lead to positive results regardless of the intervention they originate from (Chorpita et al., 2005; Morgan et al., 2018; Winje, 2019). Several terms have been proposed over the years, but this paper will be based on the work done by Chorpita, Daleiden and Weisz (2005), where they suggested the term "common elements".

As noted, common elements can be defined as a set of singular characteristics and intervention content, e.g., strategies and techniques, that are used frequently across multiple intervention studies. These common elements are further divided into practice, process, and implementation elements, where the focus in this paper will primarily be on practice elements (Chorpita et al., 2005; Engell et al., 2020). Breaking down interventions into discrete singular elements can lead to a redesign of interventions, and provide alternative delivery methods that have the potential to be less demanding to apply successfully in common practice (Engell et al., 2020). This divide of common elements is intended to delimit practices that are as close to how they were performed in the original intervention program (Engell et al., 2020).

One methodological approach to identifying common elements in the mental health field was developed by Chorpita and colleagues (2005), called "Distillation and Matching Procedure". This approach "distils" or separates the contents of the interventions into distinct techniques. The identified common elements can then be presented to therapists, clinicians etc. for more accessible implementation (Lee et al., 2014). Rather than looking at the effectiveness of intervention packages, this method aims to break down these packages to individual therapeutic techniques commonly found in treatments. This approach cannot in and of itself identify whether the specific components are "effective ingredients" in producing the observed treatment effects (Brown et al., 2017). Rather, it can help generating hypotheses about which elements are the "effective ingredients".

With this distillation and matching-method one starts with a predefined codebook filled with elements derived from input from clinicians, practitioners, and intervention developers alike (Chorpita & Daleiden, 2009; Chorpita et al., 2005). This review based its coding on the

pragmatic coding manual developed by Thomas Engell, who were heavily inspired from Chorpita et al. (Please see the Method section for more on this).

It has been suggested that the identification of common practice elements is an important component in the development of the adaptation of both treatment and preventive interventions (Lee et al., 2014). This methodology can also show which common practice elements have not been researched enough, and which it may be advantageous to investigate further (Rith-Najarian et al., 2019).

1.4.1. Practice Elements

Practice elements are delimitable actions and activities used in interventions to influence the outcome measures. The practice elements are dependent on how, for whom and under what circumstances they are delivered and implemented by (Engell et al., 2020). Examples on practice elements can be “Training in Emotion Regulation”, “Mindful Breathing”, “Psychoeducation About Treatment Element” and “Reattribution Training”. Practice elements can be delivered by themselves, or together, to achieve specific treatment outcomes (Dorsey et al., 2016).

1.4.2. Process and Implementation Elements

Process elements deal with the circumstances of how the practice elements are implemented. This includes the number of sessions, as well as all aspects of delivery. For instance, in a similar study to this thesis done by Engell et al. (2020), the following process elements were identified: giving regular support to the receiver of the intervention, the usage of educational materials, repeated training of intervention elements, a 1-on-1 delivery format, and multicomponents. In this study they also found that the interventions in their sample most commonly were delivered by a professional or a caregiver, and were most often of low intensity and of a long duration (Engell et al., 2020). These are just some examples of process elements, for a full overview of the process elements used for this thesis refer to appendix 3.

The implementation elements describe strategies used to ensure that practice and process elements are implemented correctly. This includes payment schemes, training of therapists, and the use of materials etc. A theoretical framework for transferring science on implementation elements to common practice more successfully is the “Core Components of Implementation”-framework (Fixsen et al., 2009). This framework has identified so-called core implementation components across successfully implemented programs (Fixsen, 2005).

Fixsen (2005) proposed the following seven core components for successful adherence of a program:

Staff selection. Are the people delivering and implementing the program qualified? Do they have the personal characteristics needed for the program to be successfully implemented? These traits are not always possible to learn, and are more often characteristics such as empathy, common sense and a willingness to learn.

Preservice and in-service training. The practitioners must be taught the when, where and how's of the interventions, and receive training in how to apply skills and knowledge in a qualified manner. The training of practitioners should take place both before, as well as during, the work with the implementation.

Ongoing coaching and consultation. This component deals with the perpetual training and further development the practitioners will undergo during the treatment process, where a "trainer" will advise, overlook and motivate the practitioner in his or her work.

Staff performance assessment. Assessment and evaluation of the practitioners' skills that are expected after rigorous staff selection, training and coaching/consultation. This evaluation is predominantly a tool for the practitioner to further develop him- or herself and assures fidelity.

Decision support data systems. Assesses important aspects of the overall performance of the organization responsible for implementing the intervention.

Facilitative administrations. This component addresses the need for leadership, and the process of how informed decisions are made.

Systems intervention. Strategies to work with external forces to ensure the accessibility of the economic, structural and human resources required to support the practitioner's work.

1.4.3. Existing Literature on Common Elements

Murray et al. (2018) applied a common-element treatment approach (CETA) to treat a spectre of problems amongst young people in a Somali refugee camp. These problems included anxiety, depression, and trauma, as well as issues with substance abuse. The CETA-program was based on a systematic literature review and identifying common elements that are present in the studies. Elements such as "psychoeducation" and "relaxation exercises" took part in the design of a completely new type of intervention, which was based only on the elements from

the literature review. This intervention could be given flexibly depending on the problems of the recipient of the intervention. This intervention has been tested initially and has given promising results (Murray et al., 2018).

Although the evidence of the common element approach is accumulating, it is important to consider that the enthusiasm for the approach itself has gained more traction than the actual empirical support for their effectiveness (Dorsey et al., 2016). There are several studies who have already examined common elements in both similar and different domains. These include reviews on conduct disorders (McLeod et al., 2017), academic interventions (Engell et al., 2020), relational interventions for neglect and abuse (Winje, 2019), prevention programs targeting depression, anxiety, and stress in university students (Rith-Najarian et al., 2019), and treatment interventions for psychological disorders for children and adolescents (Chorpita & Daleiden, 2009). Some of the reviews have developed module based and individualized interventions based on the elements they found, or the elements have been used to redesign existing interventions (Chorpita & Daleiden, 2009; Chorpita et al., 2017). A similar study to this thesis' Lindsey et al. (2014) aimed to identify the common practice elements in treatment interventions aimed at children who need mental health services. They identified 22 practice elements commonly found in their sample of 38 articles (Lindsey et al., 2014). Existing literature may therefore suggest that the common element methodology potentially can influence knowledge-based practice in an innovative and individualized way, while maintaining the scientific knowledge needed (Chorpita et al., 2017; Dorsey et al., 2016).

1.5. What are "Winning Interventions"?

A 'winning intervention' is defined by Chorpita and Daleiden (2009) as a psychosocial treatment received by the intervention group, which was superior to the control group on at least one of the outcome measures. This is indicated via a statistically significant between-group treatment effect on at least one measure, i.e., p-value was less than 0.05 (Brown et al., 2017). This includes instances where both the intervention and control groups improved but the former improved significantly more, instances when only the intervention group improved, and instances where the control group worsened while the intervention group did not (Brown et al., 2017; Chorpita & Daleiden, 2009).

1.6. Relevance and Rationale for Current Thesis

The question of 'what seems to be working here' in common practice and in the development of new interventions is becoming more important within a framework of responsibility and monetary confinements. Developers are under ever growing pressure to ensure not only good intervention outcomes, but also a cost-effectiveness of these interventions. The desire to develop both cost-effective as well as effective interventions has led to an increase in the use of systematic reviews in the development of interventions (Mallett et al., 2012).

The objective of this paper is to identify possible common elements across brief interventions targeted towards (emotion regulation problems in) children and adolescents. These elements are interesting as research suggests that the more frequently occurring elements might have an effect in and of themselves (Chorpita et al., 2005; Kjøbli et al., 2020b; Morgan et al., 2018; Winje, 2019). There is a need for increased feasibility and effectiveness of interventions. Research on this field suggests that identifying and studying these elements may result in more flexible ways in which the healthcare providers can work with children who are struggling with, or at risk for, mental health problems (Engell et al., 2020). A central assumption will therefore be that several of these interventions will use the same strategies and/or elements, and that these elements in and of themselves could yield positive results. However, since this is an exploratory systematic review, there will not be a hypothesis that some of the elements are better than others.

Despite recent efforts there exist little knowledge about which elements are essential in the treatment process of emotion regulatory issues, and which are superfluous (Becker et al., 2015). There is therefore a need for new approaches in intervention science that can ensure that interventions contain effective elements, and more knowledge about the optimal conditions for positive results. Success in the development of effective and transdiagnostic interventions that are easily implemented can help strengthen the mental health of children and adolescents (Kjøbli et al., 2020a).

By succeeding in identifying effective elements from effective treatment measures that can treat the underlying vulnerability that leads to mental health problems, there is a possibility to prevent and reduce comorbid conditions in children and adolescents. Because of this possibility, there has been several attempts to develop transdiagnostic interventions which target both the symptom expression, but also the possible underlying cause for the disorder (e.g., The P-factor) (Aldao et al., 2016; Kjøbli et al., 2020a).

The primary objective of this review is therefore to systematically examine the common elements in brief targeted emotion regulation interventions aimed at promoting children and adolescent's wellbeing, particularly in relation to the intensity of symptoms associated with emotion (dys)regulation, internalizing (depression, anxiety, stress) and externalizing problems. More specifically, the research questions are:

1) What are common practice, process, and implementation elements in emotion regulation interventions targeted toward children and adolescents?
2) What are common practice, process, and implementation elements in winning emotion regulation interventions targeted toward children and adolescents? And,
    a. How does these differ from interventions in general?
3) What are the most frequent combinations of common practice, process, and implementation elements used in the different samples?

2 METHOD

2.1. About the Project

This master thesis is written under the portents of The Regional Center for Child and Adolescent Mental Health (RBUP) and is thus part of a larger research project. The overall project intends to explore:

1. Brief interventions to decrease and prevent youths' psychopathology.
    a. Are they more effective than more extensive interventions?
2. The common elements in effective brief interventions.

The research process started in the spring of 2020, and the author of this thesis was so fortunate to be involved in large parts of the process. The author took part in both abstract and full-text screening, in addition to both element and effect coding. Of the data and analyses presented in this thesis, the author participated in everything apart from the initial literature search and the Risk of Bias analysis.

During this thesis, a reference will be made to a research team at RBUP. This research team consisted of a total of seven people; two project leaders, a librarian, a research coordinator, a research assistant and two master's students (the author of this thesis included in the latter.)

The other master thesis connected to this project pertains to a systematic review of brief interventions and their effect in treating emotional and mental difficulties in children and

adolescents. The thesis is based on the same sample of studies as this one but is delimited differently and focuses more on effect sizes of the reported outcomes measures.

The purpose of this thesis is to systematically review all relevant interventions to see what the common elements across them are, what seems to work best during the treatment process, and common combinations of elements. Systematic reviews are a thorough and transparent form of a literature review with the ultimate goal of answering certain research questions (Mallett et al., 2012). To be considered a proper systematic review, certain strategies have been invoked in both the planning and execution of the thesis. These strategies include doing a comprehensive literature search of all potentially relevant interventions, an explicit and easily reproduced list of inclusion/exclusion criteria, as well as a pre-planned method of analysis (Cook et al., 1997).

2.2. Eligibility and Sample Criteria

A literature search was conducted for relevant interventions in June 2020. The search strategy was developed by a research librarian at RBUP, in consort with the project leader. They conducted a systematic search in the following databases: Cochrane Library (including CENTRAL), PsycINFO, MEDLINE, ERIC, and ISI Web of Science.

To be considered relevant, all interventions must either be explicitly directed at emotional (dys)regulation OR measure symptoms of emotional (dys)regulation. Additionally, the following inclusion criteria also had to apply:

- Population: Children and adolescents between the ages of 5-23 (mean age < 23)
- Must be a psychological prevention or treatment intervention, e.g., psychotherapy, counselling, motivational interviewing etc.
- The intervention must be ≤ 10 sessions
- Must be brief intervention only, i.e., the intervention cannot be used in combination with subsequent extensive therapy. However, studies where a brief intervention + a subsequent intervention is compared to the subsequent intervention alone will be included.
- Comparison: There must be a control group
- Primary outcomes: Emotion (dys)regulation

- Secondary outcomes: General mental health symptoms, mindfulness, anxiety, depression, somatic symptoms, drop-out rates, quality of life, behavioural measures, interpersonal problems measures
- Study designs: Randomized controlled trials, Quasi-experiments, systematic reviews, dissertations
- Language: Must be written in either English, or Scandinavian languages; Norwegian, Danish and/or Swedish.

The following exclusion criteria also applied:

- Interventions intended to increase treatment motivation or knowledge of psychiatric disorders unless the effects on emotion (dys)regulation or psychiatric problems are reported
- Intervention was not directed at emotional (dys)regulation nor ant measures of emotional (dys)regulation
- No clinical outcomes

The search strings used were various variations and combinations of; ((brief* or short* or limited or targeted or (single adj session)) adj4 (psychotherapy* or psycho-therap* or therap* or treatment* or preventi* or interven* or program* or cognitive* or behavio* or counsel og training*)). For a more in-depth explanation and overview of the search strings, see Appendix 6.

2.3. Screening Process

All screening took place in the online screening platform Covidence Systematic Review Software, and every article were always reviewed by two separate people. If a disagreement on whether an article was relevant or not occurred, Covidence would mark the discrepancy and the disagreement would either be solved by discussion by the two original people or by means of a third person.

During the abstract screening, the research team focused on the available information in that given abstract. That is to say; the article was only excluded if there was explicit information in the abstract that would indicate that it was not relevant. This could be if the age mean of the sample was reported to be either below 5 or above 23, or any other easily spotted details in the abstract that did not coincide with the eligibility criteria, e.g., if the intervention were solely a

medical intervention and not psychological in nature. In cases where there was uncertainty about the average age, number of sessions, etc. the study was included in the full text screening for a more detailed review.

The full-text screening was, as the name implies, a deep dive into the full text of each article. Some articles were easily eliminated on criteria such as too high of an average age, or too many sessions - while others required a closer reading. If all formal criteria were seemingly reached, but there was uncertainty as to whether the outcome measures were relevant, it was decided that one should always include the study. In these instances, the coders would write a description of the uncertainty in the “note”-section under the article, and this would be reviewed later. If excluded at this stage, the coders would have to choose the reason for exclusion. The reasons for exclusions was: Wrong study design, wrong population age, wrong number of sessions, wrong outcomes, wrong intervention or other. The exclusion list was ranked in this order, and the articles were excluded after the ranking of the list. That is, if the intervention had both the wrong age average and the wrong number of sessions, it was excluded based on the age average of the sample. For more information about exclusion details refer to flow chart in figure 1.

PRISMA 2009 Flow Diagram

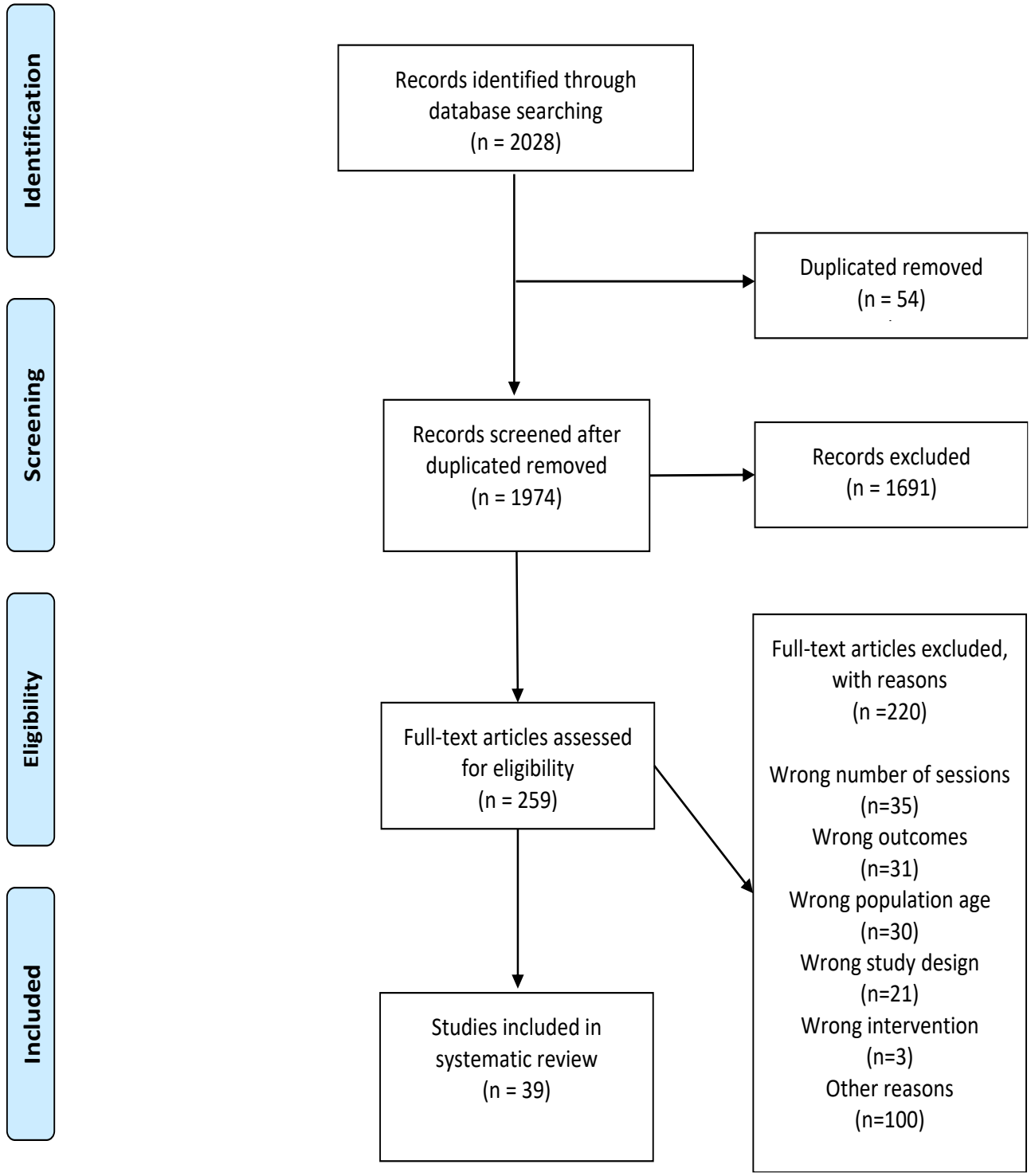


Figure 1: PRISMA- flow chart with exclusion details (From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement.

2.4. Coding process

The 39 articles underwent two separate coding process: The coding of elements, and the coding of effect sizes. Both the coding of elements and the coding of effect took place in IBM SPSS statistics version 27.

2.4.1. Element Coding

The elemental coding process was inspired from a similar project from RBUP where they examined common elements across "out of school time academic"- interventions (Engell et al., 2020). This common element methodology was inspired by previous work by Chorpita et al. (2005). The work Engell et al. (2020) applied to this methodology was further advanced by Håkon Winje (2019) in his master's thesis regarding identifying common elements in interventions targeted towards treating children who had experienced neglect and abuse.

This coding process was based on a coding manual in Excel and a corresponding coding form in SPSS. The coding manual was inspired by an already established coding manual that was from a similar ongoing project at RBUP (Helland et al., in preparation). This was further developed by two in-house members from RBUP (research coordinator and research assistant), who added, merged, and removed elements until they were satisfied with the saturation in the coding manual. The codebook was thereafter tested by four coders (Research coordinator, research assistant and the master's students) who coded the same two articles, to ensure that the codebook was sufficiently saturated. "Saturation" refers to the expectancy that little to no new elements will arise during the screening process. The coding manual underwent two such processes, where it was improved and further developed each time to achieve proficient saturation. After these processes, the coding manual consisted of 111 high-frequency practice elements, along with common process and implementation elements.

Practice elements included individual practices or actions that were carried out during the interventions (such as "enhance own emotion recognition", "insight into emotions", "teach and practice to distinguish alarm driven versus adaptive emotions" etc). Process elements described the circumstances of the implementation of the intervention and include how, when, where, why, for whom and by whom the practice elements were carried out. The implementation elements described strategies for transferring the elements to the intervention, and how to secure adherence (Engell et al., 2020; Powell et al., 2015). The specific elements

extracted from the studies were classified within overall practice, process, and implementation categories (Engell et al., 2020).

Some of the categories of practice elements reflect some of the emotion regulation strategies presented in Chapter 1 and involves training in (or more understanding of) the characteristics and abilities of the respective category. The in-house members from RBUP had identified the following overall categorization of the practice elements based on a review of the interventions:

1. Emotion regulation

This category consisted of only one practice element pertaining to a non-specific training in emotion regulation. Emotion regulation, as stated earlier, involves the process of how people influence the emotions they have, when they have them, and how they experience and express their feelings (Gross, 1998).

2. Training in emotional recognition and differentiation

This category contained 7 practice elements, where they all focused on recognizing emotions, triggers, emotion-activating situations, body sensations related to emotions, facial expressions, and the like.

3. Training in preventing maladaptive behavioural responses

This category consisted of 8 identifiable practice elements. These elements were based on knowledge of how to interrupt negative emotion patterns, how to develop alternative actions, how to deal with unpleasant situations.

4. Self-exploration / self-monitoring of thoughts and feelings

Consisted of 5 elements, all relating to some form of self-exploration or monitoring of ones thought and/or emotions.

5. Training in behaviour regulation

This category contained 5 specific practice elements all pertaining to knowledge and strategies on how to regulate your own behaviour, both by distraction and relaxation.

6. Mindfulness

One of the largest categories, consisted of 10 specific practice elements. They all relate to different aspects of mindfulness, some focus on bodily sensations like breathing or other body

awareness, thought and/or feeling awareness, how to integrate mindfulness into daily life, how to reduce self-judgement and focus on acceptance, as well as focusing on habits and reducing stress in a mindful manner. Mindfulness refers to the thought of being present within in a moment, when that moment is occurring (Baer, 2003). Similar elements that did not include a mindful aspect were commonly coded within either the emotion regulation-category or the category of training in emotional recognition and differentiation.

7. Training in cognitive skills: flexibility and alternative appraisal

Quite a large category consisting of 11 delimitable practice elements. They all involve some sort of reattribution training, restructuring faulty attributions, how to develop positive thinking etc.

8. Psychoeducation

This is the largest category, containing 18 individual practice elements. These include psychoeducation about the treatment/intervention itself, or a specific diagnosis, or about intervention elements in general. Psychoeducation pertains to the transfer of knowledge, and is considered to be an important factor of mental health treatment (Ekhtiari et al., 2017).

9. Parent skill training

This category contained 14 elements, and they all focused on providing parents and primary caregivers the necessary tools to help them with regulating their child's emotions, and how to properly deal with dysregulating behaviours.

10. Parent-child interaction training

Three elements in this category all focused on active interaction between child and parent/primary caregiver.

11. Problem solving skills

There were 10 elements in this category, all pertaining to the skills needed to better manoeuvre through difficult situations, evaluate consequences of actions, social problem-solving and how to focus your mind on one thing at a time.

12. Stress management

This category contained only two elements, where the focus was on exposing the children to stress in a controlled setting and helping them control and handle the situations.

13. Social skills training

Category of 4 practice elements, focusing on building friendships and keeping them, as well as communicative skills such as listening.

14. Organizational skills

Seven elements were included in this category. This mostly revolved around goal-making, learning to both set and assess them, as well as how to celebrate positive change.

15. Lifestyle.

The last category consisted of 6 elements, pertaining to techniques and focusing on how to live a healthier life: eating better, better sleeping pattern, focusing on sexual health etc.

Refer to Appendix 2 for a full overview of the categorization and description of each of the 111 practice elements if needed.

The coding manual also included categories for process elements, e.g., for outcome measures, which enables the registration of who the measurements were made on (parents or children), who delivered the intervention and where, and when these were carried out etc. (Described in appendix 3). The categories for implementation elements dealt with, for example, how compliance with the program was secured (payment schemes, financial strategies etc.) and how the training of supervisors took place (Described in appendix 4). The implementation elements were based on an already established list of common implementation elements (Powell et al., 2015), and were slightly modified for better saturation. The modification did not remove any elements, but rather divided them into more distinct elements.

After this, the coders reviewed each article independently of each other, and coded the practice, process, and implementation elements that the studies described into SPSS. This author did the element coding as follows: Started each article by identifying possible process- and implementation elements and these were marked with a green highlighter. Everything that looked like possible process and implementation elements was highlighted and was reviewed in more detail later. The process elements mostly appeared in the abstract or early in the method sections, and the implementation elements most often appeared in the discussion sections, although one had to be on the lookout elsewhere in the text for these as well. Then, practice elements were usually identified in the part of the article that explained the intervention - these were highlighted in pink. After reading the entire article, the identified elements were seen in the context of the coding manual, and an attempt was made to see

where each individual practice element belonged. The numbers for the practice element (from the coding manual) were noted down in the margin where it appeared in the article, so that it could easily be remembered in the co-coding in the event of any disagreements.

All articles were coded by two separate coders to obtain higher reliability. The articles were then co-coded by the two coders. Any disagreements were written down, and resolved by discussion, or by means of a third coder. The individual coding forms were then combined into one before further analysis. The participants from the research team that partook in this part of the research process were the research coordinator, the research assistant and the two master's students.

2.4.2. Effect Coding

The effect coding was also done in SPSS, with an accompanying coding manual. All interventions were, as before, double-coded, and disagreements were resolved by discussion or by means of a third party. In the event of missing or unclear reports of necessary measures and data, this was written down, so that one could contact the authors in question later. The participants from the research team that partook in this part of the research process were the research assistant and the two master's students.

For this thesis, the only effect measure relevant was whether any of the outcome measures reached the threshold of being statistically significant (p-value < 0.05). Other measures coded at this stage were baseline, post-test, and follow-up measures, as well as Cohen’s d, eta^2 or any other effect size measures provided for said intervention.

2.5. Delimitation of Winning Interventions

Delimitation of winning interventions was done manually by colour coding, based on the already established criterion that one or more of the outcome measures had to be statistically significant at the 0.05 level. The interventions were either coded as pink (statistically significant), green (not significant), or blue (did not provide enough information). If the study consisted of more than one intervention condition, the conditions were checked separately. All intervention conditions that were valid at the 0.05 level were extracted and moved into a separate SPSS file so that they could undergo separate analyses.

2.6. Identifying the Common Elements, and Their Combinations

Common practice elements across the samples were identified by a frequency analysis in SPSS (Table 2). There is no recognized or established cut-off point for how often an element must occur for it to be considered a common element. As this thesis is based on the same methodology as Engell et al. (2020), the same cut-off point will be used. In that project, the cut-off point was set at 25 percent, and this thesis will use the same premise. By using a percentage, the cut-off point will vary according to how many studies are included in the sample, therefore the cut-off point will be lower for the winning interventions, than the total sample.

2.6.1 Total Sample

There was a total of 39 studies examined in this thesis. Six of the studies used two experimental intervention conditions in addition to the control group, and these were coded separately. This resulted in a total of 45 intervention studies included in the total sample. The cut-off point was thus set at 10. This amounts to 22.22% of the intervention conditions (n = 45). That is, an element that emerged in ten or more interventions was considered common. This was considered more appropriate than setting the cut-off point to exactly 25%, which would require the element to be present in 11.25 of the intervention conditions. This decision was made on the basis that identifying common elements is hypothesis-generating work, and that it is considered more important to present a larger proportion of common elements, than to strictly adhere to a cut-off point (Winje, 2019). This also applied to the identification of common process and implementation elements, i.e., that the elements had to be present in 10 of the intervention conditions to be considered common.

2.6.2 Winning Interventions

The same premise was set for the winning interventions, where there was a total of 22 interventions including 23 different intervention conditions, which were coded separately (n=23). The cut-off point for this sample was set to 5 (21.74%). Thus, the element must be present in 5 interventions or more to be considered common. This was deemed a better cut-off than a clean 25% percent, which was 5,75. This also applied to the identification of common process and implementation elements, i.e., that the elements had to be present in 5 of the intervention conditions to be considered common.

2.6.3 Combinations Within Winning and Total Sample

The identification of the most frequent combinations was done manually in SPSS and done separately for the total and winning sample. The choice was made to focus on how the winning sample differed from the total sample, since the thesis already had a distinction between them. Since this distinction has been made, it is this knowledge that can be considered most useful in the premise of this review.

The identification of the most frequent combinations of process and implementation elements with the common practice elements was done as follows; The premise of whether the process and/or the implementation element was frequently used in combination with the common practice element followed the same logic as in the coding of common practice elements. The common practice elements were isolated for themselves, and a cut-off point of 50% was set. E.g., the process and/or implementation element must be present in at least 50% of the instances when the common practice element is present. The reason why this cut-off point was higher than 25% (as with the practice elements) was because the actual frequency per common practice element was lower, and such a low cut-off point would provide very much, but little nuanced, information. The identification of common combinations was done manually in SPSS and was done as follows: The identified common practice elements for each of the samples were sorted out separately in SPSS, and the frequency of the process and implementation elements was noted down manually. If the frequency of the practice element occurred a total of 6 times, the process and/or implementation elements had to be present in at least 3 of the instances where the practice element occurred. In cases where the frequency of the common element was an odd number, it was rounded down to show a wider range of combinations.

For the general overview of the frequency of process and implementation elements a frequency analysis in SPSS was completed, separately for each sample. In this analysis the cut-off point was set at the same threshold as the practice elements (25%), i.e. The process and/or implementations element must occur in at least 10 for the total sample, and at least 5 for the winning sample to be considered common.

2.7. Comparison of Winning and Total Sample

To better present the differences between the frequency of common practice elements in the winning and the total sample, a bar chart was made. For the bar graph to give a correct

picture, the frequency of elements was calculated as a percentage from the sample in which it occurred (n = 45 or n = 23). A bar graph was also made to compare how often each of the 15 general techniques were used in each sample. The use of the general techniques was seen as a switch that was either on or off for each article and was only marked down once per intervention condition if it was present. It was then calculated what percentage of the articles contained the general technique for each of the samples.

2.8. Inter-Rater Reliability

Inter-rater reliability is the level of agreement between coders (or raters). If everyone agrees on everything, the inter-rater reliability is at a 100%, and if everyone disagrees it is at 0%. Inter-rater reliability (IRR) addresses the regularity of a rating system. IRR can be assessed using a plethora of different statistics. A few of the more popular statistics include percentage agreement, Cohen's or Fleiss' kappa and intraclass correlation coefficient (Lange, 2018). This thesis chose to measure inter-rater reliability using percentage agreement between coders.

Percentage agreement is said to be the easiest measure of inter-rater reliability (Glen, 2016; Lange, 2018). A faulty logic behind percentage agreement is that it does not take the chance of accidental agreement into consideration (Glen, 2016). This is an important fault to remember. The calculation of inter-rater reliability was done separately for the element and the effect coding.

All the disagreements between coders were written down during the co-coding sessions, this was done per article. These were then seen in the context of the total number of lines of code for that article, and the percentage was calculated. This was done for all the articles, and later merged. The articles that had two intervention conditions in addition to the control group were also coded as one article, and not per condition.

It should be noted however, that some of the sheets with reported disagreements from the coding of elements were lost during the months that the coding process took place and were therefore not included in the inter-rater reliability calculation. Unfortunately, this was the case for 8 studies, meaning that the percentage agreement between the coders were based on 31 articles, and not the total 39.

Sadly, this was the case for the effect coding as well. Out of the 39 studies, only 34 of the studies reported enough information in the article to be included in this process– and at the

end only 21 of the 34 had reported disagreements. In general, most areas of research will describe a percentage agreement above 75% as sufficient, but this can vary (Glen, 2016).

2.9. Risk of Bias

This author did not partake in the risk of bias-assessment. However, there was a crash course on the method the research team used for the assessment, as well as a description of the results. Risk of bias is an important part of systematic reviews, as it says something about whether one can draw trustworthy conclusions based on the findings or not. This is based on whether the data and the findings of the data are valid. The results of a risk of bias-assessment should therefore impact the analysis, the interpretation and the conclusions of the review (Higgins et al., 2017).

Risk of bias and bias is defined as follows:

> "*Bias* is a systematic error, or deviation from the truth, in results or inferences. Biases can operate in either direction: different biases can lead to underestimation or overestimation of the true intervention effect. Biases can vary in magnitude: some are small (and trivial compared with the observed effect) and some are substantial (so that an apparent finding may be entirely due to bias) …… as the results of a study may be unbiased despite a methodological flaw, it is more appropriate to consider *risk of bias*." (Cochrane Handbook for Systematic Reviews of Interventions, 2017, section 8.2.)

The research team at RBUP used the criteria outlined in the Cochrane Handbook of Systematic Reviews of Interventions (Higgins et al., 2017), and the research team independently assessed the risk of bias in each study that was included in the review. This method assesses each intervention across 7 domains, which address different types of bias. These domains include allocation concealment and blinding amongst others. The 7 domains are grouped to control for the following types of bias; selection bias, performance bias, detection bias, attrition bias, reporting bias and other (Higgins et al., 2017).

The RoB-assessment was done like the other coding processes, as each article was coded by two separate coders, and any disagreements were solved by discussion or by means of a third coder. The assessment worked by coding each intervention as either low risk of bias, high risk of bias, or unclear risk of bias across the 7 different domains.

3 RESULTS

3.1. Studies

A total of 39 studies including 45 different intervention conditions were identified for inclusion in the review (Appendix 1). The search was conducted in Cochrane Library (including CENTRAL), PsycINFO, MEDLINE, ERIC, and ISI Web of Science, and provided a total of 2028 citations. After adjusting for duplicates 1974 remained. Of these, 1691 studies were discarded because after reviewing the abstracts it was clear that these articles clearly did not meet the inclusion criteria. The full text of the remaining 259 articles were examined in more detail. It appeared that 220 studies did not meet the inclusion criteria as described. See figure 1 for exclusion details (2.3.).

The identified studies were originally assessed for similarities. As sample characteristics (age, gender etc.), outcome measures, presentation conditions and test characteristics visibly differed largely across the identified studies, a meta-analysis was deemed unsuitable due to the heterogeneity of the study (lack of similarity; Townshend et al., 2014). This thesis is therefore a systematic review.

In this thesis, the studies listed in appendix 1 were used, while only a quick overview of the included studies are provided in this chapter. Sample characteristics are also summarized in appendix 1, as well as study design, population, intervention name and author/s, as well as what measures the studies had and when these were conducted, type of control group, and the full context for delivery.

Study design. Of the 39 identified studies, 33 of them were randomized controlled trials. The remaining 6 were coded as quasi-randomized due to ambiguity regarding the randomization (Bencuya, 2014; Droutman, 2017; Kerr et al., 2017; Oman et al., 2008; Shahbazirad & Azizi, 2018; Shapiro et al., 2008). Six of the 39 were three-armed studies, i.e. they consisted of two separate intervention conditions in addition to the control condition, these were the studies: Mason et al. (2015), McIndoo et al. (2016), Myhre (2018), Oman et al. (2008), Shapiro et al. (2008) and Topper et al. (2017). Both Oman and Shapiro's studies were based on the same research project and sample but had different outcome measures, and different hypotheses. They were therefore treated separately.

There were several of the studies that implemented the same intervention on different samples. The "Learning to BREATHE"- intervention were used in 3 of the included studies

(Kerr et al., 2017; Lam & Seiden, 2019; Potek, 2012). Rumination-Focused Cognitive Behavioural Therapy was also used in 3 of the included studies (Feldhaus et al., 2020; Jacobs et al., 2016; Topper et al., 2017). Another common intervention used was the "Mindfulness-Based Stress Reduction"-intervention, which were used in 5 of the studies in the identified sample (Oman et al., 2008; Shahidi et al., 2017; Shapiro et al., 2008; Vohra et al., 2019; Zhang et al., 2019).

The most frequent occurrence of the number of sessions was 8, which was the case in 15 of the studies. The average number of sessions in total was approximately 6.5 sessions. The highest number of sessions coded were 10 and the lowest sessions recorded was 1.

Most of the studies had either indicated (16) or normalized (16) samples, while the remaining had identified samples (8). An indicated sample means that the persons have indicated difficulties, but that the difficulties have not yet reached a clinical level, while an identified sample means that the people have problems / characteristics / diseases on a clinical level. The identified difficulties varied, one study treated patients with posttraumatic stress disorder (Ford et al., 2018), one study treated children with atopic eczema (Xie et al., 2020), another had a sample with identified emotion regulation difficulties (Flannery, 2018), three studies had a sample with clinical depression (Jacobs et al., 2016; Lindqvist et al., 2020; McIndoo et al., 2016), and two studies had children with autism spectrum disorders as a sample (Beaumont & Sofronoff, 2008; Weiss et al., 2018). Flannery (2018) had a sample consisting of people with both indicated or identified emotion regulation difficulties.

Out of the 39, most of the sample were published journal articles (26). There were, however, 13 dissertations included in the sample. All articles were written in English.

Location. Twenty-four of the 39 studies were conducted in the United States of America. The remaining studies were conducted in Australia (3), China (3), Canada (2), Iran (2), Sierra Leone (1), Japan (1), Belgium (1), Norway (1), Turkey (1), Sweden (1), and in the Netherlands (1).

Sample Characteristics. The overall age mean of the sample was about 16,5 years old, with the lowest age recorded was 5 years old (Hooper, 2018) and the oldest being 38 (Vivek, 2015). All studies included both boys and girls, expect for the two Iranian studies Shahbazirad and Azizi (2018) and Shahidi et al. (2017).

Control group. Most of the studies had a waiting list-control group (25), with the remaining fifteen having either an active control group (9) or a treatment as usual- control group (5).

Outcome measures. Of the 39 studies, all of them had explicit measures of emotion regulation. Twenty-five of the studies measured internalizing difficulties, 6 measured externalizing difficulties, 13 had measures of mindfulness, 16 had measures of other symptom reduction, and 7 included measures of general mental health as well.

3.1.1. Risk of Bias

Significant variability in the methodological rigour was evident within the overall RoB-assessment, as some of the studies had predominantly low risk of bias, while others were predominantly of unclear or of high risk of bias. Even though some studies were scored to be at a high risk of bias, they were further included in the review. The RoB-assessment provided the following general overview of the included studies in figure 2:

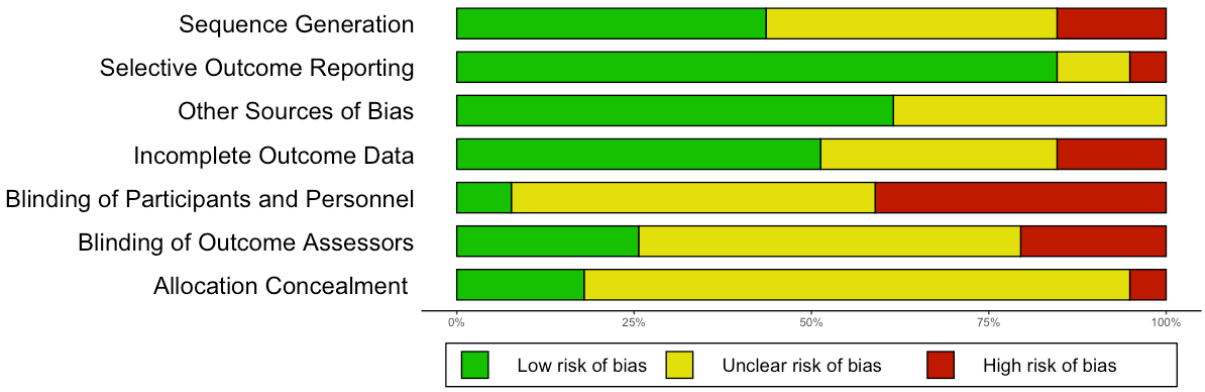


Figure 2: Risk of Bias; General overview over total sample (N=39)

The overview presents a large portion of unclear risk of bias. The unclear category indicated either a lack of information available, or an uncertainty over the potential risk for bias. Refer to appendix 5 for a RoB-assessment of each individual study on all domains.

As for the domains “selective outcome reporting”, “other sources of bias” and “incomplete outcome data” - these are the domains that provided the lowest risk of bias across the studies. On the other hand, the intervention sample showed a higher risk of bias when it came to the blinding of participants and personnel across the sample.

In general, the summary will indicate that the sample has predominantly information from studies that are either at a low or an unclear risk of bias. This is a plausible bias that may raise some doubts about the results (Higgins et al., 2017).

3.2. Coder Agreement

For the element coding the percentage agreement between the four coders were at a 72.8 percent for the overall sample, including all practice, process, and implementation elements. The average number of codes per article were approximately 35 lines, and the average number of disagreements per article were about 10. As for the effect coding the percentage agreement between the three coders were at 91.8 percent.

3.3. Winning Interventions

Based on the already established criteria that at least one outcome measure must be of statistical significance, there was a total of 22 articles that were deemed to be of so-called "winning" stature. These 22 articles consisted of 23 separate intervention conditions, as McIndoo et al. was a three-armed intervention. Out of the remaining 17 references, there was only 5 that could adequately be removed based on the lack of significance on the outcome measures (Bai et al., 2020; Fukumori et al., 2017; Hooper, 2018; Mason et al., 2015; Vivek, 2015), whereas the remaining 12 did not provide enough information to be considered in the effect analysis. The included winning interventions are listed in Table 1.

Table 1:
List of Winning Interventions

#	Reference	Sample	Intervention	Study Design	Sessions	Last Measure	Measures[a]
1	Beaumont & Sofronoff (2008), Australia	Children (7-11), N= 49	Junior Detective Training Program	RCT	7	0-2 months	ER OSR
2	Betancourt et al. (2014), United States of America/Australia/Sierra Leone	Young adults (15-24) ($\bar{x}$ = 18, SD/SD), N=436 (45.6 %Female)	YRI Youth Readiness Intervention	RCT	10	0-2 months 2-12 months	ER OSR GMH
3	Brawner et al. (2019), United States of America	Adolescents (14-17, $\bar{x}$ = 15.78, SD = 0.97), N=108 (38% Female)	Project GOLD: Psychoeducational HIV/STI Prevention Program	RCT	8	0-2 months 2-12 months 12+	ER ID
4	Dingle & Fay (2017), Australia	Young adults (16-25, $\bar{x}$ = 18.68, SD = 2.08), N= 51	Tuned In	RCT	4	0-2 months 2-12 months	ER ID OSR
5	Flannery (2018), United States of America	Adolescents (11-18, $\bar{x}$ = 14.4, SD = 1.93), N= 42 (71% Female)	(DBT Workshop) One Session Dialectical Behaviour Therapy Workshop for Parents	RCT	1	0-2 months	ER

6	Ford et al. (2018), United States of America	Young adults (18-22, $\bar{x}$ = 20.1, SD = 1.1), N= 29 (52% Female)	CBT + TARGET (Trauma Affect Regulation; Guide for Education and Therapy)	RCT	8	0-2 months	ER GMH
7	Idsoe et al. (2019), Norway	Adolescents (16-20) ($\bar{x}$ = 16.7, SD/SD), N= 228 (85% Female)	Adolescent Coping with Depression Course (ACDC),	RCT	10	0-2 months	ER ID OSR
8	Jacobs et al. (2016), United States of America	Adolescents (12-18) ($\bar{x}$ = 15.5), N= 33 (57.6% Female)	RFCBT Rumination-Focused Cognitive Behavioral Therapy	RCT	8	0-2 months	ER ID
9	Kerr et al. (2017), United States of America	Young adults (21-23) ($\bar{x}$ = 22.3, SD/SD), N= 23 (91,3 Female)	Learning to BREATHE	Quasi-randomized	6	N/A	ER M GMH
10	Koydemir & Sun-Selışık (2016), Turkey	Young adults (17-23, $\bar{x}$ = 18.75, SD = 1.03), N= 92 (47,8% Female)	Well-Being/Online Strengths-Based Intervention	RCT	8	0-2 months	ER GMH
11	Lam & Seiden (2020), China	Children (11-15, $\bar{x}$ = 12.4), N= 115	Learning to BREATHE	RCT	6	N/A	ER ID OSR GMH
12	Lindqvist et al. (2020), Sweden	Adolescents ($\bar{x}$=16.6, SD=1.1), N= 76 (80% Female)	Internet-based psychodynamic therapy	RCT	8	12+ months	ER ID

13	McIndoo et al. a (2016), United States of America	Young adults ($\bar{x}$= 19.2, SD= 1.67), N= 50 (62% Female)	Mindfulness-based therapy	RCT	4	0-2 months	ER ID M
14	McIndoo et al. b (2016), United States of America	Young adults ($\bar{x}$= 19.2, SD= 1.67), N= 50 (62% Female)	Behavioral activation	RCT	4	0-2 months	ER ID M
15	Potek (2012), United States of America	Adolescents ($\bar{x}$= 15, SD= 0.98), N= 31 (48.4% Female)	Learning to BREATHE	RCT	6	0-2 months	ER ID M OSR
16	Rusk (2012), United States of America	Young adults ($\bar{x}$= 19, SD= 1.1), N= 54	Target intervention	RCT	3	2-12 months	ER ID OSR
17	Shahbazirad & Azizi (2018), Iran	Adolescents ($\bar{x}$= 16.78), N= 60 (100% Female)	Educational intervention of emotion regulation strategies	Quasi-randomized	8	0-2 months	ER
18	Shahidi et al. (2017), Iran	Adolescents, N= 50 (100% Female)	Mindfulness Based Stress Reduction	RCT	8	2-12 months	ER ID
19	Vohra et al. (2019) Canada	Adolescents ($\bar{x}$= 14.2, SD= 1.4), N= 85 (40.7% Female)	Mindfulness Based Stress Reduction	RCT	10	2-12 months	ER ID ED M OSR GMH

20	Weiss et al. (2018), Canada	Children ($\bar{x}$= 9.75, SD= 1.27), N= 68 (approx. 12% Female)	The Secret Agent Society: Operation Regulation (SDS: OR)	RCT	10	2-12 months	ER ID ED M GMH
21	Whiteside (2010), United States of America	Young adults ($\bar{x}$= 18.92, SD= 1.22), N= 133 (60% Female)	Dialectical behavioral therapy	RCT	1	2-12 months	ER ID
22	Xie et al. (2020), China	Children ($\bar{x}$= 8.58, SD= 1.94), N= 163 (46.9% Female)	Integrative Body-Mind-Spirit (IBMS)	RCT	6	0-2 months	ER ID OSR
23	Zhang et al. (2019), China	Young adults ($\bar{x}$= 18.94, SD= 1.31), N= 56 (57.14% Female)	Mindfullness Based Stress Reduction	RCT	8	2-12 months	ER ID M

N/A – Not available information. List of all included studies are listed in appendix X.

[a]ER: Emotion regulation. ID: Internalizing difficulties. ED: Externalizing difficulties.

M: Mindfulness. OSR: Other symptom reduction. GMH: General mental health

3.4. What are common practice elements in interventions targeted toward children and adolescents?

Of the 111 available practice elements in the coding manual, as many as 84 of them were identified in the total intervention sample (n=45: Table 2). Across the total sample there was a total of 341 elements that were coded. There were 27 elements that never occurred in the sample, most from the category “Problem Solving Skills” (n=5) and “Training in Cognitive Skills” (n=4). The highest frequency recorded was the element “Mindfulness exercise, unspecified” which occurred 21 times. The lowest frequency recorded was 1, which applied to 19 separate practice elements. These were primarily from the category “Parent Skills Training” (n=4), “Problem Solving Skills” (n=3) and “Psychoeducation” (n=3).

Table 2:
Frequency of Practice Elements in Total Sample

Practice Element	Frequency	Practice Element	Frequency	Practice Element	Frequency
Training in emotion regulation, unspecified	10	Training in making reappraisal sentences	0	Teach parents about the intervention/program	6
Teach child to recognize triggers for alarm reactions/negative affect	6	Identify and restructure faulty attributions	1	Parent skills training, unspecified	2
Enhance own emotion recognition, insight into emotions	8	Train how thoughts can be used to change emotional response	3	Skills for parents themselves	4
Teach and practice to distinguish alarm driven versus adaptive emotions	1	Explore thoughts associated with emotions	3	Cope with stress of child problematic behaviour	1
Discussion of challenging emotional situations	6	Restructure rational belief systems	0	Plan to cope with stressful situations	0
Awareness of emotions at physiological level	4	Challenge negative assumptions	3	Parent follow child's lead in play	0
Emotion recognition in others	5	Develop positive thinking	2	Parents learn to increase positive parent-child interaction	0
Training in emotion recognition and differentiation, unspecified	8	Affective working memory training	0	Parent-child interaction training, unspecified	3
Interrupt alarm reactions	0	Computerized training in shifting interpretation of ambiguous bias to happy judgement	0	Consider potential behaviours in response to a dilemma	0
Alternative actions to emotional avoidance	7	Training in cognitive skills: flexibility and alternative appraisals, unspecified	5	Evaluate consequences of behaviours	3
Emotional coaching	0	Psychoeducation, not specific	6	Develop solutions that do not hurt others	1
Upregulation of positive emotions	3	Mental health skills	0	Learn to make behaviour modification plan	0
Downregulation of negative emotions	1	About treatment/treatment element/techniques	8	Discussing self-control	0

Emotional management, unspecified	6	About a diagnosis and specific symptoms, unspecified	1	Focusing the mind on one thought at a time	0
Exposure to emotions	4	The negative effects of a specific behaviour	1	Social problem solving	1
Taking distance and stepping back	2	Modify dysfunctional thinking (e.g., rumination) and behaviour	2	Self-instruction sentences	0
Complete mood rating scale	2	Functional/adaptive emotions	5	Learn how to avoid self-harm and other forms of self-destructive behaviour	1
Self-monitoring of thoughts and feelings	3	Emotional dysregulation/regulation	3	Problem solving skills, unspecified	2
Self-reflection	2	Cognitive flexibility	3	Stress-inoculation training	0
Explore own temperament and character	3	Cognitive distortion and disputing thinking errors	1	Stress management, unspecified	2
Self-exploration/self-monitoring of thoughts and feelings, unspecified	5	Crisis	0	Making and keeping friends	0
Distraction	0	Problem management	1	Communication/social interaction skills training	5
Physical relaxation/relaxation techniques	5	Mindfulness	6	Social support/Personal relationships	3
Redirect behaviour	0	PTSD symptoms	0	Social skills training, unspecified	2
Behaviour activation	6	Depression	3	Learning to develop activity monitoring	1
Training in behaviour regulation, unspecified	0	Behavioral activation	3	Learn to develop behavioral ranking systems	1
Mindfulness exercise, unspecified	21	Self-esteem and self-worth	4	Review goals for treatment	4
Mindful breathing	16	Stress	2	Learning to set/ assess goals	8
Mindfulness of feelings/emotion awareness	8	Teach parent effective commands	2	Establishing coping-plan	2

Mindfulness of thoughts/thought awareness	13	Teach parent dicipline strategies	2	Organizational skills, unspecified	0
Practice awareness, unspecified	12	Teach parent to build family interpersonal support	3	Celebrate change	3
Reduction of self-judgement	5	Teach parents to attend to child's low intensity emotion	0	Focusing on eating better	0
Integration of mindfulness practice in daily life	11	Teach parent to reflect, label, and empathize with the child's emotion	1	Focusing on sleeping better	0
Focusing on acceptance	6	Learning to assist child in regulating emotions	2	Making a balance in school/recreation	1
Focusing on habits and rituals	1	Coaching parents to use a skillset that validates and tolerates emotions	2	Learning about personal finances	0
Reduction of stress	5	Encourage parent to teach child about emotion	1	Focus/ activities on sexual health	1
Teach cognitive flexibility reappraisal/reattribution	4	Strategies for managing/coping with their child's strong emotions	1	Lifestyle, unspecified	5

The frequency analysis on the total sample showed that a total of 6 elements reached the criterion cut-off value of being present in 10 or more interventions (Table 3). The table also shows which general technique the practice element belongs in, and its definition, as well as the frequency of each element.

Table 3:
Common Practice Elements in Total Sample

General Technique	**Specific Element (Frequency)**	**Definition**
Emotion Regulation	Training in emotion regulation, unspecified (10)	Managing emotions/reappraisal of emotions/discussion of emotional responses/training in emotional expression, e.g., through games, music, writing, etc.
Mindfulness	Mindfulness exercise, unspecified (21)	Some form of mindfulness exercise, mindfulness skills, mindful solutions, not including awareness. E.g., mindful eating, practice meditation, walking, mindful listening
	Mindful breathing (16)	E.g., training in techniques for breathing. Exercises such as deep breathing, three-part breath, short breath awareness
	Mindfulness of thoughts/thought awareness (13)	Paying attention to thoughts in a mindful way
	Practice awareness, unspecified (12)	Awareness or body awareness within a mindfulness intervention. Integration of the body
	Integration of mindfulness practice in daily life (11)	E.g., how to be mindful in a specific situation

n=45

3.5. What are common practice elements in winning interventions targeted toward children and adolescents?

The frequency analysis of the winning interventions showed that at total of 12 elements reached the criterion cut-off value of being present in 5 or more interventions (Table 4). The table also shows which general technique the practice element belongs in, and its definition, as well as the frequency of each element.

Table 4:
Common Practice Elements in Winning Sample

General Technique	Specific Element (Frequency)	Definition
Emotion Regulation	Training in emotion regulation, unspecified (6)	Managing emotions/reappraisal of emotions/discussion of emotional responses/training in emotional expression, e.g., through games, music, writing, etc.
Training in Emotion Recognition and Differentiation	Enhance own emotion recognition, insight into emotions (6)	Teaches child about emotions and how to recognize them
	Training in emotion recognition and differentiation, unspecified (5)	If element does not fit into any of the categories above
Training in Preventing Maladaptive Behavioral Response to Emotional Distress	Emotional management, unspecified (6)	Training in preventing maladaptive behavioural responses, but unspecified how
Mindfulness	Mindfulness exercise, unspecified (11)	Some form of mindfulness exercise, mindfulness skills, mindful solutions, not including awareness. E.g., mindful eating, practice meditation, walking, mindful listening
	Mindful breathing (8)	E.g., training in techniques for breathing. Exercises such as deep breathing, three-part breath, short breath awareness
	Practice awareness, unspecified (7)	Awareness or body awareness within a mindfulness intervention. Integration of the body
	Integration of mindfulness practice in daily life (6)	E.g., how to be mindful in a specific situation
	Mindfulness of thoughts/thought awareness (5)	Paying attention to thoughts in a mindful way
Psychoeducation	Psychoeducation, not specific (6)	Use if element does not fit into any of the above categories

	Psychoeducation about mindfulness (5)	If this is described as psychoeducation about mindfulness. E.g., a presentation or lecture
Self-Exploration/Self-Monitoring	Self-exploration/self-monitoring of thoughts and feelings, unspecified (5)	Use if element does not fit into any of the above categories

n=23

3.5.1. How does this differ from interventions in general?

Figure 3 shows the frequency of common elements in both the winning and total sample by percentage. The bar chart includes all the identified common practice elements from the winning sample, so that there is a better basis for comparison with the total sample. This will be discussed further in chapter 4.

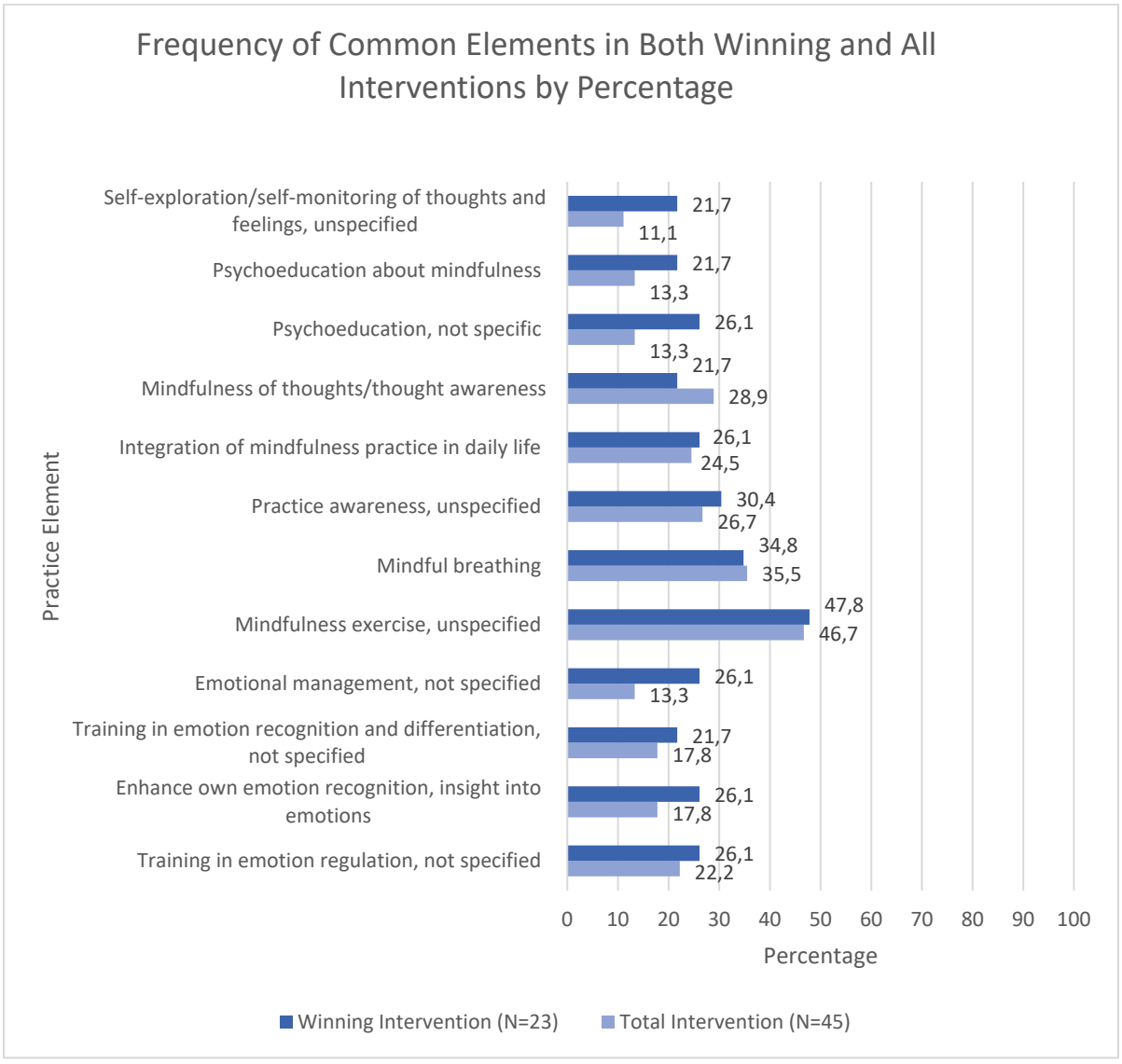


Figure 3: A comparison of elemental frequency in total and winning interventions.

Figure 4 shows a comparison of the usage of the general techniques in each sample. All 15 of the general techniques are represented in the chart. This will be discussed further in chapter 4.

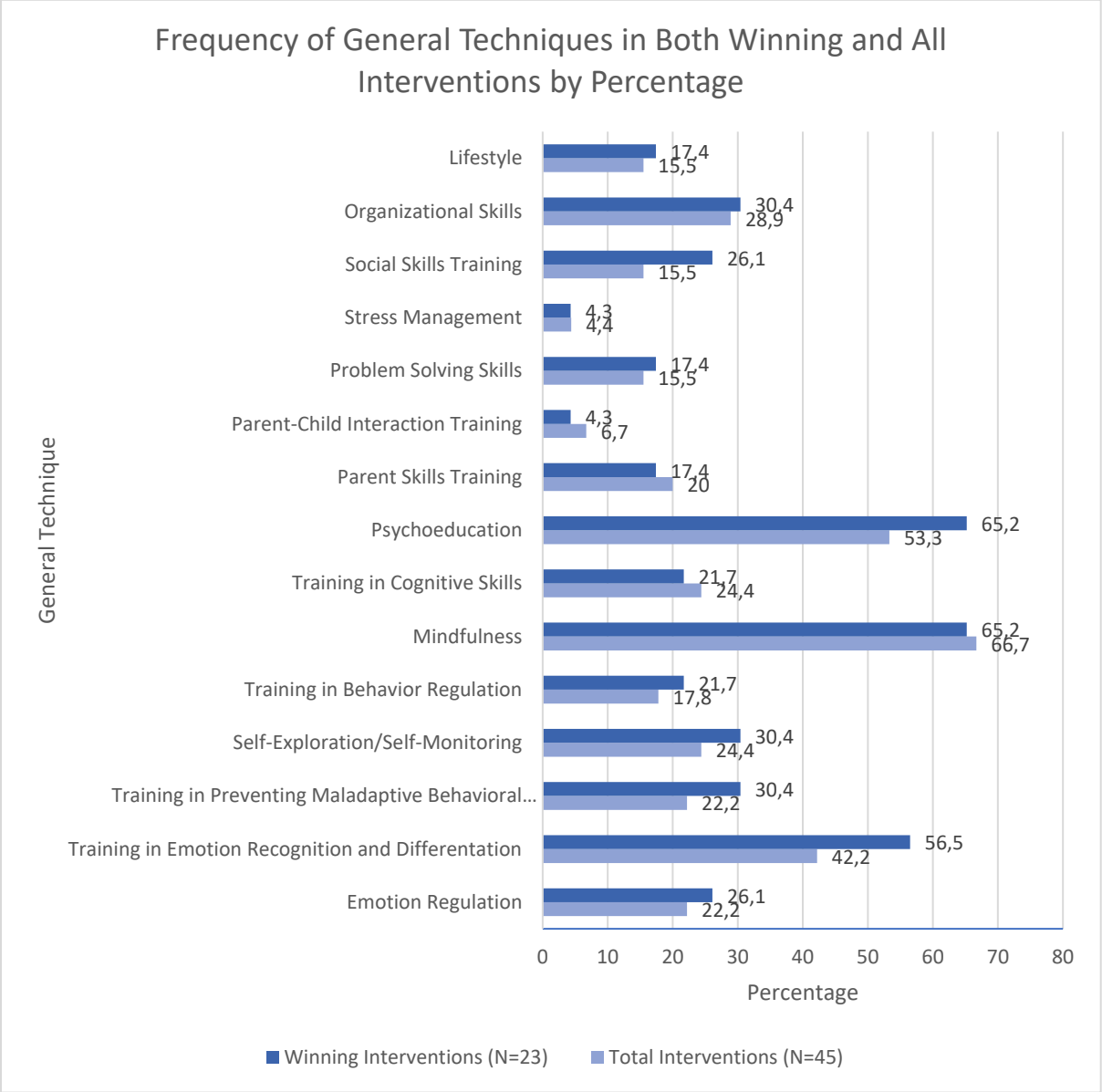


Figure 4: A comparison of technique frequency in total and winning interventions.

3.6. What are the most frequent combinations of common practice, process, and implementation elements used in the different samples?

3.6.1. Common Process Elements in Total Interventions

Of the 83 process elements in the coding manual, a total of 64 were used once or more in these studies. The most frequently used process elements in combination with the common practice elements of the total sample are describes in the third column of Table 5. The number

in parentheses indicated the number of times the process element was used in combination with the specific practice element.

All studies were directed at children and/or adolescents, while 8 studies also included parental involvement in varying degrees. The total sample has an average age of 16.5. The most used number of sessions in the studies was 8 (n= 15), and the next most frequent duration was 6 sessions (n=7). Twenty-four had their last post-measure 0-2 months after the end of the intervention, while 12 of the studies had their last post-measure 2-12 months after the intervention had ended. There were no "deliverers" that reached the cut-off point of being present in 10 or more studies, but the most frequently used deliverer was first author (n=9). The analysis identified process elements such as psychoeducation (n=28), group interaction (n=26) and homework (n=22) as common process elements. As for the most frequently used delivery location this was either at home (n=10) or at school (n=11), and they both reached the cut-off point. Other process elements that reached the cut-off point of being present in 10 or more intervention conditions were: The use of organizational material (n=16) and informational material (n=13), self-monitoring (n=12), and when the interventions were multicomponent (n=23) meaning the interventions explicitly stated that the intervention consisted of different elements/ themes/ core topics.

3.6.2. Common Implementation Elements in Total Interventions

There was only 17 of the established 90 implementation elements present in the total sample – and only two of them reached the cut-off point of being present in 10 or more interventions. The most common of these was the use of a structured manual, which occurred in 17 of the total interventions. The next most occurring implementation elements were the use of local fidelity, occurring in 11 of the studies. The latter implementation element involved internal team members monitoring the implementation adherence. Table 5 shows the most frequently used implementation elements in use with the identified common practice elements (second to last column), with the frequency of how often they occur with that said element in parentheses.

Table 5 *Common Process and Implementation Elements Frequently Used in Combination with Total Interventions*

Common Practice Element	**Frequency + Frequency of Outcome Measures**[a]	**Elements Used in Combination with Practice Elements**		
(General Technique)				
		Process Elements	*Implementation Elements*	*Other Practice Elements*
Training in emotion regulation, unspecified *(Emotion Regulation)*	Total: 10 ER: 10 ID: 7 ED: 2 M: 2 OSR: 1 GMH: 6	Mid-term post-measure (2-12mo.) (5) Delivered by first author (6) Psychoeducation (8) Homework (6) Informational material (5) Organizational material (6)	No Implementation Elements Reached Cut-Off Point	Mindfulness exercise, unspecified (5) Mindful breathing (3) Mindfulness of thoughts/thought awareness (1)
Mindfulness exercise, unspecified *(Mindfulness)*	Total: 21 ER: 19 ID: 15 ED: 4 M: 9 OSR: 4 GMH: 7	Short term post measure (0-2mo.) (15) Psychoeducation (12) Group interaction (14) Multicomponent (11)	No Implementation Elements Reached Cut-Off Point	Training in emotion regulation, unspecified (5) Practice awareness, unspecified (7) Mindful breathing (12) Mindfulness of thoughts/thought awareness (9) Integration of mindfulness practice in daily life (8)

Mindful breathing *(Mindfulness)*	Total: 16 ER: 16 ID: 14 ED: 3 M: 5 OSR: 7 GMH: 4	Mid-term post measure (2-12mo.) (8) Psychoeducation (9) Group interaction (10) Homework (11) Multicomponent (9)	No Implementation Elements Reached Cut-Off Point	Training in emotion regulation, unspecified (3) Mindfulness exercise, unspecified (12) Practice awareness, unspecified (6) Mindfulness of thoughts/thought awareness (9) Integration of mindfulness practice in daily life (6)
Practice awareness, unspecified *(Mindfulness)*	Total: 12 ER: 10 ID: 9 ED: 1 M: 4 OSR: 3 GMH: 3	Short term post measure (0-2mo.) (8) Psychoeducation (13) Group interaction (8) Homework (7) Organizational material (6)	Structured manual (7)	Mindfulness exercise, unspecified (7) Mindful breathing (6) Mindfulness of thoughts/thought awareness (6) Integration of mindfulness practice in daily life (7)
Integration of mindfulness practice in daily life *(Mindfulness)*	Total: 11 ER: 10 ID: 6 ED: 1 M: 6 OSR: 5 GMH: 3	Short term post measure (0-2mo.) (5) Delivered by audio (5) Psychoeducation (5) Group interaction (9) Homework (7) Organizational material (5) Media clips (5) Multicomponent (6)	Structured manual (5)	Mindfulness exercise, unspecified (8) Practice awareness, unspecified (7) Mindful breathing (6) Mindfulness of thoughts/thought awareness (8)

Mindfulness of thoughts/thought awareness *(Mindfulness)*	Total: 13 ER: 12 ID: 8 ED: 3 M: 5 OSR: 5 GMH: 3	Short term post measure (0-2mo.) (8) Group interaction (11) Homework (9) Organizational material (7) Multicomponent (7) Self-monitoring (6)	Structured manual (6)	Training in emotion regulation, unspecified (1) Mindfulness exercise, unspecified (9) Practice awareness, unspecified (6) Mindful breathing (9) Integration of mindfulness practice in daily life (8)

[aa] ER: Emotion regulation. ID: Internalizing difficulties. ED: Externalizing difficulties. M: Mindfulness. OSR: Other symptom reduction. GMH: General mental health

3.6.3. Common Process Elements in Winning Interventions

Sixty-three process elements were identified (duration of the intervention, who delivered the intervention etc.) of the total 83 process elements from the coding manual. The most used process elements in combination with the common practice elements of the winning interventions are described in the third column of Table 6. The number in parentheses indicates the number of times the process element was used in combination with the specific practice element.

All interventions were directed at children and/or adolescents, while four studies also included parents. The average age of the children in the winning sample was approximately 16.6 years old. A total of 21 were considered randomized controlled trials, while the other 2 were considered quasi-randomized trials due to poor reporting of randomization. There was 8 of the total 23 intervention conditions that had a duration of 8 sessions, where the second most frequent duration was 6 sessions (n = 4). A total of 11 of the interventions had their post measure 0-2 months after the interventions ended, while 9 interventions had their post measure between 2-12 months after the intervention. The most common deliverer was either by first author or by paraprofessional, both used in 5 of the 23 intervention conditions. Process elements such as group interaction (n=15), the use of homework (n=12), and the use of some form of psychoeducation (n=19) were also identified as common process elements in the winning sample. The most common delivery location of the sample was either at school (n=6) or at a service agency (n=6). Other process elements that reached the cut-off point of being present in 5 or more intervention conditions were: The use of organizational material (n=8) and informational material (n=8), usage of media clips (n=7), elemental repetition (n=6), and when the interventions were multicomponent (n=16) meaning the interventions explicitly stated that the intervention consisted of different elements/ themes/ core topics.

3.6.4. Common Implementation Elements in Winning Interventions

The coding manual contained 90 implementation elements of which only 17 were identified in the winning studies included in this review. The most common of these implementation elements were the use of a structured manual, which was used in 10 of the 23 winning intervention conditions. The next most occurring implementation elements were the use of clinical supervision and local fidelity, where both elements occurred in 6 of the 23 winning

intervention conditions. These implementation strategies involved, respectively, ensuring that the intervention was carried out according to correct procedures and that supervisors received continuous follow-up and support, as well as the internal team members monitor the intervention fidelity/adherence. Table 6 shows the most frequently used implementation elements in use with the identified common practice elements (second to last column), with the frequency of how often they occur with that said element.

Table 6:
Common Process and Implementation Elements Frequently Used in Combination with Winning Interventions

Common Practice Element	**Frequency + Frequency of Outcome Measures** [a]	**Elements Used in Combination with Practice Elements**		
(General Technique)		*Process Elements*[b]	*Implementation Elements*[c]	*Other Practice Elements*
Training in emotion regulation, unspecified *(Emotion Regulation)*	Total: 6 ER: 6 ID:5 OSR:5 GMH:1	Mid-term post-measure (2-12mo.) (4) Delivered by first author (3) Psychoeducation (5) Group interaction (5) Homework (3) Board/Computer game (3) Informational material (3) Organizational material (3) Web based app (3)	Involve end-users (3) Structured manual (3)	Enhance own emotion recognition, insight into emotions (3) Mindfulness exercise, unspecified (3)
Enhance own emotion recognition, insight into emotions *(Training in Emotion Recognition and Differentiation)*	Total: 6 ER: 5 ID: 3 OSR: 3 GMH: 1	Mid-term post-measure (2-12.mo) (3) Delivered by professional (3) Delivered by computer (3) Psychoeducation (6) Group interaction (4) Homework (4) Board/Computer game (4) Informational material (3) Media clips (3) Web based app (3) Multicomponent (4)	Reminders per email etc (3) Structured manual (3)	Training in emotion regulation, unspecified (3) Training in emotion recognition and differentiation, unspecified (3) Emotional management, unspecified (3)

Training in emotion recognition and differentiation, unspecified *(Training in Emotion Recognition and Differentiation)*	Total: 5 ER:5 ID: 2 OSR: 3 GMH: 2	Short-term post measure (0-2mo.) (5) Delivered by paraprofessional (2) Delivered by computer (2) Psychoeducation (4) Group interaction (4) Role play (2) Homework (2) Delivered at service agency (2) Informational material (2) Multicomponent (4)	Clinical supervision (2) Involve end-users (2) Fidelity local (2) Structured manual (2)	Training in emotion regulation, unspecified (2) Enhance own emotion recognition, insight into emotions (3) Emotional management, unspecified (2) Mindful breathing (3) Self-exploration/self-monitoring of thoughts and feelings, unspecified (2)
Emotional management, unspecified (*Training in Preventing Maladaptive Behavioral Response to Emotional Distress)*	Total: 6 ER:5 ID: 3 OSR: 3 GMH: 2	Mid-term post measure (2-12.mo) (3) Delivered by paraprofessional (4) Delivered by computer (3) Psychoeducation (4) Group interaction (5) Instruction 1on1 (3) Homework (4) Homework review (3) Board/Computer games (4) Informational material (4) Organizational material (3) Web based app (4) Media clips (3) Computer (3) Multicomponent (6)	Web access with material (3)	Enhance own emotion recognition, insight into emotions (3) Training in emotion recognition and differentiation, unspecified (3) Mindful breathing (3) Psychoeducation, not specific (3) Self-exploration/self-monitoring of thoughts and feelings, unspecified (3)

Mindfulness exercise, unspecified *(Mindfulness)*	Total: 11 ER: 11 ID: 10 ED: 1 M: 3 OSR: 6 GMH: 3	Mid-term post measure (2-12.mo) (6) Psychoeducation (8) Group interaction (7) Homework (6) Organizational material (5) Multicomponent (7)	Structured manual (5)	Mindful breathing (6) Practice awareness, unspecified (5) Integration of mindfulness practice in daily life (5)
Mindful breathing *(Mindfulness)*	Total: 8 ER: 8 ID: 7 ED: 1 M: 2 OSR: 5 GMH: 3	Mid-term post measure (2-12mo.) (7) Psychoeducation (6) Group interaction (6) Homework (6) Organizational material (4) Media clips (4) Multicomponent (6)		Mindfulness exercise, unspecified (7) Practice awareness, unspecified (5) Integration of mindfulness practice in daily life (5) Mindfulness of thoughts/thought awareness (4)
Practice awareness, unspecified *(Mindfulness)*	Total: 7 ER: 7 ID: 6 M: 4 OSR: 2 GMH: 2	Mid-term post measure (2-12mo.) (3) Psychoeducation (6) Group interaction (4) Homework (4) Organizational material (4) Media clips (3) Element repeat (3) Multicomponent (6)	Structured manual (3)	Mindfulness exercise, unspecified (5) Mindful breathing (5) Integration of mindfulness practice in daily life (5) Mindfulness of thoughts/thought awareness (4)

Integration of mindfulness practice in daily life *(Mindfulness)*	Total: 6 ER: 6 ID: 5 ED: 1 M: 3 OSR: 3 GMH: 3	Mid-term post measure (2-12mo.) (4) Delivered by audio (3) Psychoeducation (4) Group interaction (5) Homework (5) Delivered at school (3) Organizational material (4) Media clips (3) Multicomponent (4)		Mindfulness exercise, unspecified (5) Mindful breathing (5) Practice awareness, unspecified (5) Mindfulness of thoughts/thought awareness (5) Psychoeducation about mindfulness (3)
Mindfulness of thoughts/thought awareness *(Mindfulness)*	Total: 5 ER:5 ID: 4 ED: 1 M: 2 OSR: 3 GMH: 3	Mid-term post measure (2-12mo.) (3) Delivered by first author (2) Delivered by audio (3) Psychoeducation (3) Group interaction (4) Homework (4) Board/Computer game (2) Delivered at school (3) Organizational material (3) Board games (2) Media clips (3) Element repeat (2) Culturally sensitive (2) Multicomponent (3)	Structured manual (2)	Mindfulness exercise, unspecified (4) Mindful breathing (4) Practice awareness, unspecified (4) Integration of mindfulness practice in daily life (5) Psychoeducation about mindfulness (2)
Psychoeducation, not specific *(Psychoeducation)*	Total: 6 ER: 6 ID: 5 M: 1 OSR: 3	Short-term post measure (0-2mo.) (5) Psychoeducation (6) Informational material (3) Multicomponent (5)	Fidelity local (3) Structured manual (4)	Emotional management, unspecified (3) Mindfulness exercise, unspecified (4) Practice awareness, unspecified (3)

Psychoeducation about mindfulness *(Psychoeducation)*	Total: 5 ER: 5 ID: 4 M: 3 OSR: 2 GMH: 1	Short-term post measure (0-2mo.) (4) Delivered by first author (2) Delivered by doctoral student (2) Delivered by audio (2) Psychoeducation (5) Group interaction (4) Homework (3) Homework review (2) Board/Computer games (2) Delivered at school (2) Delivered at service agency (2) Informational material (2) Organizational material (3) Board games (2) Media clips (2) Element repeat (3) Multicomponent (5)	Clinical supervision (2) Adapt/tailor (2) Payment schemes (2) Fidelity external (2) Structured manual (3)	Mindfulness exercise, unspecified (5) Mindful breathing (3) Practice awareness, unspecified (4) Integration of mindfulness practice in daily life (2) Mindfulness of thoughts/thought awareness (2) Psychoeducation, not specific (2)

Self-exploration/self-monitoring of thoughts and feelings, unspecified *(Self-Exploration/Self-Monitoring)*	Total: 5 ER: 5 ID: 4 OSR: 2 GMH: 2	Short-term post measure (0-2mo.) (5) Delivered by paraprofessional (2) Delivered by computer (2) Psychoeducation (3) Group interaction (2) Instruction 1on1 (4) Homework (3) Delivered at home (2) Informational material (3) Organizational material (2) Media clips (2) External monitoring (2) Multicomponent (3)	Clinical supervision (2) Fidelity local (2)	Training in emotion regulation, unspecified (2) Training in emotion recognition and differentiation, unspecified (2) Emotional management, unspecified (2) Mindfulness exercise, unspecified (2) Mindful breathing (3) Practice awareness, unspecified (2)

[a]ER: Emotion regulation. ID: Internalizing difficulties. ED: Externalizing difficulties. M: Mindfulness. OSR: Other symptom reduction. GMH: General mental health

[bc] See attached manuals for both process and implementation elements

4 DISCUSSION

4.1. Summary of Results

This thesis identified common practice, process, and implementation elements from emotion regulation interventions aimed at children and adolescents. Using a common element methodology, elements from 39 intervention studies were identified. Separate analyses were performed on the total sample of intervention conditions (n = 45), as well as the sample that consisted of so-called winning intervention conditions (n = 23). As stated earlier, a winning intervention is any intervention that had one or more outcome measure of statistical significance ($p<0.05$; Chorpita & Daleiden, 2009). All interventions aimed to improve some aspect of emotion regulation in children and adolescents, either explicitly with emotion regulation-measures, or by related measures such as measures towards internalizing or externalizing difficulties, mindfulness, general mental health, or other symptom reduction.

A total of six common practice elements were identified in the total sample: 1) Training in emotion regulation, unspecified, 2) Mindfulness exercise, unspecified, 3) Mindful breathing, 4) Mindfulness of thoughts/thought awareness, 5) Practice awareness, unspecified, and 6) Integration of mindfulness practice in daily life.

As for the winning sample, there was identified 12 common practice elements. Six of these elements include the ones that were identified for the total sample, in addition to 6 new ones that are specific to this sample. The elements that are specific to the winning sample are: 1) Enhance own emotion recognition, insight into emotions, 2) Training in emotion recognition and differentiation, unspecified, 3) Emotional management, unspecified, 4) Psychoeducation, not specific, 5) Psychoeducation, about mindfulness, and 6) Self-exploration/self-monitoring of thoughts and feelings, unspecified.

The interventions in the total sample were most often delivered either at school or at home, while other common process elements were the usage of psychoeducation (n=28), group interaction (n=26) and homework (n=22). The also commonly provided organizational (n=16) and informational (n=13) materials, while self-monitoring (n=12) and multicomponent (n=23) were also considered common. For common implementation elements this study only identified two: Use of a structured manual (n=17) and local fidelity (n=11).

The winning interventions were most often delivered by the first authors or paraprofessionals and was most often delivered at either a school or at a service agency. Other common process

elements were the high use of psychoeducation (n=19), group interaction (n=15), and homework (n=12), as well as often providing organizational (n=8) and informational (n=8) materials. The presence of media clips (n=7), repetition of elements (n=6), and multicomponent (n=16) were also identified as common process elements in the winning sample. The most used implementation strategy was the use of a structured manual (n=10), and the control of compliance during the program (fidelity; n=6) and clinical supervision (n=6).

This chapter will try to discuss how these common elements possibly can be implemented and used in the treatment of children and adolescents, as well as using them as preventive measures for psychopathology. The differences between the identified elements in the total and winning sample will be discussed first, as well as a discussion of frequently used general techniques in each sample. Process and implementation elements are considered to be control elements to ensure correct compliance with the practice elements and will therefore only be discussed briefly.

4.2. How does the winning sample differ from the total sample?

If one looks at the identified common process elements across the samples, it is clear that there is very little that separates them. The total sample consists of virtually the same common process elements as the winning sample, but the latter is a bit more nuanced and detailed. The big three process elements that emerged are psychoeducation, group interaction and the usage of homework – and all three are quite notably used in both samples. So is the use of organizational and informational materials, and multicomponents. There are though a few variations in process elements across the samples, e.g., that no deliverer were considered to be common enough in the total sample. This might only be due to chance because of the studies included in this thesis.

The implementation elements are also quite similar across both samples, the only difference being that the winning sample also included clinical supervision to the identified elements, as well as the use of a structured manual and local fidelity in the total sample. Based on the findings in this thesis, the implementation element "Clinical supervision" may therefore appear to be an interesting finding in connection with "what works" and what is important in an implementation context. The definition of this implementation element is to “Provide clinicians with ongoing supervision focusing on the innovation. As well as provide training for clinical supervisors who will supervise clinicians who provide the innovation”. This

element is in fact, per the coding manual of this thesis, covered by the core components for successful implementation as identified by Fixsen (2005). Both in regard to the components of ongoing coaching and consultation, staff performance assessment and facilitative administration. These components deal with aspects of fidelity, adherence, supervision, monitoring, etc. (See 1.4.2.). The identification of this element in this thesis is therefore in congreunce with already existing research on similar topics (Fixsen, 2005; Fixsen et al., 2009).

The similarity across the board on both process and implementation elements may indicate that the differences in effective outcomes of the interventions predominantly lie in the delimitable common practice elements.

When it comes to the question regarding what seems to be of most use in the treatment process, it is necessary to compare the elements that occurred in the total sample and the elements from the winning sample. This can paint a picture of which elements seem to give the most effect in a treatment context, since the distinction between the two groups is based on which intervention conditions have produced statistically significant outcomes. A comparison of elemental frequency is shown in figure 3. The figure includes all twelve common elements from the winning sample, as it is interesting why these did not occurr as frequently in the total sample.

Something interesting to note about this figure is that the winning sample has a higher frequency of all the common elements they share with the total sample, with the exception of mindful breathing and mindfulness of thought / thought awareness. The latter at about a 7 percent difference in favour of the total sample, and the former at around only 1 percent more frequent in the total sample. Considering that the winning sample might be considered “winning” for a reason, it is conceivable that the higher presence of all the identified practice elements in this sample might be the cause for this.

The elements that have a considerably higher frequency in the winning sample are: Self-exploration/self-monitoring of thoughts and feelings (ca. 10 percent), Psychoeducation about mindfulness (ca. 8 percent), Psychoeducation, not specific (ca. 13 percent), Emotional management, unspecified (ca. 13 percent), and Enhance own emotion recognition, insight into emotions (ca. 9 percent).

Although it is interesting to see how the groups differ from each other on an elemental level, it will also be able to provide insight if you look at how they differ from each other on an overall level. The comparison of the usage of general techniques is shown in figure 4.

This comparison is interesting because of two reasons. Firstly, there is a huge gap on around 12% in the use of psychoeducation in the winning and total sample. Psychoeducation is a category with elements consisting of a systematic and structured transfer of knowledge. The knowledge can concern information about a specific illness, treatment for said illness, as well as integrating emotional and motivational aspects to help assist people to cope with their struggles, and to better adhere to the intervention itself. Psychoeducation is considered to be an important component of mental health treatment (Ekhtiari et al., 2017). Secondly, there is a gap on around 14% in the category of training in emotion recognition and differentiation, where the use of this category is substantially more present in the winning sample. This category consists of elements regarding recognizing triggers for negative affect, knowledge about emotions and how to recognize them – in both themselves and others, as well as bodily sensations often occurring with emotions. This may reflect some of the features of self-awareness that were explained as a recognized ER strategy in Chapter 1 (Silvia & O'Brien, 2004).

When dealing with emotion regulatory problems one would think proper knowledge about your own feelings and emotions would be of a helping nature in the intervention, and from the findings in figure 4 there might seem to be a correlation. This is also supported by the identified common practice elements we see in Figure 3, where the psychoeducation elements occur more frequently in the winning sample. Knowing *why* you are doing what you are told to do by the intervention deliverers, the exercises might influence the overall adherence and implementation into daily life – therefore leading to a better outcome. The higher frequency of both psychoeducational elements and elements regarding emotion recognition and differentiation might be a key component for receivers to gain important insight the need to help with their difficulties (Ekhtiari et al., 2017), since these two categories are noticeably more present in the winning sample.

One potential interesting thing to note is the presence of elements from the categories "Training in Emotion Recognition and Differentiation" and "Training in Preventing Maladaptive Behavioral Response to Emotional Distress", and that they are only considered common practice elements in the winning sample. Since these are two categories consisting of important skills that can possibly be effective in training in the treatment of emotion

regulation, it is remarkably interesting that these do not occur more often in the total sample, as all studies had explicit emotion regulation outcomes. In line with research done by Gross and Jazaieri (2014) and Gross (1998), training in these abilities could potentially lead to better emotion regulation in the long term, and thus an improvement in the overall psychopathology.

4.3. Working with Common Elements

It must be emphasized that the clinician must make decisions about which measures are to be implemented for the benefit of the child or adolescent based on individual needs and qualities. In some situations, implementing an intervention program as a full-on treatment might not even be possible, if the child, for example, needs critical psychiatric treatment immediately (Winje, 2019). The clinician must use their own expertise and experiences to consider what could aid the child or adolescent in the long run, and not have a standardized treatment plan for everyone. This also means that the clinician must understand the situation and which elements that can be used, and possibly whether it will be more appropriate to implement the manual-based programs in their entirety in certain cases. In this way, the manualized programs do not become superfluous in favour of the common elements methodology, but the use of common elements may probably in some cases be sufficient enough to be used on their own (Chorpita et al., 2011). Common elements should in no way replace the manualized programs, but it is important to recognize the possibilities that are present in the treatment of children and adolescents. For some, brief interventions or treatment using common elements will suffice, while others may need to be treated with a full, all-encompassing intervention, or might need traditional therapy over a longer period of time.

So how may one use identified common elements in the treatment and prevention of psychopathology? The idea that maladaptive emotions, emotion recognition, and poor emotion regulation may be linked to psychopathology is not new at all, as it was suggested by Aristotle as early as 2000 years ago (Gross & Jazaieri, 2014). Assuming that the presence of maladaptive emotions is a pointer to whether someone has a high p-factor may possibly be a logical assumption if one looks at the phenomenon of p-factor considering the definition and concept of emotion regulation. By the definition provided by Gross in 1998, emotion regulation is the process people use to influence emotional intensity, duration, frequency, and type – and can occur both consciously and unconsciously. This may indicate that an attempt to treat and improve maladaptive regulatory strategies and improve emotion recognition using the identified common elements from this thesis therefore may be beneficial for both early prevention, implementation and in a treatment process.

So how could one possibly use a common element methodology in a preventative context? For example, some of the identified common elements can be implemented early in schools and/or kindergartens. The new school and kindergarten plans (Læreplan/Rammeplan) includes a separate subject with a focus on, among other things, self-efficacy and both somatic and mental health (Department of Education, 2017; Department of Education, 2020). These subjects provide a possibility to include preventative measures like common elements as early as kindergarten. For example, this can be done by introducing mindfulness exercises in certain school hours, e.g., learning breathing techniques to lower stress, as well as psychoeducation about stress and other mental strains, and help children gain a better understanding of emotions and how to better recognize and differentiate between different kinds of emotion. For common elements to be implemented as a preventive public health measure in school and/or kindergarten, the aforementioned common elements must of course be tested, and quality assured beforehand.

As mentioned in the introduction, Murray et al. (2018) have implemented a common elements treatment approach that has yielded promising results. As in this thesis, these common elements were identified based on a systematic literature review. Based on the identified elements, a new flexible intervention was made, which could be tailored based on the patient's own problems and needs (1.4.3.). It would be logical to assume that after the identified elements from this thesis have been investigated and quality controlled further it will possibly be conceivable to use these findings in a similar way in treating children and adolescents with psychopathology.

The idea of implemented common elements might also prove to be beneficial if they are used within the framework of brief interventions. In these instances, one may use the knowledge of identified common elements to further peel away tedious and possibly inefficient elements in manualized programs, so that they are made more accessible and at the same time more cost-effective. This can be reflected, for example, in the findings from Axelrad et al. (2009), where they shortened an already effective manualized program to a shorter parental intervention that proved to be more effective than the original version (1.3.). However, this delimitation and shortening of the manualized program was not done based on identified common elements but rather based on existing theory of how children learn desired behaviour, but the idea and the applicability could be relatively similar.

One may also use quality controlled common elements in the development of new forms of brief interventions, i.e., consisting of only quality-controlled elements. The implementation of

a brief intervention model can offer an escalation of treatment, by offering patients short-term services as part of the first-line service. The goal here is to focus on each individuals' strengths and try to reorient and help children and young people further in their development (Gee et al., 2015). From a broader system perspective, brief interventions may even help more children and adolescents receive the help they need faster, and not spend a long time on a waiting list while their symptoms get worse and worse. By offering a focused and responsive intervention, it may be possible to reduce delays for young people trying to receive treatment (Axelrad et al., 2009; Gee et al., 2015).

Additionally, there are several disadvantages of manualized programs, which make the concepts as common elements and brief interventions even more attractive (Dorsey et al., 2016). By making an effort to delimit and understand what actually works in existing interventions, a common element methodology may bring a financial and time advantage compared to regular treatment (Dorsey et al., 2016; Lee et al., 2014). The same applies to brief interventions (Wagner et al., 2017; Weisz et al., 2017).

4.3.1. Common Elements and Strategies for Emotion Regulation

As said in section 1.2.1, six different and recognized emotion regulation strategies were presented. Here follows a quick rundown of how training in these respective strategies is covered by this thesis' coding manual.

Common elements in the categories "Training in Cognitive Skills" and "Psychoeducation" are relevant regarding redefining children and young people's misconceptions. According to already presented research in chapter 1, behavioral and regulatory patterns established in childhood may persist into adulthood if there is no corrective treatment (Bakken, 2017; Gee et al., 2015; Gross & Jazaieri, 2014). Both categories also addresses and challenges the aspects of rumination, a trait that maintains negative symptoms of psychological difficulties (Aldao et al., 2016). The category "Training in Cognitive Skills" also addresses learning about and training in cognitive reappraisal, which also is a well-known emotion regulation strategy (Aldao et al., 2010; Gross et al., 2006).

The emotion regulation strategy of mindfulness is clearly covered by the elements of the category of the same name, in addition to a learning element in the "Psychoeducation"-category.

The category “Self-Exploration / Self-Monitoring” covered the training in the strategies of self-awareness and self-monitoring, whilst the “Training in Preventing Maladaptive Behavioural Response to Emotional Distress”- category covered the aspects of the self-compassion strategy.

4.4. Implications

The primary implication from the present thesis pertains to, among others, common elements for helping children and adolescents with emotion regulatory difficulties at an individual level. Perhaps these identified practice elements can be implemented earlier in the lives of children and adolescents, so that they are not only used in the treatment of but also the prevention of emotion-regulating difficulties in children and adolescents. The identified common practice elements might also help to strengthen emotion regulation skills and to increase the understanding of emotion regulation, and thus strengthen the children and adolescents’ abilities themselves. In the long run, research on common elements could lead to better mental health in, as well as increase the quality of life of, disadvantaged children.

Another implication is the decrease of the societal consequences of long-term treatment. The identified common elements may potentially contribute to alternative approaches to both the treatment of, but also the prevention of, emotion regulation difficulties in children and adolescents. Preventive measures can lead to better public mental health in the long run.

This common element methodology is hypothesis-generating work, which means that the way forward includes testing the identified common practice elements. This thesis is based on the idea that the elements that occur most frequently across interventions also are those that contribute to the effectiveness of the intervention (Brown et al., 2017; Chorpita et al., 2011; Chorpita et al., 2005; Kjøbli et al., 2020b; Morgan et al., 2018; Winje, 2019). However, there is no guarantee that these elements will give the intended results if isolated, and they should therefore be investigated further for their individual effects. Isolating and detaching the elements from the whole of the intervention itself, might reduce the effect – as it might be the intervention composition and circumstances that actually make the intervention effective in the first place. However, this thesis applied a methodology that provides a description of how the practice elements are performed and implemented, as well as which elements arise in combination. This may produce hypotheses about how, in what form, when and for whom the elements are most likely to have an effect (Engell et al., 2020; Winje, 2019). Empirical tests of such hypotheses could provide increased knowledge about which practices can be effective

for children who have problems with emotion regulation. It is important to note also, that the common elements that emerged in these findings, are a result of this thesis' cut-off point, and that they are, as said, not necessarily effective in and of themselves. The elements that are most frequently used, i.e., popular, are not necessarily the most effective, and all reviews that aim to identify common elements should be aware of this (Engell et al., 2020). This area requires further research. The elements presented are considered common, but not necessary causal. They should be tested in new interventions, and preferably be tested for themselves - element by element (Chorpita et al., 2011).

Knowledge about common elements may also help inform the designing of and implementation of newer interventions, to better optimize them. This knowledge may also be helpful for already existing interventions, as the knowledge of the common elements may aid interventions in removing superfluous elements or adding newer ones for better optimization. Furthermore, common elements have the potential to become supportive tools for clinicians working with implementing these interventions. For example, if all elements are uploaded into one database, a clinician might be able to do customizable searches for his or her client based on representative criteria of each client (Kjøbli et al., 2020b; Winje, 2019). However, it is important to note that this must be done in a way where the elements have been quality assured in advance, so that they will be used correctly. It is also worth noting that these common practice elements will not have a guarantee that they will work well, even after empirical testing. The use of delimited common elements in treatment requires adequate guidance and follow-up in advance of the treatment.

Additionally, the methodology applied in this thesis can add to the existing research on common element methodology and can help advise future reviews on the same subject. The methodology that has been used in this thesis has provided insight into how and under what circumstances common practice elements are most effective, and how they should most often and most effectively be implemented. This can lead to deeper and better understanding about how, when and for whom these common elements are most likely to work for. This thesis is also, as far as this author knows, the first of this type of research on this very topic. Much of the existing research on common elements focuses only on the practice elements, so this thesis will also contribute to a broader understanding of the use of common process and implementation elements.

4.5. Limitations

The interpretations of the findings must be considered in light of a few limitations.

4.5.1. Unclear Reporting in the Studies

There turned out to be some inadequate reporting in many of the articles. There were several cases where it was stated that they measured the participants at pre-test, post-test, and follow-up, but it was not reported in the article. In other cases, there was an unclear reporting of how large the intervention and control groups were at the various measurement times, or a lack of means, standard deviations, and p-value for the relevant measures. In the event of inadequate reporting, an attempt was made to contact the authors concerned. Of about 13 authors contacted about the missing information needed for this thesis, only Bai et al. (2020), Dingle and Fay (2016) and Hoorelbeke et al. (2015) answered the questions that were asked.

Although attempts were made to contact the authors of these studies, the lack of answers and information undoubtedly affected both the results and analysis of the winning interventions. As mentioned, there were 12 articles with insufficient information regarding the effect coding (p-value not reported), which meant that they could not even be considered in the process of delimiting the winning interventions– it is therefore unknown how these would affect the outcome and should be considered as a great limitation to this thesis.

Another limitation will be cases where there were several studies that implemented the same intervention - but explained the intervention itself in varying clarity / detail. Therefore, there were some elements that were probably present in both, which unfortunately did not emerge in the coding. This was the case in the 5 studies that all implemented the “Mindfulness-based stress reduction”-intervention (Oman et al., 2008; Shahidi et al., 2017; Shapiro et al., 2008; Vohra et al., 2019; Zhang et al., 2019). Two of the studies, Oman et al. (2008) and Shapiro et al. (2008) were based on the same sample and study, but even they explained the interventions varyingly.

This can also be one of the reasons behind the amount of “unspecified” elements that were identified as common. When there was an unclear description of what was being implemented in the intervention, it was easier to code the element in a non-specific/unspecified element, rather than in one of the specifics. The non-specific/unspecified elements often encompassed a broader variety of definitions, whereas the more specific elements were often very narrowly worded.

So, the coding in this project is based on each of the articles own intervention descriptions, but these descriptions vary in level of detail. Some articles had nuanced descriptions of the intervention, while others gave brief impressions of the intervention's content and procedures. This created potential biases for the presentation of the results in this thesis. The manuals for the interventions were not obtained and coded, which might have compensated for parts of the bias in this regard.

4.5.2. Age of Participants

The average age of the total sample was 16.5 years of age (16.6 for the winning sample). This is quite high, considering the lowest age reported in the study was of 5 years of age. It is therefore quite interesting to consider how the elemental frequency would have changed if the inclusion criteria were for the age group 5-18 instead of 5-23. A brief overview of the data shows that as many as 13 of the 39 studies have an average age of over 18, so this clearly has an impact on the age average. It must also be mentioned that not all authors reported age averages, but only age ranges - and therefore could not be part of the calculation of the average.

Most of the intervention studies examined the effect of the intervention in young adults (18-22), in fact as many as 18 of the intervention studies were aimed at this group. There were 14 studies aimed at teenagers (12-18), and only 7 studies that had children as a sample group (5-12). It is therefore important to note that further empirical investigations of the common elements from this study must be aware of the age of the sample.

It would be remarkably interesting to get an overview or comparison of how the elements varied across age groups, e.g., children (5-12), teenagers (13-18) and young adults (19-23). It is reasonable to assume that the elements will vary across these groups.

4.5.3. Effect and Winning Interventions

A choice was made in this thesis to delimit winning interventions, and to compare this sample with the total and see how they were different. As mentioned earlier, this was done on the basis that the intervention was statistically significant on one or more outcome measures (Chorpita & Daleiden, 2009) . Most researchers do not always care about ineffective interventions, so they use the "winning interventions" criterion which means that the intervention outperformed one or more comparison conditions in effect, and then they reject all studies without a winning intervention on the primary outcome. One can argue that one is

wasting useful information when one rejects "losing" interventions on this basis. It is also important to note that it is not possible to guarantee that it is the identified common elements in the winning interventions that necessarily make the intervention "winning", but that this is possibly due to the composition of the total intervention package. Another way to classify your studies as either “effective” or “ineffective” is the way Engell et al. (2020) did it. This was not done for this assignment, as these criteria are a bit more complicated to code, but they try to utilize / learn more from the research. Alternatively, one could have set a cut-off point for an acceptable Cohens d-value and delimit the studies further this way.

4.5.4. Coder Agreement

This thesis chosen measure for inter-rater reliability was percentage agreement between the coders. A weakness with this type of inter-rater reliability measure is that it does not take chance agreement into account and can therefore overrate the level of agreement (Glen, 2016). The thesis could have controlled the studies for chance agreement if the measure of inter-rater reliability had been determined earlier in the methodological process. This is a weakness that must be noted, and a learning opportunity for this author. If the coders had written down both disagreements and consensus decisions, one could have calculated Cohen's Kappa instead - which is considered a much more credible and a stronger measure of inter-rater reliability, since it does in fact take chance agreement into consideration when calculating (Glen, 2016).

Element Coding. With the general rule being that a percentage agreement above 75% is considered acceptable (Glen, 2016), a percentage agreement of 72.6% between the four coders is per this standard not high enough.

The disagreements between the coders may be due to, among other things, how the coders interpreted the definitions of the elements in the coding manual, and the elements described in the articles. Some elements fit verbatim with descriptions in the coding manual and were therefore easier to both place and agree on. Other elements required a much more subjective interpretation of the element description and could therefore result in disagreement between the coders. However, there were no cases of disagreement that could not be resolved through discussion, or with the help of a third coder. Other cases of disagreement resulted in one coder catching an element the other simply had overlooked or grouped together with another similar element. In these instances, it was sufficient to make the other aware of where the specific element was found in the article to reach agreement. The coding manual contains several

elements that are quite similar, yet distinct. Most disagreements therefore arose because of the same element from the article being coded differently in SPSS.

It should also be noted that the saturation of the coding manual was done primarily by the research coordinator and the research assistant. They had also been involved in a similar project with a similar coding process before, so they had more experience with elemental coding than the two master's students (This author included).

Effect Coding. The percentage agreement for the effect coding was a lot higher, at a whopping 91.8% agreement between the coders. This might be because this process generally does not boil down to subjectivity, since it primarily deals with numbers. Many of the disagreements at this stage were largely due to notation errors and typos, or unclear and confusing tables in the articles. But as previously mentioned in the methods section, this percentage must be seen in the light of the missing disagreements.

4.5.5. Risk of Bias

The results from the RoB-assessment (figure 2) showed a predominantly low to unclear risk of bias, but the sheer amount of yellow in the assessment does raise some plausible doubt in the results and reliability of the included articles (Higgins et al., 2017).

It should also be noted that studies that were assessed to of a high RoB also was included in the thesis. In a similar project (Engell et al., 2020), only studies that were ranked as low or unclear risk of bias on the majority of the domains for assessment were further included in the study. The studies that had a high RoB-assessment were excluded on this basis. In this thesis, all studies were included regardless of the status of this assessment, and it should be recognized that some of the articles came with a higher risk for bias than others. Perhaps this should have had an altering effect on the included studies.

4.5.6. Methodological Limitations

It was not possible to conduct a meta-analysis due to the heterogeneity of the studies included. There was a wide array of samples, and the differences were simply too big to be considered for a meta-analysis when it came to age averages, sample sizes, and more. There was also a broad range of different interventions implemented, which might have made the basis for comparison flawed or skewed. Several of the studies did not report adequate descriptive statistics of the sample, adequately. For instance, some studies did not report means, standard

deviations, or baseline and / or follow-up measures. Therefore, several of the included studies did not report all the necessary descriptive statistics needed to perform a meta-analysis.

It should also be noted that all systematic reviews are based on subjective choices, and that these need to be clearly stated early on to avoid only highlighting beneficial outcomes.

4.6. Future Research

It would be of great interest to do a common element methodology approach on a narrower age group, and how the different age groups compare or differ. It would also be remarkably interesting to see how the intervention implementation would be affected by the COVID-19 situation, as that certainly will have affected the number of digitally based interventions during the past year. What elements are most effective when implementing fully digitalized interventions? This knowledge could also help with easier implementation in an already digitalized world.

How the frequency of elements varied across samples of varying mental health status would also be quite interesting. The 39 studies included here were a mix of interventions targeted toward an indicated sample (n=16), a normalized sample (n=16) and samples with identified mental health issues or diseases (n=8). Isolating these groups from one another could possibly provide insight into what elements could be preventative for the developmental of mental health issues, and what would work best in the treatment of mental health issues.

It would also be fascinating to see how the elements would change if the included studies only implemented interventions that dealt explicitly with emotion regulation. Quite a few of the included studies in this thesis implemented interventions that focused largely on mindfulness, and the aspects related to mindfulness. The sheer amount of mindfulness interventions did, more probable than not, skew the results quite a bit, and the elements that emerged were primarily mindfulness-elements. Even though this review included mindfulness in its definition of emotion regulation, it would be of interest to see what elements would emerge if you solely focused on emotion regulation-specific interventions.

Going forward, it will be important to continue to identify elements across studies from different scientific branches. Perhaps these elements can be entered into a research platform, where they can be assessed separately (Kjøbli et al., 2020b). By doing so one can clarify in which settings the elements are effective: in treatment or in prevention, alone, or together with other practice elements.

Although research today can say a lot about the psychological processes that are necessary for good and flexible emotion regulation, there is still more knowledge to be gained here. By having relevant knowledge about emotion-regulating abilities and how some practice elements may affect these abilities, one can have an influence at the individual level (Gross, 2013). This knowledge can help develop instructional materials, classroom-based interventions, and parenting interventions that are suitable for raising awareness about and the importance of emotion regulation. It can develop interventions tailored to help at-risk children and adolescents, e.g., children with depressed parents, children from abused homes, children from minority families, or children with high temperaments. Elemental knowledge can and is relevant in the treatment of clinical diagnoses (Gross, 2013).

4.6.1. Description of the Intervention

Future research should provide more comprehensive information regarding both the intervention description, as well as the description of process and implementation elements. These descriptions will add and ensure transparency, quality assurance, and replicability of others' work.

In general, few implementation elements were identified in the studies included in this systematic review. Out of the 90 implementation elements in the coding manual, only 17 of them were used at all. This is remarkably interesting since the implementation elements ultimately deals with how the intervention facilitates adherence and fidelity, and that the intervention is implemented in line with the criteria for the given intervention (Engell et al., 2020; Fixsen et al., 2009; Winje, 2019). There were generally poor descriptions of which implementation strategies were used during the studies, and it was not always the case that those that were identified that were described sufficiently either.

Future research on interventions should have a greater focus on the implementation strategies used, both to strengthen future investigations of common elements, but also to make visible in general how the quality assurance of the interventions should take place. A more correct usage of implementation elements could be provided and examined further if the manuals for each study was obtained and coded separately, or if a more detailed explanation were provided as supplements to the main article.

4.6.2 Standardized Means of Analysis

The methods available for extracting common elements vary widely in the existing research literature. As mentioned earlier, the methodology used in this thesis is relatively new. Good, standardized methods for identifying these common elements are therefore not well established. New methodology also involves the absence of developed statistical computer programs that can both analyse and present data more efficiently. The coding and identification process therefore takes place manually, which can of course lead to various biases in the final production. As mentioned, this task has been based on Engell at al's. (2020) reworking of Chorpita and Daleiden's "Distillation and Matching Model" (2005), which in turn was further developed by Winje (2019).

There is also a danger that some of the valuable information may be lost when the majority of the data is handled manually. This is information that *can be* found in the data material, but it might be more difficult to sport and identify by manual work. A development of more comprehensive analysis and statistics programs will therefore not only make the coding process itself easier, but also make the presentation simpler and more understandable. This can and will be an important part of any future work where one would want to create databases with broad content for practitioners and researchers.

5 CONCLUSIONS

So, then the final question remains: what seems to be working here? The findings in this thesis have done their best to answer this, but as mentioned, delimitable common elements will not be synonymous with a causal cause-effect relationship. Common elements have been identified across the total and winning samples presented in this study, and these have been compared, but they must be tested, and quality controlled before they can be implemented in a preventive and / or treatment context. Some possibilities for the implementation of the common elements have been presented, both in relation to preventive measures in schools and kindergartens, but also in relation to the development of new interventions as well as the restructuring of old ones. The common element methodology used in this thesis is quite new, and more research is undoubtedly needed within this methodology. By identifying common elements from interventions aimed at emotion regulation difficulties in children and adolescents, systematic methods can potentially be integrated into knowledge-based practice in flexible ways.

The idea of brief interventions is a promising model for preventing and treating mental health difficulties in children and young people both in frontline and specialized services. It can also help therapists to better allocate limited resources, as well as respond faster and more efficiently so that they can reach a larger number of children and adolescents (Gee et al., 2015). Common elements are a possible alternative to larger and all-encompassing manualized programs that may be easier and more cost-effective to implement both in the treatment of, but also in the prevention of, emotion regulation difficulties in children and adolescents. The common element methodology used in this thesis may aid the development of new, and restructuring of old, brief interventions.

However, based on the previous research and findings presented in this thesis, one may say that the findings in this area are promising. That said, new standardized tools are necessary to further develop this methodology. This can help to simplify both the identification and the production of the elements. Since the areas within both brief interventions and common elements are so new, more research is needed in general, on different areas and topics.

REFERENCES

Ackerman, C. E. (2021). *What Is Self-Awareness and Why Is It Important*. https://positivepsychology.com/self-awareness-matters-how-you-can-be-more-self-aware/

Aldao, A., Gee, D. G., De Los Reyes, A., & Seager, I. (2016). Emotion regulation as a transdiagnostic factor in the development of internalizing and externalizing psychopathology: Current and future directions. *Development and psychopathology*, *28*(4pt1), 927-946. https://doi.org/10.1017/S0954579416000638

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical psychology review*, *30*(2), 217-237. https://doi.org/10.1016/j.cpr.2009.11.004

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). https://doi.org/https://doi.org/10.1176/appi.books.9780890425596

Australian Government. (2004). *Brief Interventions - a Definition*. Australian Government Department of Health and Ageing. https://www1.health.gov.au/internet/publications/publishing.nsf/Content/drugtreat-pubs-front9-fa-toc~drugtreat-pubs-front9-fa-secb~drugtreat-pubs-front9-fa-secb-6~drugtreat-pubs-front9-fa-secb-6-1

Axelrad, M. E., Garland, B. H., & Love, K. B. (2009). Brief behavioral intervention for young children with disruptive behaviors. *Journal of clinical psychology in medical settings*, *16*(3), 263-269. https://doi.org/10.1007/s10880-009-9166-7

Baer, R. A. (2003). Mindfulness Training as a Clinical Intervention: A Conceptual and Empirical Review. *Clinical psychology (New York, N.Y.)*, *10*(2), 125-143. https://doi.org/10.1093/clipsy.bpg015

Bai, S., Elavsky, S., Kishida, M., Dvorakova, K., & Greenberg, M. T. (2020). Effects of mindfulness training on daily stress response in college students: Ecological momentary assessment of a randomized controlled trial. *Mindfulness (N Y)*, *11*(6), 1433-1445. https://doi.org/10.1007/s12671-020-01358-x

Baker, E. A. (2019). *Improving dating violence prevention programs on college campuses with mindfulness-based skills training: A randomized trial*

Bakken, Anders. (2017). Ungdata 2017. Nasjonale resultater. Oslo Metropolitan University - OsloMet: NOVA.

Barlow, D. H., Farchione, T. J., Bullis, J. R., Gallagher, M. W., Murray-Latin, H., Sauer-Zavala, S., Bentley, K. H., Thompson-Hollands, J., Conklin, L. R., Boswell, J. F., Ametaj, A., Carl, J. R., Boettcher, H. T., & Cassiello-Robbins, C. (2017). The Unified Protocol for Transdiagnostic Treatment of Emotional Disorders Compared With Diagnosis-Specific Protocols for Anxiety Disorders: A Randomized Clinical Trial. *JAMA Psychiatry*, *74*(9), 875-884. https://doi.org/10.1001/jamapsychiatry.2017.2164

Bates, G. W., Elphinestone, B., & Whitehead, R. (2020). Self-compassion and emotional regulation as predictors of social anxiety. *Psychology and psychotherapy*. https://doi.org/10.1111/papt.12318

Beaumont, R., & Sofronoff, K. (2008). A multi-component social skills intervention for children with Asperger syndrome: the Junior Detective Training Program. *J Child Psychol Psychiatry*, *49*(7), 743-753. https://doi.org/10.1111/j.1469-7610.2008.01920.x

Becker, K. D., Lee, B. R., Daleiden, E. L., Lindsey, M., Brandt, N. E., & Chorpita, B. F. (2015). The Common Elements of Engagement in Children's Mental Health Services: Which Elements for Which Outcomes? *Journal of clinical child and adolescent psychology*, *44*(1), 30-43. https://doi.org/10.1080/15374416.2013.814543

Bencuya, N. L. (2014). *Acceptance and mindfulness treatment for children adopted from foster care*

Brown, F. L., Graaff, A. M., Annan, J., & Betancourt, T. S. (2017). Annual Research Review: Breaking cycles of violence – a systematic review and common practice elements analysis of psychosocial interventions for children and youth affected by armed conflict. *Journal of child psychology and psychiatr*, *58*(4), 507-524. https://doi.org/10.1111/jcpp.12714

Campbell, A. (2012). Single-Session Approaches to Therapy: Time to Review. *Australian and New Zealand journal of family therapy*, *33*(1), 15-26. https://doi.org/10.1017/aft.2012.3

Carey, K. B., Carey, M. P., Maisto, S. A., & Henson, J. M. (2006). Brief Motivational Interventions for Heavy College Drinkers: A Randomized Controlled Trial. *Journal of consulting and clinical psychology*, *74*(5), 943-954. https://doi.org/10.1037/0022-006X.74.5.943

Carver, C. S., Johnson, S. L., & Timpano, K. R. (2017). Toward a Functional View of the p Factor in Psychopathology. *Clinical psychological science*, *5*(5), 880-889. https://doi.org/10.1177/2167702617710037

Caspi, A., Houts, R. M., Belsky, D. W., Goldman-Mellor, S. J., Harrington, H., Israel, S., Meier, M. H., Ramrakha, S., Shalev, I., Poulton, R., & Moffitt, T. E. (2014). The p Factor: One General Psychopathology Factor in the Structure of Psychiatric Disorders? *Clinical psychological science*, *2*(2), 119-137. https://doi.org/10.1177/2167702613497473

Chorpita, B., Rotherham-Borus, M. J., Daleiden, E., Bernstein, A., Cromley, T., Swenderman, D., & Regan, J. (2011). The Old Solutions Are the New Problem: How Do We Better Use What We Already Know About Reducing the Burden of Mental Illness? *Perspectives on psychological science*, *6*(5), 493-497. https://doi.org/10.1177/1745691611418240

Chorpita, B. F., & Daleiden, E. L. (2009). Mapping Evidence-Based Treatments for Children and Adolescents: Application of the Distillation and Matching Model to 615 Treatments From 322 Randomized Trials. *Journal of consulting and clinical psychology*, *77*(3), 566-579. https://doi.org/10.1037/a0014565

Chorpita, B. F., Daleiden, E. L., Park, A. L., Ward, A. M., Levy, M. C., Cromley, T., Chiu, A. W., Letamendi, A. M., Tsai, K. H., & Krull, J. L. (2017). Child STEPs in California: A Cluster Randomized Effectiveness Trial Comparing Modular Treatment With Community Implemented Treatment for Youth With Anxiety, Depression, Conduct Problems, or Traumatic Stress. *Journal of consulting and clinical psychology*, *85*(1), 13-25. https://doi.org/10.1037/ccp0000133

Chorpita, B. F., Daleiden, E. L., & Weisz, J. R. (2005). Identifying and Selecting the Common Elements of Evidence Based Interventions: A Distillation and Matching Model. *Mental health services research*, *7*(1), 5-20. https://doi.org/10.1007/s11020-005-1962-6

Chowdhury, M. R. (2021). *What is Emotion Regulation? + 6 Emotional Skills and Strategies*. https://positivepsychology.com/emotion-regulation/

Cook, D. J., Mulrow, C. D., & Haynes, R. B. (1997). Systematic reviews : Synthesis of best evidence for clinical decisions. *Annals of internal medicine*, *126*(5), 376-380. https://doi.org/10.7326/0003-4819-126-5-199703010-00006

Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia. Available at www.covidence.org

Department of Education. (2017). *Rammeplan for barnehagen*. Retrieved from https://www.udir.no/laring-og-trivsel/rammeplan/

Department of Education. (2020). *Overordnet del – verdier og prinsipper for grunnopplæringen*. Retrieved from https://www.udir.no/lk20/overordnet-del/

Dingle, G. A., & Fay, C. (2016). Tuned In: The effectiveness for young adults of a group emotion regulation program using music listening. *Psychology of Music*, *45*(4), 513-529. https://doi.org/10.1177/0305735616668586

Dorsey, S., Berliner, L., Lyon, A. R., Pullmann, M. D., & Murray, L. K. (2016). A Statewide Common Elements Initiative for Children's Mental Health. *The journal of behavioral health services & research*, *43*(2), 246-261. https://doi.org/10.1007/s11414-014-9430-y

Drislane, L. E., Waller, R., Martz, M. E., Bonar, E. E., Walton, M. A., Chermack, S. T., & Blow, F. C. (2020). Therapist and computer-based brief interventions for drug use within a randomized controlled trial: effects on parallel trajectories of alcohol use, cannabis use and anxiety symptoms. *Addiction*, *115*(1), 158-169. https://doi.org/10.1111/add.14781

Droutman, V. (2017). *Effect of mindfulness training on attention, emotion-regulation and risk-taking in adolescence*

Ekhtiari, H., Rezapour, T., Aupperle, R. L., & Paulus, M. P. (2017). Neuroscience-informed psychoeducation for addiction medicine: A neurocognitive perspective. *Progress in Brain Research*, *235*, 239-264. https://doi.org/10.1016/bs.pbr.2017.08.013

Engell, T., Kirkøen, B., Hammerstrøm, K. T., Kornør, H., Ludvigsen, K. H., & Hagen, K. A. (2020). Common Elements of Practice, Process and Implementation in Out-of-School-Time Academic Interventions for At-risk Children: a Systematic Review. *Prevention science*, *21*(4), 545-556. https://doi.org/10.1007/s11121-020-01091-w

Feldhaus, C. G., Jacobs, R. H., Watkins, E. R., Peters, A. T., Bessette, K., & Langenecker, S. A. (2020). Rumination-focused cognitive behavioral therapy decreases anxiety and increases behavioral activation among remitted adolescents. *J Child Fam Stud*, *29*(7), 1982-1991. https://doi.org/10.1007/s10826-020-01711-7

Fixsen, D. L. (2005). *Implementation research : a synthesis of the literature* (Vol. 231). University of South Florida.

Fixsen, D. L., Blase, K. A., Naoom, S. F., & Wallace, F. (2009). Core Implementation Components. *Research on social work practice*, *19*(5), 531-540. https://doi.org/10.1177/1049731509335549

Flannery, C. C. (2018). *Feasibility and effectiveness of a one-session dialectical behavior therapy workshop for parents*

Ford, J. D., Grasso, D. J., Levine, J., & Tennen, H. (2018). Emotion Regulation Enhancement of Cognitive Behavior Therapy for College Student Problem Drinkers: A Pilot Randomized Controlled Trial. *journal of child adolescent substance abuse*, *27*(1), 47-58. https://doi.org/10.1080/1067828X.2017.1400484

Fukumori, T., Kuroda, H., Ito, M., & Kashimura, M. (2017). Effect of guided, structured, writing program on self-harm ideations and emotion regulation. *J. Med. Invest.*, *64*(1.2), 74-78. https://doi.org/10.2152/jmi.64.74

Gee, D., Mildred, H., Brann, P., & Taylor, M. (2015). Brief Intervention: A Promising Framework for Child and Youth Mental Health? *Administration and policy in mental health and mental health services research*, *42*(2), 121-125. https://doi.org/10.1007/s10488-014-0563-3

Glen, S. (2016). *Inter-rater Reliability IRR: Definition, Calculation*. https://www.statisticshowto.com/inter-rater-reliability/

Gross, J. J. (1998). The Emerging Field of Emotion Regulation: An Integrative Review *Review of General Psycholog*, *VoL 2*(No. 3), 271-299.

Gross, J. J. (2013). Emotion Regulation: Conceptual and Empirical Foundations. In J. J. Gross (Ed.), *Handbook of Emotion Regulation*. The Guilford Press.

Gross, J. J., & Jazaieri, H. (2014). Emotion, Emotion Regulation, and Psychopathology: An Affective Science Perspective. *Clinical psychological science*, *2*(4), 387-401. https://doi.org/10.1177/2167702614536164

Gross, J. J., Richards, J. M., & John, O. P. (2006). Emotion Regulation in Everyday Life. In K. Snyder, J. Simpson, & J. N. Hughes (Eds.), *Emotion Regulation in Couples and Families: Pathways to Dysfunction and Health*.

Harden, K. P., Engelhardt, L. E., Mann, F. D., Patterson, M. W., Grotzinger, A. D., Savicki, S. L., Thibodeaux, M. L., Freis, S. M., Tackett, J. L., Church, J. A., & Tucker-Drob, E. M. (2020). Genetic Associations Between Executive Functions and a General Factor of Psychopathology. *Journal of the American Academy of Child and Adolescent Psychiatry*, *59*(6), 749-758. https://doi.org/10.1016/j.jaac.2019.05.006

Heleniak, C., Jenness, J. L., Vander Stoep, A., McCauley, E., & McLaughlin, K. A. (2016). Childhood Maltreatment Exposure and Disruptions in Emotion Regulation: A Transdiagnostic Pathway to Adolescent Internalizing and Externalizing Psychopathology. *Cognitive therapy and research*, *40*(3), 394-415. https://doi.org/10.1007/s10608-015-9735-z

Helland, SS., Kjøbli J., Mellblom AV., Wentzel-Larsen T., Espenes K., Linnerud, S., Engell T & Kirkøen B. Meta-Analysis: Common elements in interventions targeting emotion regulation for children and adolescents. In preparation.

Higgins, J. P. T., Altman, D. G., & Sterne, J. A. C. (2017). Chapter 8: Assessing risk of bias in included studies. In J. P. T. Higgins, R. Churchill, J. Chandler, & M. Cumpston (Eds.), *Cochrane Hansbook for Systematic Reviews of Interventions*.

Holt, N., Bremner, A., Sutherland, E., Vliek, M., Passer, M., & Smith, R. (2012). *Psychology. The science of mind and behaviour* (2 ed.).

Hooper, E. G. (2018). *Maternal emotion socialization and children's emotional development: Mechanisms in the intergenerational transmission of depression*

Hoorelbeke, K., Koster, E. H., Vanderhasselt, M. A., Callewaert, S., & Demeyer, I. (2015). The influence of cognitive control training on stress reactivity and rumination in response to a lab stressor and naturalistic stress. *Behav Res Ther*, *69*, 1-10. https://doi.org/10.1016/j.brat.2015.03.010

Jacobs, R. H., Watkins, E. R., Peters, A. T., Feldhaus, C. G., Barba, A., Carbray, J., & Langenecker, S. A. (2016). Targeting Ruminative Thinking in Adolescents at Risk for Depressive Relapse: Rumination-Focused Cognitive Behavior Therapy in a Pilot Randomized Controlled Trial with Resting State fMRI. *PLoS One*, *11*(11), e0163952. https://doi.org/10.1371/journal.pone.0163952

Johnson, S. L., Carver, C. S., & Joormann, J. (2013). Impulsive responses to emotion as a transdiagnostic vulnerability to internalizing and externalizing symptoms. *Journal of affective disorders*, *150*(3), 872-878. https://doi.org/10.1016/j.jad.2013.05.004

Kerr, S. L., Lucas, L. J., DiDomenico, G. E., Mishra, V., Stanton, B. J., Shivde, G., Pero, A. N., Runyen, M. E., & Terry, G. M. (2017). Is mindfulness training useful for pre-service teachers? An exploratory investigation. *Teaching Education*, *28*(4), 349-359. https://doi.org/10.1080/10476210.2017.1296831

Kjøbli, J., Engell, T., Olafsen, K. S., Mellblom, A., & Helland, S. S. (2020a). *Historien om p: en underliggende faktor for utvikling av psykiske vansker hos barn og unge*. https://psykologisk.no/2020/07/historien-om-p-en-underliggende-faktor-for-utvikling-av-psykiske-vansker-hos-barn-og-unge/

Kjøbli, J., Engell, T., Tømmerås, T., Rognstad, K., Hammerstrøm, K. T., & Bjørndal, A. (2020b). *Virksomme Elementer*. https://psykologtidsskriftet.no/2020/06/virksomme-elementer

Lam, K., & Seiden, D. (2019). Effects of a Brief Mindfulness Curriculum on Self-reported Executive Functioning and Emotion Regulation in Hong Kong Adolescents. *Mindfulness*, *11*(3), 627-642. https://doi.org/10.1007/s12671-019-01257-w

Lange, R. T. (2018). Inter-rater Reliability. In J. S. Kreutzer, J. DeLuca, & B. Caplan (Eds.), *Encyclopedia of Clinical Neuropsychology* (pp. 1844-1844). Springer International Publishing. https://doi.org/10.1007/978-3-319-57111-9_1203

Lee, B. R., Ebesutani, C., Kolivoski, K. M., Becker, K. D., Lindsey, M. A., Brandt, N. E., Cammack, N., Strieder, F. H., Chorpita, B. F., & Barth, R. P. (2014). Program and Practice Elements for Placement Prevention: A Review of Interventions and Their Effectiveness in Promoting Home-Based Care. *American journal of orthopsychiatry*, *84*(3), 244-256. https://doi.org/10.1037/h0099811

Lindqvist, K., Mechler, J., Carlbring, P., Lilliengren, P., Falkenstrom, F., Andersson, G., Johansson, R., Edbrooke-Childs, J., Dahl, H. J., Lindert Bergsten, K., Midgley, N., Sandell, R., Thoren, A., Topooco, N., Ulberg, R., & Philips, B. (2020). Affect-Focused Psychodynamic Internet-Based Therapy for Adolescent Depression: Randomized Controlled Trial. *J Med Internet Res*, *22*(3), e18047. https://doi.org/10.2196/18047

Lindsey, M. A., Brandt, N. E., Becker, K. D., Lee, B. R., Barth, R. P., Daleiden, E. L., & Chorpita, B. F. (2014). Identifying the Common Elements of Treatment Engagement Interventions in Children's Mental Health Services. *Clinical child and family psychology review*, *17*(3), 283-298. https://doi.org/10.1007/s10567-013-0163-x

Mallett, R., Hagen-Zanker, J., Slater, R., & Duvendack, M. (2012). The benefits and challenges of using systematic reviews in international development research. *Journal of development effectiveness*, *4*(3), 445-455. https://doi.org/10.1080/19439342.2012.711342

Mason, W. A., Fleming, C. B., Ringle, J. L., Thompson, R. W., Haggerty, K. P., & Snyder, J. J. (2015). Reducing Risks for Problem Behaviors During the High School Transition: Proximal Outcomes in the Common Sense Parenting Trial. *J Child Fam Stud*, *24*(9), 2568-2578. https://doi.org/10.1007/s10826-014-0059-5

McIndoo, C. C., File, A. A., Preddy, T., Clark, C. G., & Hopko, D. R. (2016). Mindfulness-based therapy and behavioral activation: A randomized controlled trial with depressed college students. *Behav Res Ther*, *77*, 118-128. https://doi.org/10.1016/j.brat.2015.12.012

McLeod, B. D., Sutherland, K. S., Martinez, R. G., Conroy, M. A., Snyder, P. A., & Southam-Gerow, M. A. (2017). Identifying Common Practice Elements to Improve Social, Emotional, and Behavioral Outcomes of Young Children in Early Childhood Classrooms. *Prevention science*, *18*(2), 204-213. https://doi.org/10.1007/s11121-016-0703-y

Mischel, W., & Moore, B. (1973). Effects of attention to symbolically presented rewards on self-control. *Journal of personality and social psychology*, *28*(2), 172-179. https://doi.org/10.1037/h0035716

Morgan, N. R., Davis, K. D., Richardson, C., & Perkins, D. F. (2018). Common components analysis: An adapted approach for evaluating programs. *Evaluation and program planning*, *67*, 1-9. https://doi.org/10.1016/j.evalprogplan.2017.10.009

Murray, L. K., Dorsey, S., Haroz, E., Lee, C., Alsiary, M. M., Haydary, A., Weiss, W. M., & Bolton, P. (2014). A Common Elements Treatment Approach for Adult Mental Health Problems in Low- and Middle-Income Countries. *Cognitive and behavioral practice*, *21*(2), 111-123. https://doi.org/10.1016/j.cbpra.2013.06.005

Murray, L. K., Hall, B. J., Dorsey, S., Ugueto, A. M., Puffer, E. S., Sim, A., Ismael, A., Bass, J., Akiba, C., Lucid, L., Harrison, J., Erikson, A., & Bolton, P. A. (2018). An evaluation of a common elements treatment approach for youth in Somali refugee camps. *Global Mental Health*, *5*, e16-e16. https://doi.org/10.1017/gmh.2018.7

Myhre, S. K. (2018). *The effects of reattribution training and behavioral activation on cognitive vulnerabilities to depression among college students*

Oman, D., Shapiro, S. L., Thoresen, C. E., Plante, T. G., & Flinders, T. (2008). Meditation lowers stress and supports forgiveness among college students: a randomized controlled trial. *J Am Coll Health*, *56*(5), 569-578. https://doi.org/10.3200/JACH.56.5.569-578

Potek, R. (2012). *Mindfulness as a school-based prevention program and its effect on adolescent stress, anxiety and emotion regulation*

Powell, B. J., Waltz, T. J., Chinman, M. J., Damschroder, L. J., Smith, J. L., Matthieu, M. M., Proctor, E. K., & Kirchner, J. E. (2015). A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project. *Implementation Science*, *10*(1), 21-21. https://doi.org/10.1186/s13012-015-0209-1

Ridley, D. S., Schutz, P. A., Glanz, R. S., & Weinstein, C. E. (1992). Self-Regulated Learning: The Interactive Influence of Metacognitive Awareness and Goal-Setting. *The Journal of experimental education*, *60*(4), 293-306. https://doi.org/10.1080/00220973.1992.9943867

Rith-Najarian, L. R., Boustani, M. M., & Chorpita, B. F. (2019). A systematic review of prevention programs targeting depression, anxiety, and stress in university students. *Journal of affective disorders*, *257*, 568-584. https://doi.org/10.1016/j.jad.2019.06.035

Schleider, J. L. M. A., & Weisz, J. R. P. (2017). Little Treatments, Promising Effects? Meta-Analysis of Single-Session Interventions for Youth Psychiatric Problems. *Journal of the American*

Academy of Child and Adolescent Psychiatry, *56*(2), 107-115. https://doi.org/10.1016/j.jaac.2016.11.007

Shahbazirad, A., & Azizi, M. (2018). Effectiveness of Teaching Emotion Regulation Strategies in Improving Cognitive-Emotional Regulation Among Female Students in Addiction-Stricken Areas of Kermanshah City. *Journal of family & reproductive health*, *12*(4), 204-209.

Shahidi, S., Akbari, H., & Zargar, F. (2017). Effectiveness of mindfulness-based stress reduction on emotion regulation and test anxiety in female high school students. *J Educ Health Promot*, *6*, 87. https://doi.org/10.4103/jehp.jehp_98_16

Shapiro, S. L., Oman, D., Thoresen, C. E., Plante, T. G., & Flinders, T. (2008). Cultivating mindfulness: effects on well-being. *J Clin Psychol*, *64*(7), 840-862. https://doi.org/10.1002/jclp.20491

Silvia, P. J., & O'Brien, M. E. (2004). Self-awareness and constructive functioning: Revisiting "the human dilemma". *Journal of social and clinical psychology*, *23*(4), 475-489. https://doi.org/10.1521/jscp.23.4.475.40307

Sloan, E., Hall, K., Moulding, R., Bryce, S., Mildred, H., & Staiger, P. K. (2017). Emotion regulation as a transdiagnostic treatment construct across anxiety, depression, substance, eating and borderline personality disorders: A systematic review. *Clinical psychology review*, *57*, 141-163. https://doi.org/10.1016/j.cpr.2017.09.002

Suren, P., Furu, K., Reneflot, A., Nes, R. B., & Torgersen, L. (2018). *Livskvalitet og psykiske lidelser hos barn og unge*. Norwegian Institute of Public Health. https://www.fhi.no/nettpub/hin/grupper/psykisk-helse-hos-barn-og-unge/

Topper, M., Emmelkamp, P. M., Watkins, E., & Ehring, T. (2017). Prevention of anxiety disorders and depression by targeting excessive worry and rumination in adolescents and young adults: A randomized controlled trial. *Behav Res Ther*, *90*, 123-136. https://doi.org/10.1016/j.brat.2016.12.015

Townshend, K., Jordan, Z., Peters, M. D. J., & Tsey, K. (2014). The effectiveness of Mindful Parenting programs in promoting parents' and children's wellbeing: a systematic review protocol. *JBI database of systematic reviews and implementation reports*, *12*(11), 184. https://doi.org/10.11124/jbisrir-2014-1666

Vivek, V. (2015). *The efficacy of mindfulness-based meditation in attenuating sleep disturbances among high trait ruminators*

Vohra, S., Punja, S., Sibinga, E., Baydala, L., Wikman, E., Singhal, A., Dolcos, F., & Van Vliet, K. J. (2019). Mindfulness-based stress reduction for mental health in youth: a cluster randomized controlled trial. *Child Adolesc Ment Health*, *24*(1), 29-35. https://doi.org/10.1111/camh.12302

Wagner, G. A., Mildred, H., Gee, D., Black, E. B., & Brann, P. (2017). Effectiveness of brief intervention and case management for children and adolescents with mental health difficulties. *Children and youth services review*, *79*, 362-367. https://doi.org/10.1016/j.childyouth.2017.06.046

Walton, M. A., Chermack, S. T., Shope, J. T., Bingham, C. R., Zimmerman, M. A., Blow, F. C., & Cunningham, R. M. (2010). Effects of a Brief Intervention for Reducing Violence and Alcohol Misuse Among Adolescents: A Randomized Controlled Trial. *JAMA*, *304*(5), 527-535. https://doi.org/10.1001/jama.2010.1066

Weiss, J. A., Thomson, K., Burnham Riosa, P., Albaum, C., Chan, V., Maughan, A., Tablon, P., & Black, K. (2018). A randomized waitlist-controlled trial of cognitive behavior therapy to improve emotion regulation in children with autism. *J Child Psychol Psychiatry*, *59*(11), 1180-1191. https://doi.org/10.1111/jcpp.12915

Weissman, D. G., Bitran, D., Miller, A. B., Schaefer, J. D., Sheridan, M. A., & McLaughlin, K. A. (2019). Difficulties with emotion regulation as a transdiagnostic mechanism linking child maltreatment with the emergence of psychopathology. *Development and psychopathology*, *31*(3), 899-915. https://doi.org/10.1017/S0954579419000348

Weisz, J. R., Kuppens, S., Ng, M. Y., Eckshtain, D., Ugueto, A. M., Vaughn-Coaxum, R., Jensen-Doss, A., Hawley, K. M., Krumholz Marchette, L. S., Chu, B. C., Weersing, V. R., & Fordwood, S. R. (2017). What Five Decades of Research Tells Us About the Effects of Youth Psychological

Therapy: A Multilevel Meta-Analysis and Implications for Science and Practice. *The American psychologist*, *72*(2), 79-117. https://doi.org/10.1037/a0040360

Winje, H. N. (2019). *Identifisering av felleselementer fra relasjonelle intervensjoner for omsorgssvikt og mishandling*

Xie, Q.-W., Chan, C. H.-y., Lau, B. H.-p., Tam, M. Y.-j., Fung, Y.-l., & Chan, C. L.-w. (2020). Effectiveness of an Integrative Body-Mind-Spirit group intervention in improving the skin symptoms and psychosocial well-being in children living with atopic dermatitis: A randomized-waitlisted controlled trial. *Children and youth services review*, *110*. https://doi.org/10.1016/j.childyouth.2019.104739

Zhang, J. Y., Ji, X. Z., Meng, L. N., & Cai, Y. J. (2019). Effects Of Modified Mindfulness-Based Stress Reduction (MBSR) On The Psychological Health Of Adolescents With Subthreshold Depression: A Randomized Controlled Trial. *Neuropsychiatr Dis Treat*, *15*, 2695-2704. https://doi.org/10.2147/NDT.S216401

APPENDIX

Appendix **1:** *Included Studies*

#	Reference	Sample	Intervention	Study Design	Sessions	Last Measure	Measures	Control	Delivered by	Context of Delivery
1	Bai et al. (2020), United States of America	Young adults (18-19), N=52 (65% Female)	Just Breathe	RCT	8	0-2 months	Emotion regulation, other symptom reduction	Waitlist control	N/A	School, service agency
2	Baker (2019), United States of America	Young adults ($\bar{x}$ = 19.56, SD = 2.07), N=88	Mindfulness-based skills training (MBST) intervention	RCT	3	2-12 months	Emotion regulation, mindfulness, internalizing difficulties, externalizing difficulties	Active control	First author, doctoral student	At home, school
3	Beaumont & Sofronoff (2008), Australia	Children (7-11), N= 49	Junior Detective Training Program	RCT	7	0-2 months	Emotion regulation, other symptom reduction	Waitlist control	Therapists, first author, computer	School
4	Bencuya (2014), United States of America	Children (7-13, $\bar{x}$ = 10.9, SD = 1.6), N=28 (32.1 % Female)	Children Adapting Mindful Practices (CHAMP)	Quasi-randomized	6	0-2 months	Emotion regulation, mindfulness, externalizing difficulties	Waitlist control	Therapists, first author, doctoral student	Service agency, at home
5	Betancourt et al. (2014), United States of America/Australia/Sierra Leone	Young adults (15-24) ($\bar{x}$ = 18, SD/SD), N=436 (45.6 %Female)	YRI Youth Readiness Intervention	RCT	10	0-2 months 2-12 months	Emotion regulation, other symptom reduction, general mental health	Waitlist control	Paraprofessional	Service agency
6	Brawner et al. (2019), United States of America	Adolescents (14-17, $\bar{x}$ = 15.78, SD = 0.97), N=108 (38% Female)	Project GOLD: Psychoeducational HIV/STI Prevention Program	RCT	8	0-2 months 2-12 months 12+	Emotion regulation, internalizing difficulties	Treatment as usual	N/A	Service agency

7	Dingle & Fay (2017), Australia	Young adults (16-25, $\bar{x}$ = 18.68, SD = 2.08), N= 51	Tuned In	RCT	4	0-2 months 2-12 months	Emotion regulation, internalizing difficulties, other symptom reduction	Waitlist control	Psychologists, first author, audio	N/A
8	Droutman (2017), United States of America	Adolescents (11-18), N= 85	CALM - Insight LA	Quasi-randomized	8	0-2 months	Emotion regulation, mindfulness	Active control	audio	After school
9	Feldhaus et al. (2020), United States of America	Adolescents (12-18), N=31	RFCBT Rumination-Focused Cognitive Behavioral Therapy	RCT	8	0-2 months	Emotion regulation, internalizing difficulties, general mental health	Treatment as usual	Therapist	N/A
10	Flannery (2018), United States of America	Adolescents (11-18, $\bar{x}$ = 14.4, SD = 1.93), N= 42 (71% Female)	(DBT Workshop) One Session Dialectical Behaviour Therapy Workshop for Parents	RCT	1	0-2 months	Emotion regulation	Waitlist control	Clinician, doctoral student	Service agency
11	Ford et al. (2018), United States of America	Young adults (18-22, $\bar{x}$ = 20.1, SD = 1.1), N= 29 (52% Female)	CBT + TARGET (Trauma Affect Regulation; Guide for Education and Therapy)	RCT	8	0-2 months	Emotion regulation, general mental health	Active control	Doctoral student	N/A
12	Fukumori et al. (2017), Japan	Young adults (18-22), N= 33	Structured Writing	RCT	3	0-2 months	Emotion regulation, other symptom reduction	Waitlist control	N/A	N/A

13	Hooper (2018), United States of America	Children (5-6), N= 70	Family Therapy; Emotion-Centered Intervention	RCT	3	0-2 months	Emotion regulation, externalizing difficulties, other symptom reduction	Waitlist control	PhD	Service agency
14	Hoorelbeke et al. (2015), Belgium	Young adults ($\bar{x}$= 20.62, SD= 2.06), N=53	CCT: Working memory based Cognitive Control Training	RCT	10	0-2 months	Emotion regulation, internalizing difficulties, other symptom reduction	Active control	Computer	N/A
15	Idsoe et al. (2019), Norway	Adolescents (16-20) ($\bar{x}$ = 16.7, SD/SD), N= 228 (85% Female)	Adolescent Coping with Depression Course (ACDC),	RCT	10	0-2 months	Emotion regulation, internalizing difficulties, other symptom reduction	Waitlist control	Paraprofessional	N/A
16	Jacobs et al. (2016), United States of America	Adolescents (12-18) ($\bar{x}$ = 15.5), N= 33 (57.6% Female)	RFCBT Rumination-Focused Cognitive Behavioral Therapy	RCT	8	0-2 months	Emotion regulation, internalizing difficulties	Waitlist control	Clinician	N/A
17	Kerr et al. (2017), United States of America	Young adults (21-23) ($\bar{x}$ = 22.3, SD/SD), N= 23 (91,3 Female)	Learning to BREATHE	Quasi-randomized	6	N/A	Emotion regulation, mindfulness, general mental health	Waitlist control	Audio	School
18	Koydemir & Sun-Selışık (2016), Turkey	Young adults (17-23, $\bar{x}$ = 18.75, SD = 1.03), N= 92 (47,8% Female)	Well-Being/Online Strengths-Based Intervention	RCT	8	0-2 months	Emotion regulation	Waitlist control	Paraprofessional, professional, computer	School, digital

19	Krecko (2018), United States of America	Children (7-12, $\bar{x}$ = 9.6, SD = 1.43), N= 20	Inside out movie + therapist facilitated discussion	RCT	1	0-2 months	Emotion regulation, mindfulness	Active control	First author, TV	School, at home
20	Lam & Seiden (2020), China	Children (11-15, $\bar{x}$ = 12.4), N= 115	Learning to BREATHE	RCT	6	N/A	Emotion regulation, internalizing difficulties, general mental health, other symptom reduction	Treatment as usual	First author, audio	School
21	Lindqvist et al. (2020), Sweden	Adolescents ($\bar{x}$=16.6, SD=1.1), N= 76 (80% Female)	Internet-based psychodynamic therapy	RCT	8	12+ months	Emotion regulation, internalizing difficulties	Waitlist control	Psychologists, professionals, computer	At home
22a	Mason et al. (2015), United States of America	Adolescents ($\bar{x}$=13.41, SD=0.52), N= 321 (53% Female)	Common sense parenting program	RCT	6	2-12 months	Emotion regulation	Waitlist control	N/A	N/A
22b	Mason et al. (2015), United States of America	Adolescents ($\bar{x}$=13.41, SD=0.52), N= 321 (53% Female)	Common sense parenting program PLUS	RCT	6	2-12 months	Emotion regulation	Waitlist control	N/A	N/A
23a	McIndoo et al. (2016), United States of America	Young adults ($\bar{x}$= 19.2, SD= 1.67), N= 50 (62% Female)	Behavioral activation	RCT	4	0-2 months	Emotion regulation, internalizing difficulties, mindfulness	Waitlist control	Doctoral student	N/A

23b	McIndoo et al. (2016), United States of America	Young adults ($\bar{x}$= 19.2, SD= 1.67), N= 50 (62% Female)	Mindfulness-based therapy	RCT	4	0-2 months	Emotion regulation, internalizing difficulties, mindfulness	Waitlist control	Doctoral student	N/A
24a	Myhre (2018), United States of America	Young adults ($\bar{x}$= 19.8, SD= 3.65), N= 70 (49% Female)	Cognitive reattribution training	RCT	4	0-2 months	Emotion regulation, internalizing difficulties, other symptom reduction	Waitlist control	Paraprofessional	School
24b	Myhre (2018), United States of America	Young adults ($\bar{x}$= 19.8, SD= 3.65), N= 70 (49% Female)	Behavioral activation	RCT	4	0-2 months	Emotion regulation, internalizing difficulties, other symptom reduction	Waitlist control	Paraprofessional	School
25a	Oman et al. (2008), United States of America	Young adults (18-24), N= 44 (80% Female)	Mindfulness based stress reduction	Quasi-randomized	8	0-2 months	Emotion regulation, internalizing difficulties	Waitlist control	N/A	N/A
25b	Oman et al. (2008), United States of America	Young adults (18-24), N= 44 (80% Female)	Eight-point program	Quasi-randomized	8	0-2 months	Emotion regulation, internalizing difficulties	Waitlist control	N/A	N/A
26	Potek (2012), United States of America	Adolescents ($\bar{x}$= 15, SD= 0.98), N= 31 (48.4% Female)	Learning to BREATHE	RCT	6	0-2 months	Emotion regulation, internalizing difficulties, mindfulness, other symptom reduction	Waitlist control	First author, audio	School, at home

27	Redzic (2011), United States of America	Adolescents (14-15), N= 58	InJoy intervention	RCT	8	0-2 months	Emotion regulation, internalizing difficulties, other symptom reduction	Active control	First author, computer	School, at home
28	Rusk (2012), United States of America	Young adults ($\bar{x}$= 19, SD= 1.1), N= 54	Target intervention	RCT	3	2-12 months	Emotion regulation, internalizing difficulties, other symptom reduction	Waitlist control	First author, Paraprofessional, computer, application, audio, in vivo, writing	At home
29	Shahbazirad & Azizi (2018), Iran	Adolescents ($\bar{x}$= 16.78), N= 60 (100% Female)	Educational intervention of emotion regulation strategies	Quasi-randomized	8	0-2 months	Emotion regulation	Waitlist control	N/A	N/A
30	Shahidi et al. (2017), Iran	Adolescents, N= 50 (100% Female)	Mindfulness Based Stress Reduction	RCT	8	2-12 months	Emotion regulation, internalizing difficulties	Treatment as usual	N/A	N/A
31a	Shapiro et al. (2008), United States of America	Young adults (18-24), N= 44 (80% Female)	Mindfulness based stress reduction	Quasi-randomized	8	0-2 months	Emotion regulation, internalizing difficulties, mindfulness	Waitlist control	PhD	After School
31b	Shapiro et al. (2008), United States of America	Young adults (18-24), N= 44 (80% Female)	Eight-point program	Quasi-randomized	8	0-2 months	Emotion regulation, internalizing difficulties, mindfulness	Waitlist control	PhD	After School

32a	Topper et al. (2017), The Netherlands	Adolescents (15-18), N= 251 (83.7% Female)	RFCBT Rumination-Focused Cognitive Behavioral Therapy	RCT	6	2-12 months	Emotion regulation, internalizing difficulties	Waitlist control	First author, therapists	N/A
32b	Topper et al. (2017), The Netherlands	Adolescents (15-18), N= 251 (83.7% Female)	RFCBT Rumination-Focused Cognitive Behavioral Therapy + INTERNET	RCT	6	2-12 months	Emotion regulation, internalizing difficulties	Waitlist control	First author, therapists	N/A
33	Vivek (2015), United States of America	Young adults ($\bar{x}$= 19.55, SD= 3.20), N= 42 (73.8% Female)	Mindfulness Based Meditation	RCT	7	0-2 months	Emotion regulation, internalizing difficulties	Active control	Computer	At home, digital
34	Vohra et al. (2019) Canada	Adolescents ($\bar{x}$= 14.2, SD= 1.4), N= 85 (40.7% Female)	Mindfulness Based Stress Reduction	RCT	10	2-12 months	Emotion regulation, internalizing difficulties, externalizing difficulties, mindfulness, general mental health measure, other symptom reduction	Treatment as usual	PhD	Service agency

35	Weiss et al. (2018), Canada	Children ($\bar{x}$= 9.75, SD= 1.27), N= 68 (approx. 12% Female)	The Secret Agent Society: Operation Regulation (SDS: OR)	RCT	10	2-12 months	Emotion regulation, internalizing difficulties, externalizing difficulties, mindfulness, general mental health measure	Waitlist control	PhD, professional	N/A
36	Whiteside (2010), United States of America	Young adults ($\bar{x}$= 18.92, SD= 1.22), N= 133 (60% Female)	Dialectical Behaviour Therapy	RCT	1	2-12 months	Emotion regulation, internalizing difficulties	Active control	Clinicians	School
37	Xie et al. (2020), China	Children ($\bar{x}$= 8.58, SD= 1.94), N= 163 (46.9% Female)	Integrative Body-Mind-Spirit (IBMS)	RCT	6	0-2 months	Emotion regulation, internalizing difficulties, other symptom reduction	Waitlist control	Paraprofessional	Service agency
38	Zhang et al. (2019), China	Young adults ($\bar{x}$= 18.94, SD= 1.31), N= 56 (57.14% Female)	Mindfullness Based Stress Reduction	RCT	8	2-12 months	Emotion regulation, internalizing difficulties, mindfulness	Waitlist control	Psychologists	Service agency
39	Zhao (2018), United States of America	Young adults ($\bar{x}$= 19.27, SD= 1.34), N= 49 (59.2% Female)	Mindfulness Intervention - Behavioral Avoidance Tasks	RCT	2	0-2 months	Emotion regulation, mindfulness, other symptom reduction	Active control	N/A	N/A

N/A – Not available information

Appendix 2: *Practice Elements and Definitions of Techniques*

General Technique	Specific Element	Definition
Emotion Regulation	Training in emotion regulation, unspecified	Managing emotions/reappraisal of emotions/discussion of emotional responses/training in emotional expression, e.g., through games, music, writing, etc.
Training in Emotion Recognition and Differentiation	Teach child to recognize triggers for alarm reactions/negative affect	Recognize triggers/cues for alarm reactions or trigger related to negative affect
	Enhance own emotion recognition, insight into emotions	Teaches child about emotions and how to recognize them
	Teach and practice to distinguish alarm driven versus adaptive emotions	Learn how to differentiate between different emotions
	Discussion of challenging emotional situations	Practitioner discussion with the child about situations where emotions are activated
	Awareness of emotions at physiological level	Teaches the child how to be aware of bodily cues/sensations and/or facial cues to self. Physical responses to emotional stimuli
	Emotion recognition in others	E.g., Learn other people's feelings from their facial expressions, body postures, and prosody of speech. E.g., non-verbal/environmental cues
	Training in emotion recognition and differentiation, unspecified	If element does not fit into any of the categories above

Training in Preventing Maladaptive Behavioural Response to Emotional Distress	Interrupt alarm reactions	Explicit training the child. E.g., interrupt the process before responding out of anger or frustration
	Alternative actions to emotional avoidance	Develop alternative actions to counter maladaptive avoidance and emotion-driven behaviours
	Emotional coaching	Explicitly stating conducting emotional coaching
	Upregulation of positive emotions	Teaches how to upregulate positive emotions
	Downregulation of negative emotions	Effectively handling uncomfortable emotions such as anger and anxiety. E.g., through music, games, writing
	Emotional management, unspecified	Training in preventing maladaptive behavioural responses, but unspecified how
	Exposure to emotions	Training in re-experiencing the emotion under safe conditions, to disrupt avoidance patterns, including situational exposure
	Taking distance and stepping back	Practicing taking distance and stepping back from emotional distress or stressful situations
Self-Exploration/Self-Monitoring	Complete mood rating scale	Monitor mood swings and triggers by filling out mood rating scale during the intervention
	Self-monitoring of thoughts and feelings	Teaching the child/training in monitoring and registration (not awareness)
	Self-reflection	Recall events and feelings, reflect about events and feelings. E.g., through writing exercise

	Explore own temperament and character	Teaching the child/training in. Have a closer look at past experiences, present circumstances, and personal plans in relation to temperament and character. Identify character strengths and weaknesses
	Self-exploration/self-monitoring of thoughts and feelings, unspecified	Use if element does not fit into any of the above categories
Training in Behaviour Regulation	Distraction	Training how to use distraction on yourself
	Physical relaxation/relaxation techniques	Children/adolescents are provided techniques to help relax and calm themselves
	Redirect behaviour	Training in how to redirect behaviour. Skills training
	Behaviour activation	Training in techniques for activation. Identifying and modifying maladaptive action tendencies through behavioural activation and exposure
	Training in behaviour regulation, unspecified	Use if element does not fit into any of the above categories
Mindfulness	Mindfulness exercise, unspecified	Some form of mindfulness exercise, mindfulness skills, mindful solutions, not including awareness (code 24). E.g., mindful eating, practice meditation, walking, mindful listening
	Mindful breathing	E.g., training in techniques for breathing. Exercises such as deep breathing, three-part breath, short breath awareness

	Mindfulness of feelings/emotion awareness	Paying attention to emotions in a mindful way, characteristics of emotions, mindfulness of feelings.
	Mindfulness of thoughts/thought awareness	Paying attention to thoughts in a mindful way
	Practice awareness, unspecified	Awareness or body awareness within a mindfulness intervention. Integration of the body
	Reduction of self-judgement	When this is included in a mindfulness program
	Integration of mindfulness practice in daily life	E.g., how to be mindful in a specific situation
	Focusing on acceptance	E.g., active awareness of private thoughts and feelings without attempts to change them
	Focusing on habits and rituals	When included in a mindfulness program
	Reduction of stress	E.g., mindfulness to reduce stress
Training in Cognitive Skills	Teach cognitive flexibility reappraisal/reattribution	Teach how to use/increase cognitive reappraisal/reattribution
	Training in making reappraisal sentences	E.g., providing examples of reappraisal sentences
	Identify and restructure faulty attributions	Teach how to identify and restructure faulty attributions, including challenging faulty thinking patterns and rumination
	Train how thoughts can be used to change emotional response	Train how thoughts can be used to change emotional response
	Explore thoughts associated with emotions	Teach the child/training in exploration of thoughts associated with emotions. E.g., linking thoughts and emotions. Not general work with thoughts and emotions

	Restructure rational belief systems	Teach the child/training in restructuring rational belief systems. E.g., providing new understanding of the beliefs that continue to contribute to unhealthy and misguided behaviours or challenging irrational beliefs
	Challenge negative assumptions	Teach the child/training in challenging negative or distorted basic assumptions, maladaptive threat assumptions of negative thinking
	Develop positive thinking	E.g., positive self-talk, supportive thoughts
	Affective working memory training	Explicitly stating that the child is trained in affective working memory
	Computerized training in shifting interpretation of ambiguous bias to happy judgement	Computerized training in shifting interpretation of ambiguous bias to happy judgement
	Training in cognitive skills: flexibility and alternative appraisals, unspecified	Use if element does not fit into any of the above categories
Psychoeducation	Psychoeducation, not specific	Use if element does not fit into any of the above categories
	Mental health skills	General mental skills to improve mental health
	About treatment/treatment element/techniques	About treatment/treatment element/techniques
	About a diagnosis and specific symptoms, unspecified below	About a diagnosis and specific symptoms, unspecified below
	The negative effects of a specific behaviour	E.g., drugs, alcohol, sexual health, risky sexual behaviour, gaming

Modify dysfunctional thinking (e.g., rumination) and behaviour	If described as psychoeducation about dysfunctional thinking and behaviour. E.g., a presentation/lecture about opportunities to shift or change any situations that tend to increase the likelihood of rumination, to reduce habitual rumination
Functional/adaptive emotions	If this is described as psychoeducation/learning about breaking down emotions into thoughts, physical feelings, and behaviour. Including identifying links between the above, and patterns of behaviour and emotion
Emotional dysregulation/regulation	If this is described as psychoeducation about emotion dysregulation/regulation. E.g., a presentation or lecture
Cognitive flexibility	If this is described as psychoeducation/learning about how what we think about a situation influence our experience of it, and provide strategies for alternative appraisal
Cognitive distortion and disputing thinking errors	Psychoeducation about cognitive distortion and thinking errors
Crisis	Psychoeducation about crisis and how to deal
Problem management	Learn how to solve current problems if this is described as psychoeducation
Mindfulness	If this is described as psychoeducation about mindfulness. E.g., a presentation or lecture

	PTSD symptoms	Psychoeducation about PTSD and symptoms
	Depression	Psychoeducation about depressive disorder
	Behavioural activation	If this is described as psychoeducation about behavioural activation
	Self-esteem and self-worth	E.g., psychoeducation including how to increase/the importance of self-esteem and self-worth
	Stress	E.g., psychoeducation of causes of stress, worry cycle, worry. If this is described as psychoeducation
Parent Skills Training	Teach parent effective commands	Teach parents effective commands
	Teach parent discipline strategies	E.g., timeout, ignore, consequences, positive discipline
	Teach parent to build family interpersonal support	Teach parents to build family interpersonal support
	Teach parents to attend to child's low intensity emotion	Teach parents to attend to child's low intensity emotion
	Teach parent to reflect, label, and empathize with the child's emotion	Teach parent to reflect, label, and empathize with the child's emotion
	Learning to assist child in regulating emotions	Teach parents to assist child in regulation of emotions
	Coaching parents to use a skillset that validates and tolerates emotions	Coaching parents to use a skillset that validates and tolerates emotions
	Encourage parent to teach child about emotion	Encourage parent to teach child about emotion

	Strategies for managing/coping with their child's strong emotions	Teach parent strategies for managing their child's strong emotions
	Teach parents about the intervention/program	E.g., help parents understand the skills that their children were learning in the program, and teach them how to support their children in using these skills in real-life
	Parent skills training, unspecified	Use if element does not fit into any of the above categories
	Skills for parents themselves	E.g., the importance of self-care, problem solving skills, the importance of partner support, emotion regulation skills
	Cope with stress of child problematic behaviour	Teach parents how to cope with stress of child problematic behaviour
	Plan to cope with stressful situations	Help parents developing a personal plan to cope with stressful situations
Parent-Child Interaction Training	Parent follow child's lead in play	Explicitly stating that the practician is training with both parent and child
	Parents learn to increase positive parent-child interaction	Explicitly stating that the practician is training with both parent and child
	Parent-child interaction training, unspecified	Use if element does not fit into any of the above categories
Problem Solving Skills	Consider potential behaviours in response to a dilemma	Encourage child to consider potential behaviours in response to a dilemma
	Evaluate consequences of behaviours	Exercise to evaluate consequences of behaviours. E.g., whether a given solution might make their problems bigger or smaller

	Develop solutions that do not hurt others	Including reducing harm to others
	Learn to make behaviour modification plan	Describe a lifestyle problem, pros, and cons of changing and then developing a plan to attack the problem
	Discussing self-control	Discussing how to self-control
	Focusing the mind on one thought at a time	Teach children to focus the mind on one thought at the time
	Social problem solving	E.g., talking and playing with others, dealing with bullying, solving problems with friends
	Self-instruction sentences	Teach self-instruction sentences
	Learn how to avoid self-harm and other forms of self-destructive behaviour	
	Problem solving skills, unspecified	Training the child in problem solving, unspecified
Stress Management	Stress-inoculation training	Stress inoculation training or exposure to stress in controlled way
	Stress management, unspecified	Stress management, unspecified
Social Skills Training	Making and keeping friends	
	Communication/social interaction skills training	e.g., Active listening, positive communication, with games, peers, or real-life scenarios
	Social support/Personal relationships	Discuss importance of, and increase social support (develop support network)/Make better lifestyle choices regarding (inter)personal relationships, including maintaining relationships with friends and family

	Social skills training, unspecified	Use if element does not fit into any of the above categories
Organizational Skills	Learning to develop activity monitoring	
	Learn to develop behavioural ranking systems	
	Review goals for treatment	E.g., Review or discuss the aims of the intervention
	Learning to set/ assess goals	Identify positive goals, identify resources use of strengths in goal pursuit
	Establishing coping-plan	
	Organizational skills, unspecified	Use if element does not fit into any of the above categories
	Celebrate change	E.g., after intervention is completed
Lifestyle	Focusing on eating better	Make lifestyle choices including eating
	Focusing on sleeping better	Make lifestyle choices including sleeping
	Making a balance in school/recreation	
	Learning about personal finances	
	Focus/ activities on sexual health	E.g., Learn how to use a condom
	Lifestyle, unspecified	Use if element does not fit into any of the above categories

Appendix **3:** *Process Elements*

Process Elements	**Definition**	**Process Elements**	**Definition**
Time of last outcome measure:		***Context of delivery:***	
Short	Short-term post-measure (0-2mo.)	Home	Intervention elements happening at home
Mid	Mid-term post-measure (2-12mo.)	Hospital	Intervention elements happening at hospital
Long	Long term post-measure (12+mo.)	School	Intervention elements happening at school
Delivered by:		Service agency	Intervention elements happening at child welfare service, mental health service, special educational service etc.
Clinician	Master levels staff clinicians	Residential facilities	Intervention elements happening at residential care facilities, e.g., institution
Psychologists	Explicitly stated psychologist	After school	Intervention elements happening at a center or facility specifically aimed at delivering after school activities
Therapists	Explicitly stated therapists	Play time	
First Author		Digital	Internet-based
PhD Clinician	Doctoral level psychologists with at least 2 years of clinical experience with psychiatric disturbance	***Materials and games;***	
Paraprofessional	1-3 years relevant education	Informational material	Any material containing information relevant for one or more intervention elements
Doctoral students		Educational material	Material with primary aim to educate in one or more academic subjects (Educational books, PowerPoint.)

Peer	Peer tutor, classmate, friend, or other peers	Literary material	Story telling books, poems, and other literature without a primary aim to educate
Computer	Delivered on computer	Organizational material	Homework plans, family-planners, weekly-plans, checklists, homework contracts, behavioral contracts etc.
Application on phone/tablet		Board games	Any non-digital game requiring any form of material
Television		Web based app	Any games requiring internet on any digital platform (PC, tablet, mobile etc.)
Audio		Media clips	E.g., video or audio clips
In vivo coaching		Video game	Games played on Xbox, PlayStation, Nintendo, or other consoles
Psychosocial writing guidelines		Computer program	Any program not considered a game requiring a computer
Delivery method:		Artis activity	
Psychoeducation	Teaching or handing out material	Video based	
Individual therapy	Explicitly stating Therapy	Coaching mirror headset	
Family therapy	Explicitly stating Therapy	Vignette discussion	
Family skills	Subject interacting with family members	Bug in ear	
Telephone coaching	Subject interacting with professional on the phone	Presentation	
Group interaction	Subject interacting in a group	Feeling board	
Instruction 1on1	Subject being instructed one to one	Feeling dictionary	
Multifamily	Family members joining the patient in the skills group	***Intervention support***	
Child/parent	Child and primary caregiver interacting together	Support	Training/instruction/activity being repeated at least four times

Workshop	Explicitly used the word workshop	Support on demand	The subject of the intervention can request support if necessary
Role Play	Role play with specific scenarios	Feedback	Subject receives feedback on performance and/or development.
In vivo coaching	In-vivo or live coaching	Peer critique	Receives critique from peers
Unstructured play	Free play without structure	Self-monitoring	The subject monitors (logging, registering, checking) own performance on intervention elements, or usage/dosage of intervention elements
Homework	Child receives homework	External monitoring	Intervention deliverer, researchers, teachers, peers, or others monitor (logging, registering, checking) the subject's performance on intervention elements, or usage/dosage of intervention elements
Homework review	Group discussion about homework made, or homework reviewed in group	Regularly support	The subject receives some sort of intervention relevant support multiple times during the intervention period from an intervention deliverer without having to request it (e.g., training sessions over time, booster sessions, follow up calls etc.
Parental observation	Parents observe each other in groups	Child influence	Explicitly stating that personal opinions or preferences from the child participating in the intervention influenced the delivery of the intervention
Parental modelling	Parents observe each other in groups	Practitioner influence	Explicitly stating that personal opinions or preferences from the parent/caregiver participating in the intervention influenced the delivery of the intervention

Peer feedback	The child received feedback from peers, and provides valuable feedback to others	Practitioner influence	Explicitly stating that personal opinions or preferences from intervention deliverer influenced the delivery of the intervention, including authorised adaptations of manuals or standards and unwanted drift from manual or standards
Observing peers		Other characteristics	Other characteristics not appliable to existing categories
Reward based		Culturally sensitive	Clear indications are provided that the intervention is culturally sensitive. E.g., Training deliverers in relevant cultural sensitivity, using trained translators, doing adaptations of the intervention to fit minority groups etc.
Milieu coaching		Multicomponent	Explicitly stated that the intervention consists of different elements/ themes/ core topics
Scheduled activities	Planning activities	Flexibility	Explicitly stating that flexibility or use of adaptations in delivering the intervention was allowed or encouraged
Important others	Meeting with important system members to receive psychoeducation.	Individualized	Explicitly stating the delivery of the intervention was tailored, adjusted, or adapted to individual needs or preferences
Board/Computed game			
Exposure based			
Psychosocial writing			

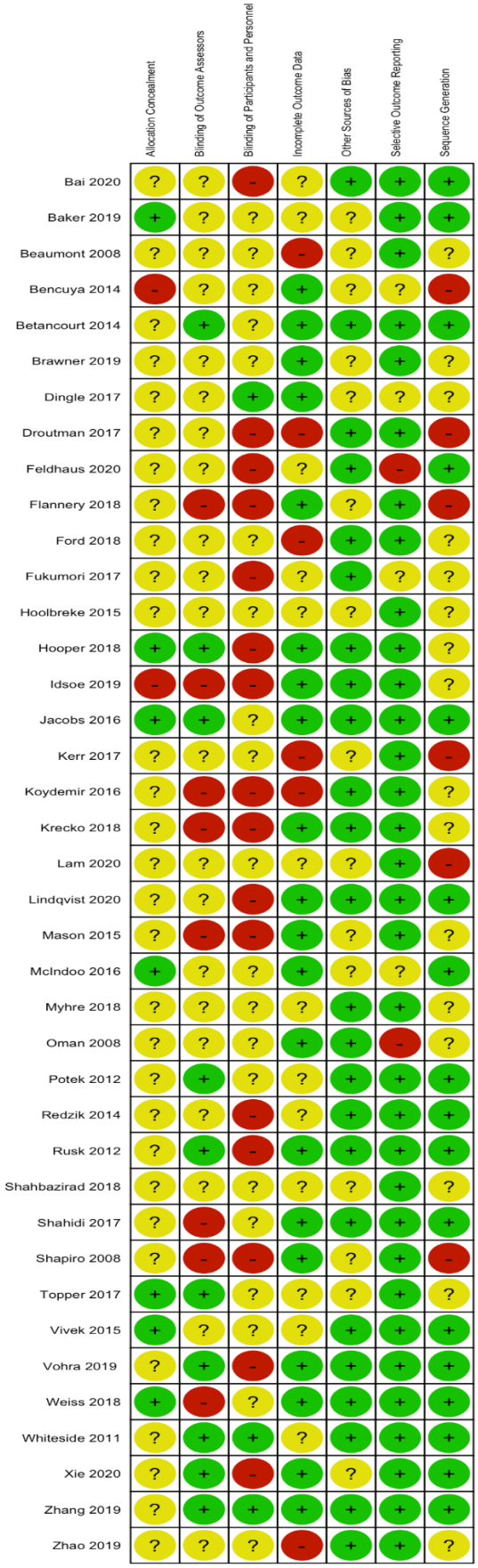
Appendix **4:** *Implementation Elements*

Implementation Element	**Implementation Element**	**Implementation Element**	**Implementation Element**
Reminders per email etc	Develop stakeholder interrelationships	Distribute educational materials	Place innovation on fee
Web access with material	Identify and prepare champions	Use train-the-trainer	Alter incentive/allowance structures
Evaluative and iterative strategies	Clinical implementation team meetings	Conduct educational meetings	Make billing easier
Readiness assessment	Recruit, designate and train for leadership	Conduct outreach visits	Alter end-user fees
Audit and feedback	Inform local opinion leaders	Create learning collaborative	Use other payment schemes
Purposefully re-examine implementation	Build coalition	Shadow other experts	Develop disincentives
Quality monitoring	Obtain formal commitments	Work with educational institutions	Use capitated payments
Formal implementation blueprint/plan	Identify early adopters	Support clinicians/practitioners	Change infrastructure
Local needs assessment	Conduct local consensus discussions	Facilitate relay of clinical data	Mandate change/innovation
Stage scale up	Capture and share knowledge	Remind practitioners	Change record system
Obtain and use end-user feedback	Use advisory boards and workgroups	Develop resource sharing agreements	Change physical structure and equipment
Cyclical test of change	Use implementation advisor	Revise professional roles	Create or change credentialing/licensure
Provide interactive assistance	Model and simulate change	Create new clinical teams	Change service sites
Facilitation	Visit other sites	Engage end-users/consumers	Change accreditation or membership requirements
Local technical assistance	Involve executive boards	Involve end-users	Start a dissemination organization

Clinical supervision	Develop and implementation glossary	Intervene with end-users to enhance uptake and adherence	Change liability laws
Centralized technical assistance	Develop academic partnerships	Prepare end-users to be active participants	Monitoring of implementation fidelity (adherence). External
Adapt and tailor to context	Promote network weaving	Increase demand	Monitoring of implementation fidelity (adherence). Local
Tailor strategies	Conduct ongoing training	Use mass media	Consultation meetings
Promote adaptability	Provide ongoing consultation	Utilize financial strategies	Booster sessions
Use data experts	Develop educational materials	Fund and contract for the innovation	Parenting, individualized as need basis
Use data warehousing techniques	Make training dynamic	Access new funding	
Contracting for follow up treatment	Coder training on program	Structured manual	

NB! Implementation elements inspired by Powell et al. (2015), with minor adjustments

Appendix 5: *Risk of Bias of each reference*



Appendix 6: *Search strings*

Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily 1946 to June 23, 2020

25.06 2020

568 hits

1	exp Psychotherapy, Brief/
2	exp Counseling/
3	1 or 2
4	((brief* or short* or limited or targeted or (single adj session)) adj4 (psychotherap* or psycho-therap* or therap* or treatment* or preventi* or interven* or program* or cognitive* or behavio* or counsel* or training*)).tw.
5	exp Psychotherapy/
6	(psychotherap* or psycho-therap* or therap* or treatment* or preventi* or interven* or program* or cognitive* or behavio* or counsel* or training*).tw.
7	5 or 6
8	((one or double or two or triple or three or four or five or six or seven or eight or nine or ten or "1" or "2" or "3" or "4" or "5" or "6" or "7" or "8" or "9" or "10") adj2 (week* or day* or daily or session*)).tw.
9	7 and 8
10	(motivational adj interview*).tw.
11	or/4-6
12	3 or 4 or 9 or 10
13	(child* or adolesc* or young or youth* or teen* or pediatr* or student* or college*).tw.
14	randomized controlled trial.pt.
15	controlled clinical trial.pt.
16	randomized.ab.
17	placebo.ab.
18	clinical trials as topic.sh.
19	randomly.ab.

20	trial.ab.	
21	or/14-20	
22	exp animals/ not humans.sh.	
23	21 not 22	
24	exp Self-Control/	
25	((affect* or emotion* or self*) adj2 (regulat* or dysregulat* or control*)).tw.	
26	((experiential* or emotion* or behavio* or expressive or thought*) adj (avoid* or suppres*)).tw.	
27	(emotion* adj1 (manage* or competenc*)).tw.	
28	exp Rumination, Cognitive/	
29	ruminat*.tw.	
30	or/24-29	
31	12 and 13	
32	23 and 31	
33	**30 and 32**	**510**
34	30 and 31	
35	limit 34 to "reviews (best balance of sensitivity and specificity)"	
36	**35 not 33**	**58**

APA PsycInfo 1806 to June Week 4 2020

25.06.2020

826 hits

1	exp Brief Psychotherapy/
2	((brief* or short* or limited or (single adj session) or targeted) adj4 (psychotherap* or psycho-therap* or therap* or treatment*

or preventi* or interven* or program* or cognitive* or behavio* or counsel* or training*)).tw.

3 exp Treatment/

4 (psychotherap* or psycho-therap* or therap* or treatment* or preventi* or interven* or program* or cognitive* or behavio* or counsel* or training).tw.

5 3 or 4

6 ((one or double or two or triple or three or four or five or six or seven or eight or nine or ten or "1" or "2" or "3" or "4" or "5" or "6" or "7" or "8" or "9" or "10") adj2 (week* or day* or daily or session*)).tw.

7 5 and 6

8 exp motivational interviewing/

9 (motivational adj interview*).tw.

10 1 or 2 or 7 or 8 or 9

11 (child* or adolesc* or young or youth* or teen* or pediatr* or college* or student*).ab,ti.

12 Treatment Effectiveness Evaluation/

13 exp Treatment Outcomes/

14 Placebo/

15 Followup Studies/

16 (placebo* or random* or "comparative stud*" or (clinical adj3 trial*) or (research adj3 design) or (evaluat* adj3 stud*) or (prospectiv* adj3 stud*) or ((singl* or doubl* or trebl* or tripl*) adj3 (blind* or mask*))).mp.

17 12 or 13 or 14 or 15 or 16

18 exp Emotional Regulation/

19 exp Emotional Control/

20 ((affect* or emotion* or self*) adj2 (regulat* or dysregulat* or control*)).tw.

21 ((experiential* or emotion* or behavio* or expressive or thought*) adj (avoid* or suppres*)).tw.

22	(emotion* adj1 (manage* or competenc*)).tw.	
23	ruminat*.tw.	
24	or/18-23	
25	10 and 11	
26	24 and 25	
27	**17 and 26**	**798**
28	(meta-analy* or metaanaly*).tw.	
29	search*.tw.	
30	(systematic* adj2 review*).tw.	
31	or/28-30	
32	26 and 31	
33	**32 not 27**	**28**

Cochrane Library
Date Run: 25/06/2020 20:30:19
Comment: Trials: 536 hits + Reviews: 8

#1 MeSH descriptor: [Psychotherapy, Brief] explode all trees

#2 MeSH descriptor: [Counseling] explode all trees

#3 #1 or #2

#4 ((brief* or "short-term" or limited or "single session") near/4 (psychotherap* or psycho-therap* or therap* or treatment* or preventi* or interven* or program* or cognitive* or behavio* or counsel* or training*)):ti,ab

#5 MeSH descriptor: [Psychotherapy] explode all trees

#6 (psychotherap* or psycho-therap* or therap* or treatment* or preventi* or interven* or program* or cognitive* or behavio* or counsel* or training*):ti,ab 1084058

#7 #5 or #6

#8 ((one or double or two or triple or three or four or five or six or seven or eight or nine or ten or "1" or "2" or "3" or "4" or "5" or "6" or "7" or "8" or "9" or "10") near/2 (week* or daily or day or session*)):ti,ab

#9 #7 and #8

#10 (motivational next interview*):ti,ab

#11 #3 or #4 or #9 or #10

#12 MeSH descriptor: [Self-Control] explode all trees

#13 ((affect* or emotion* or self*) near/2 (regulat* or dysregulat* or control*)):ti,ab

#14 ((experiential* or emotion* or behavio* or expressive or thought*) next (avoid* or suppres*)):ti,ab

#15 (emotion* near/1 (manage* or competenc*)):ti,ab

#16 MeSH descriptor: [Rumination, Cognitive] explode all trees

#17 ruminat*:ti,ab

#18 #12 or #13 or #14 or #15 or #16 or #17

#19 #11 and #18

#20 (child* or adolesc* or young or youth* or teen* or pediatr* or student* or college*):ti,ab

#21 #19 and #20

#22 ("EMBASE"):an

#23 ("PubMed"):an

#24 #22 or #23

#25 #21 and #24

ISI Web of science
1008 hits
25.06.2020

 # 24 88 #23 NOT #18
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
23 178 #22 AND #16
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
22 1,268,542 #19 OR #20 OR #21
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21 212,730 TOPIC: ((systematic* near/2 review*))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
20 928,401 TOPIC: (search*)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
19 358,132 TOPIC: ((meta-analy* or metaanaly*))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years

 # 18 920 #17 AND #16
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17 3,395,691 TOPIC: ((placebo* or random* or "comparative stud*" or (clinical near/3 trial*) or (research near/3 design) or (evaluat* near/3 stud*) or (prospectiv* near/3 stud*) or ((singl* or doubl* or trebl* or tripl*) near/3 (blind* or mask*))))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
16 2,409 #15 AND #12
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15 3,398,433 #14 OR #13
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14 2,443,585 AB=(child* or adolesc* or young or youth* or teen* or pediatr* or student* or college*)
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13 1,874,746 TITLE: ((child* or adolesc* or young or youth* or teen* or pediatr* or student* or college*))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
12 8,368 #11 AND #6
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
11 140,638 #10 OR #9 OR #8 OR #7
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10 9,808 TOPIC: (ruminat*)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
9 4,288 TOPIC: ((emotion* near/1 (manage* or competenc*)))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
8 2,716 TOPIC: (((experiential* or emotion* or behavio* or expressive or thought*) next (avoid* or suppres*)))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
7 126,258 TOPIC: (((affect* or emotion* or self*) near/2 (regulat* or dysregulat* or control*)))
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6 1,167,258 #5 OR #4 OR #1
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
5 4,911 TOPIC: ((motivational near/1 interview*))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
4 1,028,564 #3 AND #2
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
3 1,860,503 TOPIC: (((one or double or two or triple or three or four or five or six or seven or eight or nine or ten or "1" or "2" or "3" or "4" or "5" or "6" or "7" or "8" or "9" or "10") near/2 (week* or daily or day or session*)))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
2 13,430,645 TOPIC: ((psychotherap* or psycho-therap* or therap* or treatment* or preventi* or interven* or program* or cognitive* or behavio* or counsel* or training*))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
1 159,073 TOPIC: (((brief* or "short-term" or limited or "single session") near/4 (psychotherap* or psycho-therap* or therap* or treatment* or preventi* or interven* or program* or cognitive* or behavio* or counsel* or training*)))
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years

ERIC 1965 to March 2020 (Ovid)

25.06.2020

172 hits

1	((brief* or short* or limited or targeted or (single adj session)) adj4 (psychotherap* or psycho-therap* or therap* or treatment* or preventi* or interven* or program* or cognitive* or behavio* or counsel* or training*)).tw.	
2	exp Psychotherapy/	
3	(psychotherap* or psycho-therap* or therap* or treatment* or preventi* or interven* or program* or cognitive* or behavio* or counsel* or training*).tw.	
4	2 or 3	
5	((one or double or two or triple or three or four or five or six or seven or eight or nine or ten or "1" or "2" or "3" or "4" or "5" or "6" or "7" or "8" or "9" or "10") adj2 (week* or day* or daily or session*)).tw.	
6	4 and 5	
7	(motivational adj interview*).tw.	
8	1 or 6 or 7	
9	(child* or adolesc* or young or youth* or teen* or pediatr* or student* or college*).tw.	
10	8 and 9	
11	exp Self Control/	
12	((affect* or emotion* or self*) adj2 (regulat* or dysregulat* or control*)).tw.	
13	((experiential* or emotion* or behavio* or expressive or thought*) adj (avoid* or suppres*)).tw.	
14	(emotion* adj1 (manage* or competenc*)).tw.	
15	ruminat*.tw.	
16	or/11-15	
17	10 and 16	
18	exp Randomized Controlled Trials/	
19	(placebo* or random* or "comparative stud*" or (clinical adj3 trial*) or (research adj3 design) or (evaluat* adj3 stud*) or (prospectiv* adj3 stud*) or ((singl* or doubl* or trebl* or tripl*) adj3 (blind* or mask*))).mp.	
20	18 or 19	
21	**17 and 20**	**160**

22	(meta-analy* or metaanaly*).tw.	
23	search*.tw.	
24	(systematic* adj2 review*).tw.	
25	22 or 23 or 24	
26	**17 and 25**	**12**