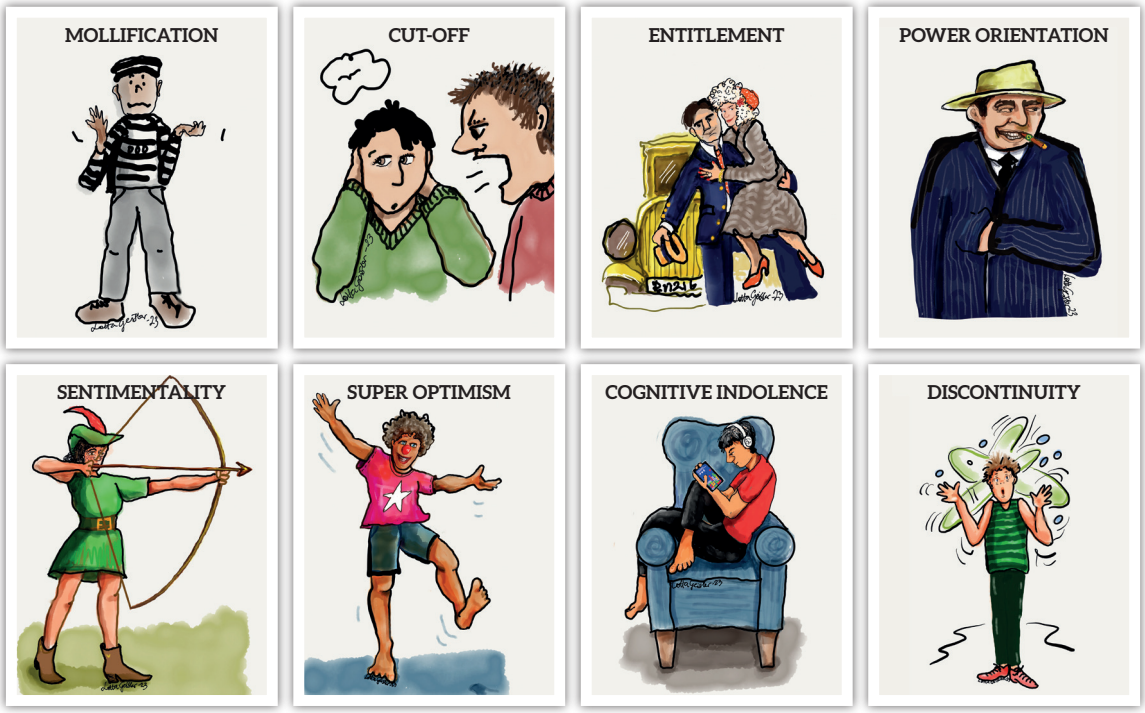
JYU DISSERTATIONS 620

Sophia Söderström

Treatment of the Criminal Lifestyle

An Evaluation of Interventions based on Positive Criminology



UNIVERSITY OF JYVÄSKYLÄ
FACULTY OF EDUCATION AND PSYCHOLOGY

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Treatment of the Criminal Lifestyle

An Evaluation of Interventions based on Positive Criminology

Esitetään Jyväskylän yliopiston kasvatustieteiden ja psykologian tiedekunnan suostumuksella
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Cover picture: Criminal thinking patterns illustrated by Lotta Geisler

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ABSTRACT

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The primary aim of the current work was to evaluate the effectiveness of the cognitive-oriented treatment programs for young and adult offenders. The 61 participants (n = 30 in the one-week group and n = 31 in the 18-week individual treatment group) in the youth study (Study I) were defined as being in the pre-criminal or early phase of lifestyle criminality, and the 43 participants in the adult study (Study II) were defined as being in the advanced or burned-out phase of lifestyle criminality. Study I and Study II examined the programs' effect on criminal thinking patterns and sense of coherence. The results suggested that the 18-week individual treatment for youth and the combined 6-week group and individual treatment for adults decreased criminal thinking patterns from high values to values comparable to the normal population. Also, the sense of coherence, reflecting the offenders' view of life, significantly changed in the treatment groups. Additionally, the recidivism measurements showed a decreased rate of convictions for both young and adult offenders in the treatment groups compared to the control groups. Study II also showed that treatment significantly increased the positive affect in adults and that the quality of program delivery, that is, therapeutic relationship, pedagogic ability, and methodologic competence, positively covaried with the positive affect and sense of coherence after treatment. The aim of Study III was to examine whether the 18-week and the 6-week interventions decreased the subdimensions of criminal thinking and increased the subfactors of the sense of coherence and whether the decrease in criminal thinking was mediated by the increase in sense of coherence. The results suggested that the treatment significantly decreased most subdimensions of criminal thinking in both young and adult offenders. Among adults, the changes in sense of coherence and, especially, in the subfactor of manageability mediated the decrease in criminal thinking. Overall, the current study indicated that criminal thinking patterns can be modified. In addition, the study increased our understanding of possible mechanisms of change in criminal thinking.

Keywords: Criminal thinking patterns, sense of coherence, mediators, treatment effects

TIIVISTELMÄ (ABSTRACT IN FINNISH)

Söderström, Sophia
Rikollisen elämäntavan hoito: Positiiviseen kriminologiaan perustuvien interventioiden vaikuttavuus
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Tämän työn ensisijaisena tavoitteena oli arvioida nuorille ja aikuisille rikoksentekijöille suunnattujen kognitiiviseen käyttäytymisterapiaan pohjautuvien ohjelmien tehokkuutta. Osatutkimuksessa I oli mukana 61 esirikollisessa vaiheessa olevaa nuorta, jotka olivat iältään 13–21-vuotiaita. Heistä 30 nuorta osallistui viikon pituiseen ryhmäohjelmaan ja 31 nuorta 18 viikon kestoiseen yksilöohjelmaan. Osatutkimukseen II osallistui 43 yli 18-vuotiasta aikuista, jotka olivat elämäntaparikollisuuden pitkälle edenneessä vaiheessa. Heille tarjottiin kuuden viikon yhdistetty yksilö- ja ryhmäohjelma. Osatutkimuksissa I ja II tutkittiin ohjelmien vaikutusta rikolliseen ajatteluun ja koherenssin eli elämänhallinnan tunteeseen. Tulokset viittasivat siihen, että nuorille rikoksentekijöille tarjottu 18 viikon yksilöohjelma ja aikuisille tarjottu kuuden viikon yksilö- ja ryhmäohjelma vähensivät rikollista ajattelua. Myös rikoksentekijän elämänkatsomusta heijastava koherenssin tunne muuttui merkitsevästi. Tulokset osoittivat myös, että sekä nuorten että aikuisten saamat rikostuomiot vähenivät ohjelman saaneissa ryhmissä verrattaessa kontrolliryhmiin. Osatutkimus II osoitti myös, että hoito lisäsi merkitsevästi positiivista tunnetilaa aikuisilla. Ohjelman toteuttamisen laatu eli terapeuttinen suhde, pedagogiset kyvyt ja metodologinen kompetenssi olivat yhteydessä positiiviseen tunnetilaan ja koherenssin tunteeseen. Osatutkimuksen III tavoitteena oli selvittää, vähensivätkö 18 ja kuuden viikon interventiot rikollisen ajattelun eri ulottuvuuksia ja lisäsivätkö ne elämänhallinnan tunteen osatekijöitä. Lisäksi tutkittiin, välittikö rikollisen ajattelun väheneminen koherenssin tunteen lisääntymistä. Tulokset viittasivat siihen, että ohjelmat vähensivät merkitsevästi useimpia rikollisen ajattelun ulottuvuuksia sekä nuorilla että aikuisilla rikoksentekijöillä. Aikuisten keskuudessa elämänhallinnan tunteen ja erityisesti elämän hallittavuuden muutokset välittivät rikollisen ajattelun vähenemistä. Yhteenvetona tutkimus osoitti, että rikollisia ajattelumalleja voidaan muuttaa. Lisäksi tutkimus lisäsi ymmärrystämme mahdollisista rikollisen ajattelun muutosmekanismeista.

Avainsanat: Rikolliset ajattelumallit, koherenssin tunne, välittäjät, hoitovaikutukset

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ACKNOWLEDGMENTS

> Sophia, if you put all people naked in a big sauna, you cannot tell who is a thief or a police chief, a president or a street cleaner. Everyone is just people, and all people can do wrong. But you can regret your mistakes, stop doing wrong, and start doing right.
>
> Dad

When I was a little girl, my dad had a grocery store. Dad used to come home and tell me about things that had happened at the store during the day. One evening Dad came home and told me that he had caught a thief. And it was not just any thief. It was the city police chief. Every week, for a long time, the police chief had smuggled out goods worth quite a lot of money. It was also done in a rather refined way because he had systematized the thefts. Finally, an observant staff member had figured out how the police chief had managed it all, and Dad and the staff member had caught him in the act.

The police chief was remorseful and cried when he asked my dad not to report him to his colleagues at the police.

"Please," he said, "can you forgive me? If you report this, I will lose my job and my wife will leave me!"

Dad thought this was a high price to pay and told the police chief that he promised not to report him if he promised to stop stealing. So, they agreed.

Now I protested.

"But Dad," I said, "he was a thief!" Because in a child's world, right should be right, a thief should be in prison, and a police chief should not be a thief.

Then my dad explained, in such a simple way that even a six-year-old child understood, what it means to regret your mistakes and start doing right by forgiveness and reconciliation. He said:

"Sophia, if you put all people naked in a big sauna, you cannot tell who is a thief or a police chief, a president or a street cleaner. Everyone is just people, and all people can do wrong. But you can regret your mistakes, stop doing wrong, and start doing right, just like the police chief who stopped stealing.

This thesis proves my dad was right. Even if you have made big mistakes in your life, which hurt yourself and those you love, you can turn around and start doing things in a different way by reconciliation. Reconciliation is about making peace with yourself and others by leaving destructive choices and being able to see and follow your good will despite your mistakes. Forgiveness and reconcilements are like gifts we cannot earn (or steal); they are free, but we cannot always see them, understand them, or receive them. Maybe someone needs to show us how to do this and believe in us, so that we can do it.

In addition, it is a gift for me that through the work on this thesis I have had the opportunity to play a part in the participants' new ways. For that I would like to thank all the contributors to this study—clients, program leaders, and contact persons. You have made this doctoral thesis possible. With your participation, you have contributed to developing knowledge about what can help people leave

a criminal lifestyle behind. Hopefully, it will also lead to improved interventions for others in the same situation in the future. A special thank you to Billy Nilsson—without your help there would have been no control groups in the studies. I would also like to send my gratitude to Ana Gallego Alonso and Joona Muotka, who helped me with the statistics.

Also, a very special thank you to my supervisors Professor Raimo Lappalainen at Jyväskylä University, Faculty of Education and Psychology, and Professor Arto Hiltunen and Dr. Lars M. Eriksson at Karlstad University, Department of Social and Psychological Studies. I would not have understood much of how research is done or been able to do this project without your guidance and support.

A big thank you for your commitment and great patience Gunnar Bergström and the Criminality as a Lifestyle Foundation. Thank you for your trust and for giving me the opportunity to accomplish these studies. Many thanks to all units in the Criminality as a Lifestyle network for all your hard work, wise thoughts, and good conversations; the social services, inpatient facilities for voluntary care, and inpatient facilities for involuntary care as well as the associations X-Cons and KRIS (Criminals' Restitution into Society), thank you for your commitment and patience.

Finally, I would like to thank my family and friends. Although my work may seem a bit nerdy and even if you do not think all the details are as interesting as I do, you let me go on. For that I am grateful. I would also like to express my gratitude to my mum and dad, who told me the meaning of reconcilement. Because I think that underneath all the figures, analyses, and results, making your inner peace by leaving destructive choices and following your good will is what this thesis really is all about.

Jyväskylä 22.03.2023
Sophia Söderström

LIST OF ORIGINAL PUBLICATIONS

I Lindblom, S., Eriksson, L., Hiltunen, A. J. (2017). Evaluation of the cognitive intervention programme 'A New Direction' targeting young offenders in Sweden. *Journal of Scandinavian Studies in Criminology and Crime Prevention, 18*, 176–190.

II Lindblom, S., Eriksson, L., Hiltunen, A. J. (2018). Criminality, thinking patterns and treatment effects: Evaluation of the Swedish cognitive intervention programme 'New Challenges' targeting adult men with a criminal lifestyle. *Journal of Scandinavian Studies in Criminology and Crime Prevention, 19*, 204–224.

III Söderström, S., Hiltunen, A. J., Eriksson, L., & Lappalainen, R. (2022). Salutogenesis as a mediator in decreased criminal thinking: An evaluation of cognitive programs for juvenile and adult offenders. Submitted manuscript.

Considering the instructions given and comments made by the co-authors, the author of the present thesis participated in designing the research plan, planning and execution of the intervention, and collecting the data. The author also contributed to the statistical analysis and was the main author of the three publications.

FIGURES

TABLES

CONTENTS

1 INTRODUCTION

The overall purpose of this thesis was to contribute to the evidence-based practice for the implementation of interventions for criminality with both a risk and protective focus. In particular, the current study examined intervention impact on criminal thinking patterns and sense of coherence as well whether sense of coherence acted as a mediator for changes in criminal thinking.

1.1 Summary of the research area

The opinions about people who commit crimes and the ideas about how crime should be treated have varied over time (Cullen & Gendreau, 2001). Over the past two decades, the view of rehabilitating recidivist offenders has changed from the assumption that nothing works to the suggestion that there are certain types of treatment interventions that reliably reduce recidivism (Ward & Brown, 2004). In modern criminology, the relationship between drug abuse and long-term crime has also been accentuated with the view of the relationship changing over the years (Andersson & Nordh, 2014). Previously, drug-related, and long-term criminality were assumed to decrease if the abuse was treated (Bergström, 2012; Fridell & Hesse, 2005; Lober, 1990). However, it has been shown that criminality in many cases existed before and persisted after treating the addiction, as a lifestyle and solution to life problems. At the same time as a more complex understanding of the motives for criminality has emerged, the request for reliable methods in this area have also increased (Casavant & Collin, 2001).

The development has resulted in focusing on evidence-based treatment programs aiming at changeable risk factors for criminality (Kolind et al., 2013; Kriminalvården, 2014). In the Nordic context, research and treatment of criminality take place mainly within the correctional institutions. However, due to the relationship between addiction and criminality, several clients with criminal problems are cared for in substance abuse care. Out-of-prison care has proven to be favorable for treatment outcomes (Öberg & Holmberg, 2008). One

reason is assumed to be a more protective environment against negative group processes that enforce criminal norm systems (Fridell & Hesse, 2005). However, it is unusual to include protective factors within the theoretical frameworks for treating antisocial behavior such as criminal acts (Serin et al., 2016). Critics say that the importance of protective factors has so far been overlooked in an overly one-sided risk perspective, with the focus on reducing unwanted behaviors (Ronel & Elisha, 2011). Behavioral change is a multi-faceted process, and instead of measuring success by simple rates of recidivism, Klingele (2019) suggests that policymakers should seek more nuanced metrics. One such alternative is markers of desistance. In this context, desistance means the process by which individuals move from a life that is crime-involved to one that is not. Klingele (2019) means that this is evidenced not just by whether a person re-offends but also by whether there are increasing intervals between offenses and patterns of de-escalating behavior. In the field of rehabilitation, the criticism has led to an initial transition from a risk and problem management paradigm to a more comprehensive recovery paradigm. The perspective known as positive criminology points to recovery as a process, the development of resources, and the relationship between risk management and quality of life (Ronel & Elisha, 2011; Ronel et al., 2013). The present thesis, which has its basis in positive criminology, is intended to be a contribution to the research of intervention programs for the treatment of criminality that combine both a risk and protective focus and that have been evaluated in substance abuse care.

1.1.1 Operationalization of lifestyle criminality

There are several definitions of long-term criminality. Different terms are used synonymously to describe approximately the same problem: recidivism, habitual criminality, chronic criminality, or persistent criminality (Torstensson Levander, 2013). These terms describe criminality independently of other social circumstances and are based on registered crimes. The concepts have three common criteria: 1) onset of offending, 2) frequency, and 3) duration. The delimitations within the criteria, however, may differ between different studies (Torstensson Levander, 2013). Unlike these definitions, the concept of lifestyle criminality also describes information about social and psychological circumstances. That is, the content and everyday life and social life, criminality and addiction, and different ways of reflecting and thinking about what is right and wrong (Osgood et al., 1996; Walters, 1990, 2002a).

To be considered a lifestyle criminal, the criteria usually include criminal onset before the age of 15, occurrence in the police's Suspicion Register before the age of 18, occurrence in the Suspicion Register for a combination of minor and more serious crimes, occurrence in the Suspicion Register for offenses at least once a year during the last recent years, and other offenses combined with drug offenses or mental health problems as well as socializing and staying in environments with an increased risk of criminal behavior and other types of deviant behavior (Torstensson Levander, 2013). To be considered a youth at risk of a criminal lifestyle, the criteria are early onset of offending (before the age of

15), that the person appears in the Suspicion Register three times or more between the ages of 15 and 17, and that the offenses before the age of 18 years consist of both minor and more serious crimes as well as long-term and current contact with other criminals. The criteria for quickly identifying young people at risk of starting a criminal career are: 1) type of crime, that is, a combination of minor and serious crimes before the age of 18, and 2) early crime onset, that is, debut before 15 years of age (Granath & Westlund, 2011; Svensson, 2002).

There are also pre-criminal behaviors that are not always criminal offenses in the ordinary sense, but which nonetheless are clear warning signs that the young person risks moving on to more advanced criminality (Walters, 1990). Examples of such behaviors are socializing with criminals, aggression, fights, violence, and conflicts with adult authorities (Loeber et al., 1999; Walters, 1990). Truancy escapes from home and recurring lies are also defined as pre-criminal behavior (Bergström, 2012). It is also common for lifestyle criminality to coexist with active drug abuse (Andersson & Nordh, 2014). Crimes related to addiction make up a large proportion of lifestyle criminality, such as profiteering, drug driving, and drug offenses. In addition, violent crimes within one's own environment, as well as disorderly conduct that creates disturbance in society, is a major part of lifestyle criminality. However, the common belief that individuals who stop their drug use automatically stop committing crimes is not true (Bergström, 2012). Criminality often develops before drug use and often remains even if the person manages to become free from the drugs (Bergström, 2012; Lober, 1990). Studies from the Netherlands show that lifestyle criminality rarely overlaps with organized criminality (Kruisbergen et al., 2012). Organized criminality instead needs people who work professionally in society, and whose crimes are linked to contacts within society rather than contacts on the marginalized fringes of society. In addition, the National Police Board's assignment directive does not include organized criminality and system-threatening criminality (political and religious extremism) in the concept of lifestyle criminality (Andersson & Nordh, 2014).

In this thesis, lifestyle criminality is defined according to Walters (1990, 2002a), which, in addition to the onset, frequency, and duration of crime, also includes necessary information about social and psychological circumstances. Walters (1990, 2002a) defines lifestyle criminality as: 1) repeated violations of laws, norms, and morals, 2) abusive attitudes toward other people, 3) desire for pleasure, and 4) irresponsibility. In addition, young people in the pre-criminal and early phases of lifestyle criminality are defined based on pre-criminal behavior (Bergström, 2012; Loeber et al., 1999; Walters, 1990). This means that lifestyle criminality can also include people without a registered crime, partly based on pre-criminal behavior and partly based on self-reported criminality not officially registered. In cases where organized crimes overlap with lifestyle criminality, it is included. System-threatening crimes (political and religious extremism), on the other hand, are excluded from the definition.

1.1.2 Research evidence and criminality: From a risk- to a protective perspective

A very small group of individuals accounts for a very large part of the total crime rate, which has been known since the so-called Philadelphia study was published almost 50 years ago (Wolfgang & Sellin, 1972). The result from the study has been replicated several times, and today it is empirically well established that the crime rate is distributed as it was suggested in the Philadephia study (Falk et al., 2014; Moffitt & Caspi, 2001). Antisocial behavior shows impressive continuity over age, but its prevalence changes dramatically over certain age periods, increasing almost 10-fold temporarily during adolescence (Moffitt, 1993). With a peek between the ages of 15-17, young people between the ages of 15-21 are the most criminally active. Statistics from the office of Juvenile Justice and Delinquency Prevention show that rearrest rates for youth within one year of release from prison averaged 55 percent (Development Services Group, 2017). However, most of young people who are prosecuted for crimes do not reoffend within a three-year period and they rarely become criminals as adults (Falk et al., 2014). In a Nordic context, just over 50 percent of prosecuted young people between the ages of 15-17 are one-time offenders who do not recur in further prosecutions (Brå, 2000; 2011; 2021). About 25 percent are prosecuted a few more times after the first prosecution and about 5 percent are prosecuted nine times or more. Young people who are prosecuted at least three times, before the age of 22 years, for crimes where the punishment is more severe than a fine, are about 1 percent in each cohort (Falk et al., 2014). This small group accounts for just above 60 percent of all violent crimes. Commonly, these offenders are young, abusive men, who commit their first crime at a very young age, often have a personality disorder and usually engage in other crimes such as drug- and property crimes (Falk et al., 2014; Moffitt & Caspi, 2001). Within this group, crime generally goes hand in hand with other social problems. The level of crime also varies regionally to some extent and is linked to the socio-economic features of the regions. Thus, delinquency conceals two distinct categories of individuals: A small group engages in antisocial behavior of one sort or another at every life stage, whereas a larger group is antisocial only during adolescence (Moffitt, 1993). According to the theory of life-course-persistent antisocial behavior, children's neuropsychological problems interact cumulatively with their criminogenic environments across development, culminating in a pathological personality. According to the theory of adolescence-limited antisocial behavior, a contemporary maturity gap encourages teens to mimic antisocial behavior in ways that are normative and adjustive. The treatment methods that currently dominate the area are trying to meet these differences and are based on risk management models. An example is the risk-need-responsivity (RNR) model (Andrews et al., 2011). The risk principle states that offender recidivism can be reduced if the level of treatment interventions is proportional to the offender's risk to re-offend (Andrews & Bonta, 2006). The need principle calls for the focus of correctional treatment to be on criminogenic needs. Criminogenic needs are dynamic risk factors that are directly linked to criminal behaviour. Criminogenic

needs are dynamic (changeable) unlike static risk factors that can only change in one direction (increased risk) and are immutable to treatment intervention. The responsivity principle maximizes the offender's ability to learn from an intervention by providing cognitive behavioural treatment and tailoring the intervention to the learning style, motivation, abilities, and strengths of the offender. Table 1 presents an overview of the major dynamic risk factors and suggestions for assessment and treatment. According to the RNR model, these seven factors are worth assessing and targeting in interventions.

TABLE 1 The seven major risk factors.

Major risk factors	Indicators	Intervention goal
Antisocial personality pattern	Impulsive, adventurous pleasure seeking, restlessly aggressive and irritable	Build self-management skills, teach anger management
Pro-criminal attitudes	Rationalizations for crime, negative attitudes towards the law	Counter rationalizations with prosocial attitudes; build up a prosocial identity
Social supports for crime	Criminal friends, isolation from prosocial others	Replace pro-criminal friends and associates with prosocial friends and associates
Substance abuse	Abuse of alcohol and/or drugs	Reduce substance abuse, enhance alternatives to substance use
Family/marital relationships	Inappropriate parental monitoring and disciplining, poor family relationships	Teaching parenting skills, enhance warmth and caring
School/work	Poor performance, low levels of satisfactions	Enhance work/study skills, nurture interpersonal relationships within the context of work and school
Pro-social recreational activities	Lack of involvement in pro-social recreational/leisure activities	Encourage participation in pro-social recreational activities, teach prosocial hobbies and sports

Despite the benefits of the RNR model, critics believe that it does not sufficiently cover several important conceptual areas such as the relationship between risk management and quality of life, the client's attitude to treatment, and the therapist's approach to the client (Ward & Brown, 2004). Ward and Fortune (2016) further argue that it is becoming increasingly clear that dynamic risk factors cannot function as explanations for criminal behavior because they are complex constructs that contain a mixture of presumed causes, facts, and problematic cognitive, affective, behavioral, and social conditions associated with criminality. They suggest that criminal behavior is instead understood as a causal process based on deeper, more coherent explanations that are ultimately assumed to lead to better adapted and precise interventions. Also, Serin et al. (2016) assume that protective factors that are weighed against risk factors can provide a more adequate understanding of criminal behavior and ways to break it. However, the authors believe that how protective and risk factors are defined and measured are not sufficiently advanced, and that further conceptual clarity is needed. Even

if the area needs clearer concepts, the criticism of a one-sided focus on risk has directed the state of knowledge toward taking protective and resistance factors into account to a greater extent.

A new perspective in the field is positive criminology, which includes several different theories and models (Ronel & Elisha, 2011). Fundamental to positive criminology is its special attention to the transition from the risk and problem management paradigm to a more comprehensive recovery paradigm. Recovery is seen here as a process in which behavioral problems are gradually solved through the development of physical, emotional, existential, and relational health.

In recent years, various treatment programs have been developed in the area. The assumption underlying these programs is that clients who work to acquire new positive skills, rather than just avoiding negative behaviors, will achieve better and more sustainable results in the long run. A central idea within the perspective is to develop internal resources based on positive experiences at individual, group, and societal level (Ronel & Elisha, 2011; Ronel et al., 2013). The positive experiences are assumed to distance the individual from crime and at the same time integrate meaning, quality of life, and new values (Openhaim & Timor, 2005; Ronel et al., 2013). One example is the Good Lives Model (GLM), where the basic idea is to build capacity in the individual to reduce the risk of recidivism (Ward & Brown, 2004). According to GLM, an individual commits crime trying to secure some form of life values. The desire to seek one's life values and goals is thus normal. Criminal behavior occurs when the person lacks the internal and external resources needed to achieve his/her life values by prosocial means. Thus, criminal behavior represents a maladaptive attempt to meet desired life values. It is therefore believed that interventions should be something that add to the individual's repertoire of personal function rather than being an activity that removes or handles problems. The purpose of the rehabilitation is then to increase the individual's opportunities to acquire knowledge, skills, resources, and prospects to reach his/her life values in a way that does not harm others (Ward & Brown, 2004).

Another example of theories in line with positive criminology is the salutogenic perspective (Antonovsky, 1996; Ronel & Elisha, 2011). The two core concepts that are essential in salutogenic theory are sense of coherence (SOC) and general resistance resources (GRRs) (Antonovsky, 1979, 1987). Sense of coherence reflects the individual's view of life and capacity to handle stressful situations (Antonovsky, 1987). It is a global orientation to regard life as reasonably comprehensible, meaningful, and manageable. It is also a personal way of thinking, being, and acting with an inner trust, which gives the individual the ability to identify and use the resources available. The second key concept, GRRs or salutogenic factors, is believed to enable the individual to increase their sense of coherence. GRRs are resources that exist within humans but also in their immediate environment. These are both material and non-material qualities from the individual to the societal level. Based on these available resources, the individual is provided with a set of meaningful and coherent life experiences.

Antonovsky (1987) believes that a person's sense of coherence is difficult to change and is established during childhood depending on the individual's experiences. Sense of coherence can change but it is usually temporary. On the other hand, therapeutic efforts can lead to the individual seeking non-destructive situations, which can lead to new experiences that provide a more sustainable increase in sense of coherence over time. Hult et al. (1996) have translated how the concepts of comprehensibility, meaningfulness, and manageability can be used in clinical work to increase the sense of coherence. Initially, an understanding is needed that a certain change is necessary (comprehensibility). To create motivation for change, the individual needs to feel involved and committed based on their own goals (meaningfulness). Finally, knowledge is needed about how the change is to take place, that is, the ability to make use of assets, resources, and opportunities (manageability). The salutogenic perspective also emphasizes how difficulties can contribute to positive change and the benefits individuals can experience after difficult events. These thoughts also exist within existentialism, which holds that the attribution of a positive meaning of difficulties can initiate a self-changing process regarding feelings, attitudes, and behaviors (Frankl, 1965).

Like the programs investigated in the current thesis, positive criminology thus emphasizes the importance of meaning. Positive criminology broadens traditional criminology by including more process-oriented and holistic explanatory models for criminal behavior, which critics argue have often been disregarded in research (Ronel & Elisha, 2011).

1.1.3 Process-oriented research: Mediators to criminal behavior and recidivism

In process-oriented research, the focus is on what can mediate criminal behavior. For the development of delinquency, there are studies that have examined parental involvement and acceptance of child delinquency. Walters (2013) evaluated the possibility of moderated mediation in the relationship between delinquency at age 16, parental involvement at age 18, and criminality at age 24. Moderated mediation analysis, path analysis, and causal mediation analysis revealed the presence of a conditional indirect relationship between delinquency, parental involvement, and adult crime moderated by sex. These results are consistent with views on cumulative disadvantage and gendered pathways to crime. Walters (2021) also tested the hypothesis that perceived parental acceptance of child delinquency mediates proactive criminal thinking in its effect on offending behavior in a sample of 1,588 young people (778 boys, 810 girls). The results suggest that criminal thinking may conform to a fractal-like "mediators within mediators" pattern whereby perceptions of parental acceptance of child delinquency mediate the planned, calculated, and predatory features of antisocial cognition in the form of proactive criminal thinking. In turn, criminal thinking mediates the relationship between delinquency and criminality. In a study by Walters and DeLisi (2012), causal mediation analysis revealed that criminal thinking partially mediated the relationship between delinquency and

criminality. This mediational effect was moderately robust to potential pre-treatment confounds from constructs central to four major criminological theories (low self-control, delinquent peers, maternal attachment, and intelligence) and to unobserved confounds from three demographic variables (age, gender, and race). In addition, research showed that reactive criminal thinking, but not proactive criminal thinking, mediates the well-documented connection between an early age of criminal conviction and subsequent recidivism (Walters, 2022).

These results suggest that criminal thinking, especially reactive criminal thinking, is both a cause and effect of antisocial behavior. Consequently, criminal thinking is not only an important dynamic risk/needs factor but should also be addressed in programs designed to ameliorate current criminality and prevent future antisocial behavior. Antisocial behavior includes aggression, and Martin et al. (2019) aimed to clarify the impact of psychopathy, impulsivity, and aggression on recidivism and to investigate the relationships between these dimensions in prisoners with and without antisocial personality disorder. There were significant between-group differences regarding premeditated aggression and attentional impulsivity. For inmates with antisocial personality disorder, impulsive aggression was related to recidivism (number of times in jail). Their level of psychopathology was related to premeditated aggression and motor impulsivity. Impulsive aggression, like attentional impulsivity, was related to recidivism only for inmates with antisocial personality disorder. These antisocial characteristics also relate to trauma. Kerig et al. (2012) found that the association between trauma exposure and callous–unemotional traits was mediated by the general numbing of emotions and specifically by the numbing of sadness. In addition, further analyses indicated that numbing of fear and sadness statistically mediated the relations to callous–unemotional traits only for those traumatic experiences involving betrayal. Gender was not found to moderate these effects. Also, even if youth crime is a priority for policy makers, research has fallen short of fully examining how the development of psychological resilience via interventions may help reduce persistent offending (Hodgkinson et al., 2021). On the other hand, in a systematic review from 2000 to 2019, Hodgkinson et al. (2021) found that "diversion" schemes encouraging children and young people away from offending have successfully reduced the numbers of young people within the youth justice system. Psychological changes as result of intervention included an increased sense of coherence, improved emotion recognition, more positive decision-making, and reduced defiance. However, for those not successfully diverted, recidivism remains obstinately high. Many of those remaining in the youth justice system appear to have complex psychological needs. Research has also shown that many of this group have experienced a high number of difficult childhood experiences (Hodgkinson et al., 2021).

Thus, previous research on mediators showed the role of parenthood in the development of criminal thinking and criminality (Walters, 2021). Further, characteristics such as aggression, impulsivity, and numbing of fear and sadness (related to traumatic experiences involving betrayal) among individuals with

antisocial personality disorder have been found to be mediators of recidivism (Kerig et al., 2012). Therefore, interventions for lifestyle criminality require a reliable and faithful environment and exercises that equip the client with new skills to reduce aggression and impulsivity and get in touch with and regulate fear and sadness. In addition, an increased sense of coherence, improved emotion recognition, more positive decision-making, and reduced defiance seem to play an important role. A Japanese study found that manageability, one of the sense of coherence sub-factors, related to the tendency of repeated offenses among adult offenders (Kishi et al., 2018).

1.1.4 Research evidence of treatment of young offenders

There have been relatively few Nordic effectiveness studies of interventions for young people with a high frequency of recidivism (Söderholm Carpelan et al., 2008). On the other hand, there is a large number of studies and surveys, especially North American, that have evaluated interventions for young offenders.

The international state of knowledge shows that a treatment intervention is affected by several general criteria: 1) the intervention's focus on criminogenic factors, which refers to risk factors for criminality and the development of a criminal career; 2) the intervention's focus on risk, need, and responsiveness, which signifies that people with a high risk of relapse receive more intensive interventions than those with a low risk and that the interventions need to be directed at changeable risk factors and adapted to the individual's learning style and ability; 3) the intervention's basic idea, which refers to the theoretical explanations of the relationship between the onset of symptoms, the significance of the symptoms, and the change that the treatment should lead to; 4) the intervention's treatment orientation, that is, the methods used based on the theoretical idea; 5) care conditions, which refer to outpatient and inpatient care as well as treatment in groups or individually; and 6) the scope and quality of the intervention, which refer to the length and intensity of the treatment as well as training of the therapists, staff turnover, and treatment interruptions (Andershed et al., 2010).

Meta-analyses in the field point out two types of interventions that have shown the most consistent results in reducing recidivism, namely (1) family-based interventions that focus on building parents' parenting abilities, and (2) interventions with a cognitive focus or cognitive behavioral therapy focus (Granski et al., 2019; Söderholm Carpelan et al., 2008). The meta-analyses examined demonstrated small to medium-sized average effects in a positive direction, but several effects were not statistically significant. In these interventions, young people are trained to see the consequences of their behavior, to understand their own motives, and to develop new ways of controlling their behavior. Methods that have showed positive effects in the family-based interventions are, for example, Functional Family Therapy (FFT) (Hartnett et al., 2017; Vardanian et al., 2019) and Multisystemic Therapy (MST) (Curtis et al., 2004; Littell et al., 2021). FFT is based on systems theory, communication theory, and

behavioral therapeutic principles (Hartnett et al., 2017), and MST is based on socio-ecological and family system theories (Littell et al., 2021). In the Nordic context, the salutogenic perspective is found as a meta-theoretical background and practice in the treatment (Hansson & Cederblad, 2004; Hansson et al., 2004). A few studies of the family systemic programs have included sense of coherence as an outcome measure (Hansson et al., 2004; Sundell et al., 2008). Here, no difference was demonstrated between the examined method and traditional care intervention (TAU). A method with a cognitive behavioral therapy focus that has shown a positive effect is Aggression Replacement Training (ART) (Brännström, 2016). Also, Repulse, which is based on ART, is perceived to work well by care facilities and clients in a Nordic context, although the method has not been evaluated in efficacy or effectiveness studies (SBU, 2020). These programs are based on social skills training and aim to replace the thoughts, feelings, and behaviors that constitute psychological problems with more functional ones.

Regarding care conditions, research has shown that different conditions show certain differences concerning treatment result (Lipsey, 2009). Overall, an intervention's effectiveness is not affected by whether it is given in inpatient- or outpatient care. Counselling and therapy, where an adult tries to change the young person's mindset and behavior, have shown slightly weaker effects in inpatient care. However, similar positive effects have also been reported (Garrido & Morales, 2007; Garrido et al., 2006). Nevertheless, when the intervention is given in a group, where the group members mostly consist of young people with a criminal history, the intervention tends to be less effective in inpatient care (Ang & Hughes, 2001). Also, research shows that most prosecuted young people do not relapse (Söderholm Carpelan et al., 2008). However, 80 percent of the group of young people who have received interventions in involuntary inpatient care relapse within three years (Ring & Westfelt, 2012). Previous prosecutions as well as factors that have to do with the individual's parents, such as low level of education and income, separation, and criminality, increase the risk of recidivism. The factors that reflect the individual's own social and economic situation also show clear connections with crime rate. Higher levels of education and good income are related to lower recidivism rates (Ring & Westfelt, 2012). The recidivism rate in crimes and police reports one year after treatment is estimated to be 50 percent in conventional inpatient care without specific treatment elements; with systematic treatment the figure drops to 45 percent (Lipsey, 1992a, 1992b, 1995, 1999). On other outcome variables such as reduced mental symptoms, reduced truancy, and better school performance, the improvement is between 10 and 30 percent.

The length and intensity of the treatment as well as training of the therapists, staff turnover, and treatment interruptions are factors that are important for the effectiveness of a treatment method. For example, Functional Family Therapy (FFT) usually lasts between 8 and 12 therapy hours, but up to 30 hours occur (Hartnett et al., 2017; Socialstyrelsen, 2022a). Relevant academic training is needed, and the initial training is six days. The intervention with Multisystemic Therapy (MST) lasts for four to six months (Littell et al., 2021; Socialstyrelsen,

2022b). Therapists are available to families 24 hours a day, 7 days a week. To be trained and work in an MST team, relevant academic training is required, and the initial training is five days. Aggression Replacement Training (ART) includes three sessions per week for ten weeks (Brännström, 2016; Socialstyrelsen, 2022c). There are no formal requirements for basic education to be trained in ART, and the training varies in length (four to seven days) and content. Repulse is based on a basic structure consisting of ten individual sessions (Socialstyrelsen, 2022d). To implement the Repulse method, a basic course is required. The course is aimed at anyone who works with clients in the psychosocial field, and no prior knowledge is required. The course is for three days. After the first two days, a series of ten meetings with a confidant begins. About 10–12 weeks later is the final day of the course. Turnover in personnel or unpredictability in staff responsibilities is expected to undermine the orderly execution of the interventions, including the application of activities to promote a safe and orderly environment and other prevention activities (Gottfredson & Gottfredson, 2002). Turnover is related to expectations or intentions to quit a work environment and to organizational commitment, and so organizations with high levels of turnover may have more difficulty implementing high quality prevention activities not only because of the direct effects of instability in staffing but also because of the organizational climate concomitants of turnover.

However, the scientific basis does not provide support for exemplifying the type of interventions that have shown the most promising effects with any named method, after analysis of studies that evaluate individual methods for a defined target group (youths aged 12–17 years) and with a follow-up period of two years (Olsson et al., 2021; SBU, 2020). Yet, based on results from a larger number of reviews including a wider target group and varying follow-up time, the Swedish National Board of Health and Welfare recommends efforts that have a structured and elaborate plan, are performed individually, and that focus on known risk factors for criminal behavior (Socialstyrelsen, 2021). The recommendation does not cover interventions given to young people in groups but to structured family treatment, individual behavior and skills training, and placement in a treatment family, as an alternative to institutional care. The recommended intervention can be supplemented with support for parents and/or involving the school to influence more risk factors and to ensure that the young person receives support from the environment in the process of change. Additionally, the National Board of Health and Welfare advises against using consequence programs with the aim of deterring crime, as these efforts have been shown to increase the risk of sustained delinquency.

1.1.5 Research evidence of treatment of adult male offenders

Current Nordic research regarding treatment of adult offenders mainly takes place within the correctional service, and the number of studies outside the institutional environment is very limited (Kriminalvården, 2018). Since the beginning of the 2000s, prison-based drug treatment (PDT) has increased markedly in the Nordic countries with the aim of reducing recidivism (Kolind et

al., 2013). Mostly, this is done with cognitive and cognitive-behavioral programs from England, the USA, and Canada. These programs, based on the current research situation, have shown the most promising results for reducing recidivism (Lipsey et al., 2007).

An evaluation of the Swedish correctional service's treatment shows that the difference in new prosecution is nine percentage points lower for those who have completed a cognitive-oriented treatment in comparison with the control group (Öberg & Holmberg, 2008). Follow-up of recidivism was measured 12 months after release from prison. The result applies to men who were at least 30 years old, enrolled in a treatment ward in a so-called therapeutic environment for at least 4.5 months, and within that time frame also received care in a treatment facility outside prison. Therapeutic environment refers to the content in the treatment wards. These wards are different from other wards, with frequent urine samples to maintain a drug-free environment, self-catering, activities such as work, studies, parenting circles, and artistic activities, and the possibility of care outside of prison in the final stages of imprisonment. Care outside of prison usually involves 12-step-oriented treatment in a treatment facility. International research shows similar results regarding the importance of the environment. The research also sheds light on the complex relationship between treatment, abuse, and crime. In Mitchell et al.'s (2012) meta-analysis of prison studies, the effect of substance abuse treatment on recidivism was studied. The results showed no effects of medical opiate programs either for drug abuse or recidivism. Rather, the recidivism rate in the treatment groups increased compared with the control groups. Counselling programs, that is, group treatment with 12-step elements, cognitive elements, skills training, drug information, and educational elements, proved to be effective for recidivism but not for drug abuse. Treatment programs that include aftercare after release show a greater effect size than programs without aftercare. The proportion of those who relapsed among those who received treatment was on average nine percentage points lower than in the control group (Mitchell et al., 2012). Programs for offenders often involve 20–30 sessions sometimes lasting up to 20 weeks (Landenberger & Lipsey, 2005). The more treatment provided, or the more sessions participants attend, the greater the apparent impact on, and decrease in, recidivism. The most consistently positive results came from studies that examined therapeutic communities (Mitchell et al., 2012). Therapeutic communities are organizational forms for institutional treatment that involve democracy between staff and patients, full responsibility among patients, and open communication in daily work. These studies consistently show positive effects on both relapse in drug use and criminality. Even in studies that have included both within- and outside prison institutions, cognitive behavior-oriented (CBT), behavior-oriented, and environmental therapeutic interventions have been shown to be effective in reducing criminal behavior (Fridell & Hesse, 2005). It also appears that cognitive and CBT programs are more effective in reducing further criminal behavior when delivered with other program elements such as supervision, employment, education and training, and other mental

health counselling (Landenberger & Lipsey, 2005). However, while meta-analyses show that cognitive and CBT programs are effective, in comparison no single program has been shown to be superior in reducing recidivism. Also, the effects on criminal behavior are low. Methods such as Community Reinforcement (CRA), Contingency Management (CM) and Therapeutic Community (TC) show an effect size around d = 0.08–0.10. Also, resent research suggests that psychological interventions for people in prison to reduce offending after release need improvement (Beaudry et al., 2021). Publication bias and small-study effects appear to have overestimated the reported modest effects of such interventions, which were no longer present when only larger studies were included in the analyses. Findings suggest that therapeutic communities and interventions that ensure continuity of care in community settings should be prioritized for future research.

1.1.6 Factors that contribute to distance from crime

There are common factors for both youths and adults that affect the individual's capacity to distance themselves from criminality. One factor is the context. For young people it is about having adult role models who can offer a safe environment, and for adults it is about being involved in a prosocial context (Granski et al., 2019; Söderholm Carpelan et al., 2008). Another factor is the individual's cognitions or thinking patterns and especially reactive criminal thinking (Walters, 2022). Andrews and Bonta (2006) assume that these two areas, socializing and cognition, are particularly influential for sustained criminality. Although treatment effects for criminal offenders are modest, cognitive or cognitive-behavioral therapy (CBT) is among the more promising rehabilitative treatments (Lipsey & Landenberger, 2006). Reviews of the comparative effectiveness of different treatment approaches have generally ranked it in the top layer with regard to effects on recidivism (e.g., Andrews et al., 1990; Lipsey and Wilson, 1998). CBT has a well-developed theoretical basis and the practices explicitly target criminal thinking as a contributing factor to deviant behavior (Beck, 1999; Walters, 1990; Yochelson & Samenow, 1976). Furthermore, CBT can be adapted to a range of juvenile and adult offenders, delivered in institutional or community settings by mental health specialists or paraprofessionals, and administered as part of a multifaceted program or as a stand-alone intervention.

Moreover, evidence-based literature has highlighted the importance of adherence on reduced recidivism (Caudy et al., 2013). Findings from Caudy et al.'s (2013) meta-analysis suggest that recidivism rates can be reduced by 20 percent by adhering to the principles of effective intervention and increasing the proportion of offenders in appropriate treatments. It has been proposed that when correctional interventions adhere to the principles of effective intervention and match treatments to offender risk and need profiles, the recidivism reduction potential is increased to 40 percent (Caudy et al., 2013).

1.2 The cognitive theory and method in the treatment of lifestyle criminality

1.2.1 The theory of criminality as a lifestyle

The treatment programs examined in the present thesis are based on the cognitive theory of criminality as a lifestyle. The theory is designed by Walters (1990) and is based on Yochelson and Samenow (1976), who found differences in thinking between the normal population and criminals. Criminal thinking is characterized by control orientation, cognitive immaturity, and egocentrism (Yochelson & Samenow, 1976). Control orientation refers to a desire to dominate and control others, to control what happens in the environment, and to have control over one's own anxiety by avoiding uncertainty. Cognitive immaturity refers to a higher degree of prejudice, difficulty in seeing both advantages and disadvantages, thinking only of the present and oneself, and a tendency toward self-pity. Egocentrism signifies an overestimation of one's own importance and difficulty in imagining or accepting that others can see things in a different way. This thinking pattern often leads to misinterpretations of others' intentions and behavior. Thus, in addition to the fact that criminal thinking leads to criminality, it also leads to the feelings of being annoyed with others, ending up in conflicts, failure in relationships, and to feeling left out, bored, and unhappy in everyday life (Bergström, 2012).

The theory of criminality as a lifestyle attempts to explain the relationships behind the type of long-term criminality that Walters (1990) describes as "lifestyle criminality." Lifestyle criminality refers to habitual crime, which usually begins at a young age and involves a high frequency of crimes. In addition to crime rate, the term also includes socializing, norms, and values. In Walters' (1990) theory, the concept of lifestyle has a pathological meaning. Lifestyles involve all patterns of actions that a person engages in to avoid facing the life terms. The lifestyle becomes an escape where the individual is caught up in various compulsive behavior patterns. The theory emphasizes the individual's own choice to commit a crime, that is, the decision-making process. The lifestyle model assumes that an opportunity for crime must arise for a criminal act to take place. The choice to commit a crime then takes place based on various motive and thinking patterns that lead to certain criminal behaviors. In practice, the lifestyle model's explanatory relationship and decision-making process to commit crime is often referred to as the criminal process, as shown in Figure 1.

<table>
<tr><th>Input</th><th>Upbringing and background</th><th>Choice</th><th>Motives</th><th>Thinking patterns</th><th>Decision</th><th>Behavior</th></tr>
<tr><td rowspan="3">Opportunity for crime</td><td>Lack of love and emotional validation that affect the ability to receive and give love</td><td rowspan="3">Emerging life decisions (in the lifestyle model)/cost and benefit calculation (in the decision-making process)</td><td>Anger/rebellion</td><td>Mollification</td><td rowspan="6">Commit a crime/refrain from committing a crime</td><td>Violations of laws, norms, and morals</td></tr>
<tr><td>A shame-based self-image</td><td></td><td>Cut-off</td><td></td></tr>
<tr><td>Lack of stimulus in the environment that promotes learning and development</td><td>Power/control</td><td>Entitlement</td><td>Abusive attitudes toward other people</td></tr>
<tr><td rowspan="2">External risk and protective factors (e.g., alarm)</td><td rowspan="3"></td><td rowspan="3">Fundamental and governing motive: Existential fear</td><td rowspan="2">Excitement/pleasure</td><td>Power-orientation</td><td></td></tr>
<tr><td>Sentimentality</td><td>Desire for pleasure</td></tr>
<tr><td>Mood</td><td>Greed/laziness</td><td>Super optimism
Cognitive indolence
Discontinuity</td><td>General lack of responsibility</td></tr>
</table>

Note: The criminal process as it is illustrated for clients in practice based on Walters' (1990) theory and Bergström (2012).

FIGURE 1 The criminal process.

1.2.2 The criminal self-image and worldview

The criminal's self-image and worldview are assumed to be based on an existential fear influenced by unprocessed crises and care deficiencies (Bergström, 2012). The self-image is described as shameful as the lifestyle criminal has not learned to deal with the feeling of inferiority. It is also common that the world is being perceived as dangerous, fate-controlled, unfair, and evil, which leads to a fear of responsibility, feeling committed, and showing intimacy.

According to Walters (2002a), the criminal self-image is assumed to carry different shortcomings in several functional areas. Characteristics are limitations in the self-monitoring function, that is, the ability to adequately prioritize and act, which leads to difficulties in adapting to new conditions. It is also typically manifested in difficulties in the self-organizing function. Self-organization refers to being able to maintain a positive self-image in the event of failures and being able to have different roles adapted to different situations, at the same time as the roles are perceived as coherent. People who live with a criminal lifestyle often have few roles and a lack of contact between the roles. Walters (2002a) also highlights the importance of the self-reflective function for the self-image. The self-reflective function places the individual in relation to what is happening, associated with the fact that we remember things that affect us personally. Thus, people with a criminal "mind" are affected by and remember information that comprises the theme of crime to a greater extent than other information, which

reinforces the criminal identity. Similarly, the self-affirming function seeks information that confirms the existing self-image, even if it is negative. This is because the individual needs a stable self-image as a benchmark to be able to control and predict their surroundings. Therefore, people with a negative self-image tend to choose dysfunctional solutions to problems and associate with people who give them negative feedback.

Walters (2002a) also describes the characteristic beliefs or thinking patterns that form the criminal worldview. This worldview can be illustrated by four dimensions, where each dimension moves between two poles, the mechanical versus the organic, fate versus free choice, fair world versus unfair world, and good world versus evil world. From the mechanical pole, the world is seen as divided and predetermined, in contrast to the organic pole where different processes are seen to affect each other. The pole of fate refers to the fact that the individual sees almost all events as controlled by fate and unaffectable. On the other hand, the pole of free choice emphasizes the individual's free will to choose how to live his or her life. The pole with a fair worldview refers to a belief that the individual is impartially rewarded or punished for his or her actions. At the unfair pole, there is no justice, and the individual feels unfairly treated while others are rewarded for their efforts. Finally, from the good world pole, the world is described as a safe place, and from the evil world pole, the world is perceived as a bad place where it is crucial to grab as much as you can and survive. According to Walters (2002a), the criminal worldview tends to be characterized by the mechanical, fate-controlled, unfair, and evil poles. The criminal self-image and worldview contribute to and maintain a criminal norm system, which forms the background to the emotional based motives, thinking patterns, and behaviors that are typical for the criminal lifestyle (Bergström, 2012; Walters, 2002a).

1.2.2.1 Motives, thinking patterns, and behaviors

The criminal motives are referred to by Walters (1990) as 1) anger/rebellion, which is rooted in the need for independence (Bergström, 2012; Walters, 1990). The anger may originally be directed at a parent but has been generalized to a general anger that is often directed at society; 2) power/control, which often stems from a lack of internal control and shame of one's own flaws. By gaining external control, the criminal gets an apparent grip on life, and it keeps his inner chaos away; 3) excitement/pleasure, which is based on curiosity. Individuals who are excitement seekers by nature and have not found any legal ways to express this often have excitement/pleasure as a motive for their crimes; and 4) greed/laziness, which is based on envy. Envy occurs when a person lacks someone else's superior quality, achievement, or possession and the criminal is not prepared to work long-term to get these things. These four criminal motives are related to eight criminal thinking patterns that are recurring ways of interpreting information, which maintain the worldview and self-image. The thinking patterns also serve as coping strategies against guilt and anxiety. Walters (1990) defines the criminal thinking patterns as 1) mollification, which means finding explanations as excuses for criminal acts; 2) cut-off, which has to

do with thought strategies that block fear and sharpen focus; 3) entitlement, which involves beliefs of being entitled to violate the rights of others and take what you want; 4) power orientation, which means controlling others and the surroundings; 5) sentimentality, which implies justifying one's crimes with good deeds; 6) super optimism, which concerns overestimating one's ability; 7) cognitive indolence, which is about making the easiest choice in the moment and ignoring long-term consequences; and 8) discontinuity, which implies thoughts that are jumping from one association to another, making it difficult for others to follow. The motives and thinking patterns relate to four behavioral patterns that, according to Walters (1990), constitute the definition of a criminal lifestyle. These behaviors are 1) repeated violations of laws, norms, and morals; 2) abusive attitudes towards other people; 3) a desire for pleasure; and 4) irresponsibility (see Figure 1).

1.2.2.2 The criminal career

The criminal lifestyle involves individual and general patterns of criminality over time, which is referred to as the criminal career (Torstensson Levander, 2013; Walters, 1990). Thus, a criminal career is something that starts, remains, and includes a mix of types of crime that develop from minor to more serious crimes, which eventually decreases or ends (Torstensson Levander, 2013). Walters (1990) divides the criminal career into four phases: 1) the pre-criminal phase, 2) the early phase, 3) the advanced phase, and 4) the burnout phase. The purpose of the phase division is to identify in what phase in the career an individual is to be able to provide the appropriate intervention. However, the phases are not completely delimited from each other and partly overlap. Walters (1990) believes that different motives and criminal behaviors are generally central during the different phases. The pre-criminal phase often begins with curiosity and excitement. Pre-criminal behaviors do not always have to be criminal in the legal sense but indicate a risk of developing more advanced criminality. Such behaviors can involve recurring lies, repeated truancy, escapes from home, vandalism, and major arson (Bergström, 2012). Other examples are association with criminals, aggression, fights, violence against adults, and conflicts with authority figures (Loeber et al., 1999; Walters, 1990). As mentioned above, the motive in the pre-criminal phase is often excitement, but it is also very much about belonging and affirmation (Bergström, 2012; Walters, 1990).

In the early criminal phase, the young person begins to associate among more advanced criminals and taking over their way of thinking, resolving conflicts, and communicating (Bergström, 2012). The negative self-image increases and intensifies with increased destructive behavior. In this way, the young person also acquires a position in the criminal world. In some criminal circles, there are special inauguration rituals such as crimes or other acts that the young person must do to become an accepted and full member. The motives behind the crimes are still partly excitement, but also important is money for drugs, the desire for status gadgets, and the power that the young person seems to get from the lifestyle.

In the advanced phase, few people voluntarily abandon the criminal lifestyle (Bergström, 2012). It is in the criminality that the criminal has their skills and their identity. The underlying motive is fear. Fear is not always pronounced or conscious but is about the awareness of the failures in life and the fear of being exposed as a failure. The anxiety and uncertainty, however, are hidden behind a confident exterior. Even though the crimes often are desperate and unsuccessful, the criminal has plans for the big boost that will give him financial independence. The criminal alternates between feeling superior or useless and makes desperate attempts to end the criminal lifestyle, but relapses. There is a lack of skills to completely abandon the criminal lifestyle, and the criminal gets caught in a vicious circle of constant attempts to change, hopes, failures, and despair. In addition to fear, the motives for the behavior are power and control as well as anger and bitterness.

In the burnt-out phase, a mental, physical, and social decay finally takes place (Bergström, 2012). The criminality has had major consequences such as long-term imprisonment, serious injuries, loneliness, and depression. Future dreams are few, and suicidal thoughts are common. The criminality consists of petty crimes such as shoplifting and illegal driving. The motives behind these crimes are fear, anger, bitterness, pleasure, and laziness (Bergström, 2012; Walters 1990). The different phases of the criminal career and the ages, motives, warnings signs and crimes that are typical of each phase are shown in Figure 2. However, more recent research in a Nordic context shows that the criminal career now develops faster than in the 90s when Walter's theory was constructed, and that the crimes are becoming more serious at younger ages (Nuc, 2021).

Phases of the criminal career	Age	Motives	Warning signs	Crimes
Pre-criminal phase The person is fascinated by crime and looks up to older criminals.	8–15	Excitement Peer pressure	A lot of truancy Extreme violence Frequent escapes from home Brawls with heavy weapons Pyromania	Shoplifting Bag shrinking Destruction Car theft Burglary Fires
Early phase The person uses illegalities to create an identity and to change her/his mood.	16–23	Excitement Acquisitiveness Status Drugs	Known to the police Contact with advanced criminals Looking for new opportunities for committing crimes	Aggravated burglary Drug-related crimes
Advanced phase The person has a firmly established criminal identity. (S)he can no longer control her/his actions. They abstain from criminality for periods, but relapse.	24–40	Fear Power Control Anger		Theft Aggravated burglary Drug-related crimes Frauds Abuse
Burn-out phase The person oscillates between grandiosity and deepest shame. They suffer from mental, physical, and social decay. Depression and suicidal thoughts are common.	> 40	Fear Acquisitiveness		Handling stolen goods Petty burglary Fraud

(Bergström, 2012; Walters, 1990)

FIGURE 2 The criminal career.

1.2.3 Assessment tools to define criminal lifestyle

As mentioned earlier, an important difference between the concept of lifestyle criminality and other concepts that describe long-term criminality is that the latter only measures the offenses (onset, frequency, duration) while the former also measures other conditions such as habits, socializing, and addiction (Torstensson Levander, 2013). Measuring lifestyle criminality thus requires a more detailed knowledge of the individual and his or her way of life.

Lifestyle criminality is therefore usually measured through self-reporting, while other concepts are measured through register data. Register data measures more serious and frequent criminality, which means that the proportion of people known for committing crimes in the normal population is less as captured by register data compared with self-reporting techniques (Farrington, 2003; Pauwels & Pleysier, 2009). The age of onset is often lower when self-reported data is used compared to register data (Farrington, 2003). Self-reporting measures the early development of criminality, that is, crimes committed before it is possible to be prosecuted. Also, self-reporting measures crimes not detected by the law. On the other hand, register data provides an opportunity to follow the criminality that is the subject of discovery, investigation, and possible prosecution over longer periods of time.

For the assessment of lifestyle criminality, Walters (1998) proposes an investigation and assessment in the areas of lifestyle analysis, criminal career, and thinking patterns. The lifestyle analysis is done with the Lifestyle Criminality Screening Form (LCSF) (Walters et al., 1991). The test examines the four areas of behavior that make up the definition of a criminal lifestyle: 1) repeated violations of laws, norms, and morals; 2) abusive attitudes toward other people; 3) desire for pleasure; and 4) irresponsibility. The criminal career is analyzed by assessing which phase of the career the client's criminality is corresponding to. This is done by examining the motives behind the criminal behavior as well as assets and obstacles to progress in areas of ordinary life, such as professional activity, level of education, and social network. To investigate the criminal thinking patterns that are prominent for the client, the Psychological Inventory of Criminal Thinking Styles (PICTS) is used. PICTS measures eight different thinking patterns that are typical of lifestyle criminals. Based on Walters' (1998) proposal for assessment, Bergström (2010) has created a material for assessment based on self-reporting. This assessment largely corresponds to Walters' (1998) proposal, but Bergström (2010) added the area of dependence and measure different phases of addiction based on Gorski and Miller (1993). Bergström (2012) means that addiction should be treated before or at the same time as the interventions for lifestyle criminality, with the rationale that addiction is one of the motives for committing crimes (Andersson & Nordh, 2014).

For young people in the first phases of the criminal career who are at risk of developing a more advanced criminal lifestyle, a similar material for assessment is used. This assessment also takes pre-criminal behaviors into account (Bergström, 2006). These assessment tools for youths and adults are used as inclusion assessments for the intervention programs examined in this thesis.

1.2.4 The "Criminality as a lifestyle" programs

Based on Walters (1990), Gunnar Bergström has designed an assortment of interventions adapted to Nordic conditions for the target group of lifestyle criminals. The assortment has the collective name "Criminality as a lifestyle" programs (CL programs) and includes various programs for youth, men, and women. The programs consider both risk management of criminal thinking patterns and the encouragement of a salutogenic self-image and worldview as a protective factor against further criminality. Bergström (2012) believes that the restructuring of criminal thinking patterns can contribute to an initial change, but that cognitive processing has limitations. For those who do not have an emotionally integrated morality against criminal acts, the risk of recidivism is high. Thus, to prevent further criminality, the client needs help to build a new internal norm system for the self-image and worldview that is incompatible with criminal thinking, for example, a salutogenic approach. The client then also needs help to deal with feelings of guilt that arise with a changed norm system. In the programs, Bergström tries to deal with these issues by basing the program's exercises on Walters' (2002a) theory of the process of change that defines the areas of responsibility, self-confidence, meaning, and context.

1.2.4.1 Responsibility

Acceptance of responsibility is seen as the first step in the changing process (Bergström, 2012; Walters, 2002a). An important part of the treatment is to clarify boundaries and rules, what rule-breaking leads to, the expectations of the client's behavior, and to establish an agreement of a mutually respectful manner (Bergström, 2012). Bergström (2012) emphasizes the importance of the clients being held responsible for and accepting the consequences of their behavior. In the event of rule-breaking behavior, the program leader should be able to bring about that he accepts the client but that the client's actions will not lead to what the client really wants, and that the client can change his ways and reach his goals. Clear boundaries and rules in a pro-social context with the program leader as a role model also lead to a reliable and faithful environment that reduces some of the aggression that is typical for the clients (Kerig et al., 2012). In addition, it impairs impulsivity because boundaries make it harder to reach easy-to-earn gains. When the external boundaries stop the client's antisocial behavior, it also makes it possible for the client finally to find new ways to act. In the changing process, responsibility also means that the client is willing to take responsibility for the choices he or she has made in life (Bergström, 2012). Many of those who have a criminal behavior place the blame for their actions on others and on circumstances. Thus, the client needs help to change assumptions by questioning them and accentuating where the assumptions lead. To increase the client's motivation to change their life, Motivational Interviewing (MI) is used (Miller & Rollnicks, 2004). MI is a non-confrontational approach that was developed to meet clients who do not always explicitly want to implement changes in their lives. The approach is based on showing the client empathy, the differences

between the current and desired situation, avoiding argumentation, and supporting change-oriented statements from the client.

1.2.4.2 Self-confidence

The self-confidence to cope with social situations and tasks is of great importance for the ability to avoid criminal solutions to life problems (Bergström, 2012). To increase self-confidence, situations where the clients have previously failed are trained, for example by analyses of risk situations for recidivism or by social skills training. In the programs, ten areas that highlight specific problem areas for the target group have been selected for social skills training. Social skills training aims to increase the ability to communicate one's own needs and understand the behavior of others (Spence, 2003). If possible, training is integrated into everyday activities and natural situations (Bergström, 2012). Bergström (2010, 2012) also emphasizes the therapist's approach to increasing the client's self-confidence. The program leader needs to be a good role model who can demonstrate prosocial solutions to problems. The approach should be permeated by empowering the client, that is, to encourage the belief in the client's own ability. It is important that the program leader can bring about hope and faith when the client's shame and low self-confidence prevent him or her from acting in a prosocial way.

1.2.4.3 Meaning

The area of meaning is about identity, goals, and values (Bergström, 2012). The programs will help the client to change his/her identity and self-image by drawing attention to other aspects and abilities than the negative perceptions the client identifies with. The programs have developmental psychological and systems theoretical elements and teach how early relationships and family systems contribute to the development of cognitive schemas and identity. Cognitive schemas include the self-image and worldview and are early formed patterns for thinking and behavior. In the programs, the client learns to understand how the cognitive schemas with criminal motives and thinking patterns lead to criminal behavior (Bergström, 2006, 2010). Then, the treatment is aimed at reconstruction of the criminal thinking patterns through cognitive skills training. Cognitive skills training involves the development of problem-solving ability primarily by gathering information, developing alternative solutions, and evaluating results (Lipsey et al., 2007). The client's thinking pattern is first identified with psychological assessment, which gives the program leader and client a common understanding of the problem area (Bergström, 2006, 2010). Together, the client and program leader try to find more functional interpretations of problem situations and alternative ways of acting. In practice, this is done by the client writing down and analyzing the motives, thinking patterns, and behaviors that a problematic situation has given rise to. If the client lacks alternative ways of thinking or does not see other ways of acting, the program leader can make suggestions. In addition, if the treatment takes place in a group, the group members give suggestions and feedback. While the thinking

patterns are processed, it is important that the client broadens perspectives toward a more nuanced and complex thinking that enables prosocial goals and values. This is done by various exercises in moral development and through interaction in prosocial contexts. Moral development involves discussions about values based on different problem situations, dilemmas, and issues (Arbuthnot & Gordon, 1986).

1.2.4.4 Context

An important step to be able to live a life without criminality is to receive and accept support in a prosocial context (Bergström, 2012). For many criminals, such an approach marks a big difference from the previous self-image and worldview. In treatment, the client is helped to become involved in social networks, reconnect positive family relationships, and build social bonds. It is crucial for the client to meet people from other social contexts than those he or she is used to. The interaction opens up new perspectives and involves training in consideration and mutuality. To be able to interact with others, the client also needs to better understand their own and others' feelings. Thus, the sessions also deal with feelings of fear and sadness as well as guilt and shame, which are emotions that are particularly problematic for the clients to handle (Bergström, 2012; Kerig et al., 2012). In these sessions, the client learns to approach and show feelings through role-play. During these sessions, very strong emotions can be aroused that are difficult for the client to regulate. The program leader is then available to meet the client's pain, which in the long run enables the client to regulate emotions by self-comforting internal dialogue and seeking and receiving emotional support when needed. In addition, to prevent recidivism, the importance of an existential perspective that helps the client to have a valuable relationship with him- or herself, others, and life is emphasized. If not, it may be hard for the client to find a way out of feelings of guilt, when denial and thinking patterns have been toned down (Bergström, 2012). Some crimes may be impossible for individuals to forgive. If neither the client nor other people can be reconciled with what has been, the prospects for a prosocial life decrease considerably. In forums with an existential perspective, which entails a trust in love and forgiveness, questions about seeing one's human worth and the right to a dignified life can be addressed, despite the client's previous criminal record. Bergström (2012) sees the 12-step group as such a forum. Walters (2002a) defines the existential perspective as elevating oneself above one's current situation to achieve harmony, unity, and interaction with people, objects, events, and ideas outside oneself.

1.2.4.5 Sense of coherence: A perception to life

Bergström (2012) also believes that it is important to form an internal norm system that is incompatible with criminal thinking, to prevent further criminality. The sense of coherence implies a general perception of oneself, others, the world, and existence (Antonovsky, 1993). With the salutogenic perspective's focus on trust, there are similarities with the existential aspects and a focus on forming a

norm system incompatible with criminal thinking in the programs. There are also great similarities with these aspects in the programs and the practical salutogenic approach that Hult et al. (1996) describe. Hult et al. (1996) have explained what the concepts of comprehensibility, manageability, and meaningfulness mean in the practical work of treatment. According to this salutogenic practice, the individual needs to gain an understanding that a certain change is necessary (comprehensibility). In the programs, this is achieved by teaching the client to understand the decision-making process that leads to criminality and the importance of early relationships and family systems for the forming of cognitive schemas. Additionally, the salutogenic practice emphasizes that the individual needs to see a motive for change based on personal involvement and striving for individual life goals (meaningfulness). In the programs, this is achieved by emphasizing the individual's own choices and helping the client to discover prosocial life values, goals, and contexts. The salutogenic practice raises the importance of having skills to apply prosocial resources and opportunities (manageability). The programs increase the skills to handle different situations and see possible resources through social skills training, moral development, and cognitive skills training that increase problem-solving ability toward prosocial solutions.

1.2.5 Differences between classic cognitive therapy and the "Criminality as a lifestyle" programs

The programs within the "Criminality as a lifestyle" portfolio (CL programs) have been defined as having a cognitive orientation (Bergström, 2012). However, the content of the CL programs differs from classic cognitive therapy. In cognitive treatment, the interventions are directed only at the thoughts, because new ways of thinking are assumed to create new emotions, which in turn leads to new behaviors (Perris, 1996). The CL programs mainly have cognitive exercises but also involve behavioral elements such as social skills training and role play that correspond to cognitive behavioral treatment (Bergström, 2006, 2010; Kåver, 2016). Cognitive behavioral theory combines the cognitive theory of information processing and social learning theory (Kåver, 2016). According to social learning theory, all behaviors have been learned at some point. Behavior change is, according to the theory, a matter of learning something new. The CL programs also include family systems treatment elements (Bergström, 2012). Systems theory is often used when the different roles of family members hold together a dysfunctional family system (Thurén, 2007). If a family member changes his/her behavior pattern, it has effects on other family members who then need to find new roles to be able to function in a new, more functional way.

The CL programs also emphasize values and meaning, which have similarities with Acceptance and Commitment Therapy (ACT) that relate to an existential perspective (Hayes et al., 2016). Within this perspective, the individual is seen as a meaning-creating subject with the opportunity to actively relate to given circumstances. In ACT, change takes place based on the individual's life values that constitute the direction for meaningful choices and actions. The life

values are assumed to be more lasting than temporary feelings or the mood for the day. However, it can be difficult for an individual with a criminal self-image and worldview to identify prosocial life values and norms (Bergström, 2012). Thus, the CL programs clarify differences between criminal and prosocial values to give the client a benchmark (Bergström, 2010). Bergström (2012) believes that change in the norm system is a long-term process and defines the programs as correctional programs. To change the criminal norm system fundamentally, Bergström (2012) argues that the client needs more time to confirm the cognitive understanding in an emotional anchoring. The phenomenon of abandoning selfishness and the short-term rewards of criminality is such a profoundly changing process that it can be defined as an existential turn around.

To be successful in changing, the lifestyle criminal needs to give up his identity, see the world in a completely new way, understand the victim's situation, develop self-compassion and empathy for others, reconcile with what has been, and find new goals and a new meaning in life. To help with this transformation, there are suggestions how to proceed at the end of the CL programs' manuals. For example, Bergström (2012) believes that the philosophy and context of the 12-step community can be helpful when it comes to emotionally confirming a new system of prosocial norms. A basic idea in the 12-step philosophy is to deal with egoism and destructive behavior through the development of an approach to life based on prosocial principles such as honesty, humility, and goodwill (Wilson, 1939, 1952). The basic idea of 12-step philosophy then has clear similarities with the aspects that define positive criminology (Ronel & Segev, 2015). A central idea in positive criminology is the integration of a norm system that goes beyond mere moral justice thinking, that is, to start from the principle of treating others as you want to be treated yourself, which is the opposite of an egocentric attitude. Most philosophers have described it as the principle of love, which encompasses the modern concept of altruism (Solovyov, 2007; Sorokin, 1976). Altruism does not compete with the principle of justice but is an attitude that inspires actions that go beyond duty (Kohlberg, 1981), that is, actions that cannot be demanded or expected by the recipient and rather are perceived as actions of selfless benevolence and unconditional concern. Studies have shown that altruism is a very positive experience with great potential to strengthen the self-changing process, support its sustainability, and prevent future criminality (Maruna, 2002; Post, 2005; Ronel et al., 2009).

The ability to see oneself and the world with an altruistic attitude is assumed to progress by good experiences and contexts (Ronel & Segev, 2015). Thus, another fundamental aspect of positive criminology is to teach the client to distinguish between what is truly sustainably beneficent from what is short-term rewarding. A third aspect is that social, psychological, and altruistic development are seen from a holistic perspective. Altruism is thus not assumed to be an individual prerequisite for criminal distancing. However, altruism is assumed to shape and control the other psychological abilities such as the ability to forgive and love, the ability to regulate emotions, and the ability to exhibit moral behavior. With increased altruism, the individual is therefore assumed to

be less inclined to act selfishly and destructively when life becomes challenging (Ronel & Segev, 2015). In summary, the "Criminality as a lifestyle" (CL) programs have a cognitive base with cognitive-behavioral (CBT) components and systems theoretical and existential elements similar to ACT.

1.3 The purpose of the thesis

1.3.1 The general aim of the thesis

Overall, previous research about interventions for lifestyle criminality has mainly focused on preventing the risk of recidivism (Ronel & Elisha, 2011). The research has primarily consisted of efficiency studies that have good internal validity but may have had difficulties in meeting real-life conditions (Sundell, 2012). Most of the studies have examined inmates in an environment with a high risk of negative group processes that enforce criminal norm systems (Fridell & Hesse, 2005). More recent research has also examined which risk factors mediate the development and maintenance of criminal behavior (Martin et al., 2019; Walters, 2018, 2021).

The overall purpose of this thesis is to increase our understanding about interventions for lifestyle criminality that combine both a risk and a protective focus. The effectiveness studies in the current work aim to examine how the interventions work in everyday practice where regular staff are responsible for the treatment (Sundell, 2012). Also, the studies in this thesis are examined in substance abuse care, where the risk of enforced criminal norm systems is lower than in prison (Fridell & Hesse, 2005). A further interest was to examine which protective factors mediate changes in criminal thinking patterns.

1.3.2 The primary aim of the thesis

The primary aim of the thesis was to make a preliminary evaluation of the effectiveness of the cognitive intervention programs "A New Direction" for young people at risk of developing a criminal lifestyle and "New Challenges" for adult men with a criminal lifestyle. The programs intend to change two cognitive risk factors that highly predict criminal behavior (Walters, 2002a). These factors are criminal thinking patterns and a criminal self-image and worldview. Thinking patterns guide the individual's basic perception or interpretation of various situations, and self-image and worldview is the individual's way of perceiving and thinking about him- or herself and the world. Thus, to prevent further criminality, Bergström (2012) believes that the individual must form an internal protective norm system that is incompatible with criminal thinking, which is built on fear. Unlike the criminal self-image and worldview, the salutogenic approach is a way of thinking, being, and acting based on trust, which provides the ability for adequate coping. Salutogenesis, or sense of coherence, implies a general perception of oneself, others, the world, and

existence, which corresponds to the concept of self-image and worldview (Antonovsky, 1993). In summary, the primary aim of the thesis was to investigate the impact of the cognitive intervention programs on criminal thinking patterns, salutogenic resources, and recidivism. The thesis also aimed to investigate whether the protective factors of salutogenesis mediated criminal thinking patterns.

The youth study (Study I) aimed at examining the "New Direction" program's impact on young people's criminal thinking patterns, sense of coherence, and recidivism. The conditions being examined were one week of group treatment and individual multi-week treatment. These treatments are common ways to implement the program. The research question was set as follows: (a) Does one-week group treatment and multi-week individual treatment impact criminal thinking patterns, salutogenesis, and rate of convictions of young offenders in the pre- and early phases of their criminal career?

The adult study (Study II) aimed at examining the "New Challenge" program's impact on adult men's criminal thinking patterns and sense of coherence as well as negative and positive affect. Further, we were interested in whether the quality of the program delivery was related to the above listed outcome measures. The research questions were set as follows: (a) Does the program change criminal thinking patterns, sense of coherence, and positive and negative affect of adult men who were in the advanced and burn-out phases of their criminal career? (b) Does client-rated quality of program delivery of the treatment (therapeutic relationship, pedagogical ability, and methodological competence) correlate with criminal thinking patterns and negative affect?

The mediation study (Study III) aimed to examine changes in the sub-scales of criminal thinking and sense of coherence, and whether sense of coherence mediates changes in criminal thinking. The study compared the impact of the programs for young and adult offenders. The research questions were set as follows: (a) Do the programs decrease the sub-dimensions of criminal thinking and increase the sub-dimensions of sense of coherence for both young and adult offenders? (b) Is the decrease in criminal thinking mediated by the increase in sense of coherence among the young and adult offenders?

2 METHOD

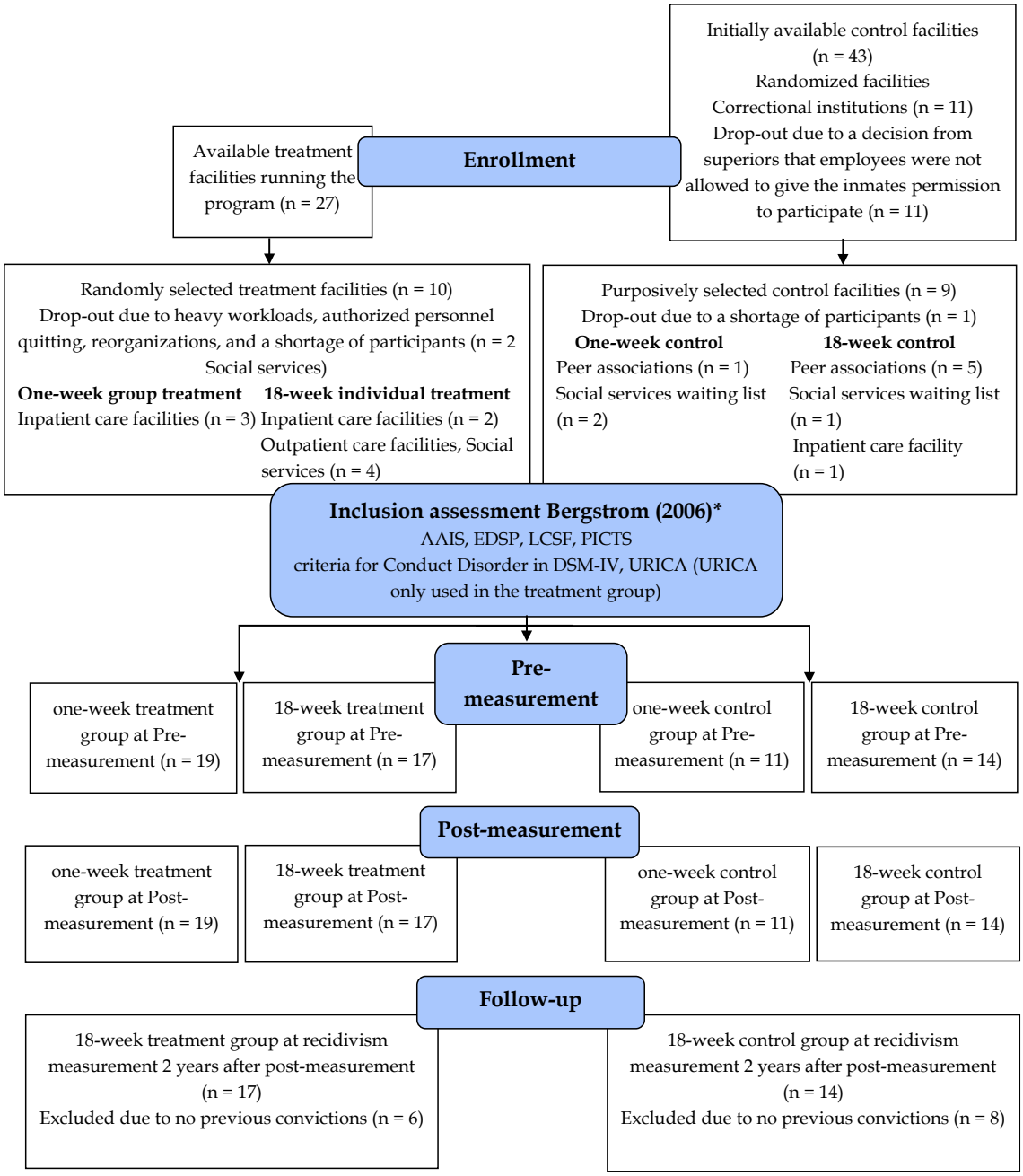
2.1 Participants

In Study I and Study II, the participants were recruited by the program leaders working at the care facilities that run the programs and by the contact persons at the peer associations for lifestyle criminals. The participants recruited for the youth study were required to be 13 to 21 years old, have no ongoing alcohol and/or drug abuse, fulfil the criteria for the pre-criminal or early phase of the criminal career according to Walters (1990), and score above 50 points on the Psychological Inventory of Criminal Thinking Styles (PICTS) test (Bergström, 2010; Walters, 2002b). The participants recruited for the adult study were required to be 18 years or older, have no ongoing alcohol and/or drug abuse, fulfil the criteria for the advanced or burnout phase of the criminal career, and score above 50 points on the PICTS test. Exclusion criteria were (a) other types of criminality than lifestyle criminality (i.e., organized criminality, political and religious extremism, environmental crimes, minor traffic violations such as traffic tickets, economic crimes carried out within a company, and sex crimes). The criteria were established by Bergström's self-report instrument for inclusion assessment (Bergström, 2006, 2010). For both the young and adult offenders, to be included in the follow-up the inclusion criteria for recidivism were (a) previous convictions in lifestyle criminality and (b) significant decreased criminal thinking and increased sense of coherence for the treatment group.

Study I, examining the youth program, included a total of 61 participants: 36 in the treatment groups and 25 in the control groups receiving no treatment. Out of the 65 care facilities that run the youth program, 43 volunteered for the study, and among them, 27 could provide participants. Out of these 27 facilities, 10 facilities were randomized for the study, but 2 of them interrupted the study. Finally, 8 facilities participated. From these 8 facilities, a total of 36 participants were included in the sample for the treatment groups (19 in the one-week treatment group and 17 in the multi-week treatment group). At the start of the study, the participants in the control groups were recruited from within the

correctional institutions. Out of 43 correctional institutions, 11 were randomly selected but all dropped out. Initially, the personnel of the correctional institutions had accepted to recruit participants. The withdrawals were due to a decision from superiors that personnel were not allowed to give the inmates permission to participate in the study. After that, six peer associations, two social services, and one inpatient care facility were recruited by purposive sampling. One of the peer associations was excluded due to a low number of clients. From the 8 remaining facilities, a total of 25 participants were included in the no-treatment control groups (11 in the one-week control group and 14 in the multi-week control group). At the recidivism measurement, only participants from the multi-week group with convictions before the study were included in the analysis. This procedure reduced the number of participants to 11 in the treatment group and 6 in the multi-week control group. In the follow-up measurements, we wanted to examine if the effect of treatment (decreased criminal thinking and increased sense of coherence) remained outside the context of treatment in terms of reduced recidivism.

Of the 61 young participants investigated, 95% were male and 5% were female. Their ages varied from 13 to 21 years with a mean age of 18.35 years. The educational level among the participants was most often upper secondary school. A total of 22% had started but not completed compulsory school, 11% had completed compulsory school, 46% had started but not completed upper secondary school, 8% had completed upper secondary school, and 2% had started university studies. Data for education were missing for 11% of the participants. The ethnic background of the participants was 72% Scandinavian, 5% east European, 8% middle Eastern, 3% African, and 7% of mixed ethnicity. Data for ethnic background was missing for 5% of the participants. The recruitment of the participants in Study I is shown in Figure 3.



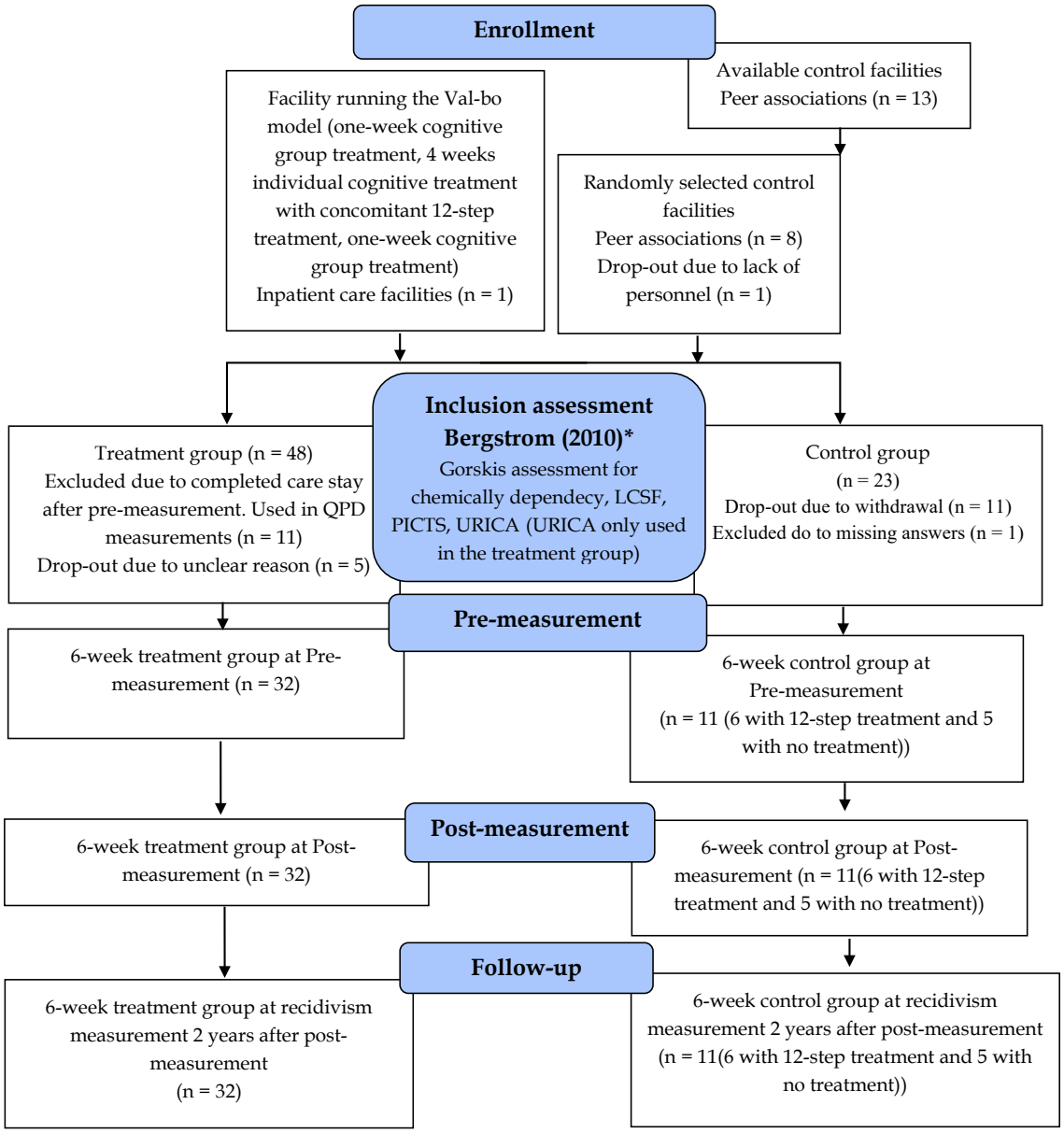
* Bergström (2006) inclusion assessment is based on AAIS measuring stages of alcohol use for adolescents (Mayer & Filstead, 1979), EDSP measuring stages of drug use for adolescents (Nelson, 1998), DSM-IV criteria for Conduct Disorder (but the criteria do not have to be met before the age of 15 years), LCSF measuring the four areas of behavior defining a criminal lifestyle (Walters et al., 1991), PICTS measuring criminal thinking patterns (Walters, 2002b), and URICA measuring stages of change (McConnaughy et al., 1983). In addition, questions about the client's psychosocial history were addressed including upbringing, family, leisure interests, housing, previous criminality, education, job and livelihood, and previous treatment for addiction and psychiatric care.

FIGURE 3 Recruitment of the youth participants.

Study II, examining the adult program, included a total of 43 participants, with 32 in the treatment group and 11 in the control group. One care facility, which at the time was the only facility running the program according to the investigated (Val-bo) model, participated in the study. Out of 48 included participants, 5 dropped out before start without giving any reason and 11 were excluded one

week after treatment start due to the fact that they had completed their planned care period at the treatment facility. Finally, a total of 32 participants were included in the treatment group. The participants in the control group were recruited from peer associations. Out of a total of 13 volunteer peer associations, 8 were randomly selected. One of the associations dropped out due to lack of personnel. From the 7 peer associations, 23 participants were included in the control group (11 with 12-step treatment and 12 with no treatment). From this distribution, 12 participants dropped out after pre-measurement (6 with 12-step treatment in outpatient care and 6 with no treatment). The reason was withdrawal for 11 of the participants and 1 was excluded due to missing answers. At post-measurement, there were 11 participants remaining in the control group (5 with 12-step treatment in outpatient care and 6 with no-treatment). All 43 participants who completed the study were included in the recidivism measurement because all participants had previous convictions.

Among the adult participants, 100% were men with an average age of 29.46 years, (min 19; max 60). The educational level among the participants was most often upper secondary school. Among the participants, 2% had completed special primary school, 26% had completed compulsory school, 37% had started but not completed upper secondary school, 26% had completed upper secondary school, 7% had started university studies, and 2% had graduated. Nearly 90% of them (86%) were Scandinavian, 2% Latino, 2% middle Eastern, 5% Asian, and 5% had mixed ethnicity. The recruitment of the participants in Study II is shown in Figure 4.



* Bergström (2006) inclusion assessment is based on Gorski (1993) assessment for chemically dependency, LCSF measuring the four areas of behavior defining a criminal lifestyle (White & Denney, 1991), PICTS measuring criminal thinking patterns (Walters, 2002b), and URICA measuring stages of change (McConnaughy et al., 1983). In addition, questions about the client's psychosocial history were addressed including upbringing, family, leisure interests, housing, previous criminality, education, job and livelihood, and previous treatment for addiction and psychiatric care.

FIGURE 4 Recruitment of the adult participants.

Study III, examining the effect of the youth and adult interventions on the sub-scales of criminal thinking and sense of coherence, included a total of 74 participants: 17 in the youth multi-week treatment group, 14 in the youth multi-week control group (see Figure 3), 32 in the adult multi-week treatment group, and 11 in the adult multi-week control group (see Figure 4). Thus, Study III included young and adult offenders who participated in multi-week (18- or 6-

week) conditions. Out of ten randomly selected facilities, two dropped out and eight remained, with six facilities providing participants for the youth multi-week treatment. In the control group, nine facilities were recruited by purposive sampling and one was excluded due to a low number of clients. From the eight facilities, six provided participants for the youth multi-week control group: five peer associations and one social service facility. The recruitment of the facilities and participants of the adult multi-week treatment and control groups is explained earlier in the text.

In Study III, 90% of the young participants were males and 10% females. Age varied from 14 to 21 years with a mean age of 17.45 years. Educational level varied; 23% had started but not completed compulsory school, 6% had completed compulsory school, 39% had started but not completed upper secondary school, 13% had completed upper secondary school, and 3% had started university studies. Data for education was missing for 19% of the participants. The ethnic background of the participants was 81% Scandinavian, 3% east European, 3% African, and 3% of mixed ethnicity. Data for ethnic background was missing for 10% of the participants. Data of gender, age, education level, and ethnic background among the adult participants is mentioned earlier in the text (see Study II above).

2.2 Procedure and measurements

2.2.1 Procedure

In studies I, II, and III, during the pre-measurement phase, the participants included in the studies were asked to fill out the self-report questionnaires. The same questionnaires were filled out again in the post-measurement phase, after the interventions. The pre- and post-measurements were performed in direct connection to the start and end of the treatment periods. All data from the treatment groups were gathered by the program leaders and by the contact persons for the control groups. The questionnaires in paper form were then sent to Karlstad University in Sweden for statistical analysis. In addition, register data from the Swedish courts' public criminal record were used to analyze recidivism during the follow-up phase. The data that were included were convictions regarding lifestyle criminality.

2.2.2 Measurements

The primary outcome measurements for studies I, II, and III were criminal thinking and sense of coherence. Criminal thinking was assessed with the Psychological Inventory of Criminal Thinking Styles (PICTS) (Bergström, 2010; Walters, 2002b), including the juvenile version using simpler language for the youth (Bergström, 2006); sense of coherence was assessed with the Sense of Coherence Scale short form (SOC-13) (Antonovsky, 1987). In Study II, the

questionnaire data from PICTS and SOC were combined with data from the Positive and Negative Affect Schedule (PANAS) (Watson et al., 1988) and Quality of Program Delivery (QPD) (Bergström, 2014). Studies I and II also included register data from the Swedish courts' public criminal record and demographic questions about gender, age, cultural background, education level, and information of previous and concurrent treatment. In Study III, changes from pre- to post-intervention in the sub-scales of criminal thinking (PICTS) and sense of coherence (SOC-13) were measured. Assessment measures and phases for assessment for all studies are shown in Table 2. Cut-off values for the assessment instruments are given in Tables 3 to 6.

TABLE 2 Assessment and phases for assessment for all studies.

Measures	Study I	Study II	Study III	Time of Assessment
Psychological Inventory of Criminal Thinking Styles (PICT) Total scores	x	x	x	Study I: Pre, post Study II: Pre, post Study III: Pre, post
PICTS sub-scales			x	Study III: Pre, post
Sense of Coherence scale short form (SOC-13) Total scores	x	x	x	Study I: Pre, post Study II: Pre, post Study III: Pre, post
SOC-13 sub-factors			x	Study III: Pre, post
Positive and Negative Affect Scales (PANAS)		x		Study II: Pre, post
Quality of Program Delivery (QPD)		x		Study II: Pre, after one week, post
Register data from the Swedish courts' public criminal record	x	x		Study I: Two years pre, two years follow-up Study II: Two years follow-up
Demographic questions	x	x		

TABLE 3 Cut-off values for Criminal Thinking Styles.

Cut-off values (M)	Definition	Description
< 40	Low	The client takes responsibility for their actions rather than blaming others. Places explanations for actions on own choices rather than circumstances.
40.00–59.99 Thinking patterns < 50 are comparable with the normal population.	Average/medium	There is some justification by blaming others and circumstances, but no more than for other criminals.
60.00–69.99	High	The client puts the responsibility for his behavior on external circumstances and blames things such as his childhood, partners in crime, victims, or authorities.
≥ 70.00	Very high	The client sees himself as a victim of negative circumstances. The client has minimal self-awareness and takes minimal responsibility for his actions.

(Bergström, 2010; Walters, 1990)

TABLE 4 Cut-off values for Sense of Coherence.

Cut-off values (M)*	Definition
27.00–51.99	Low
52.00–68.99	Average/medium
69.00–72.99	High
73.00–85.99	Very high
Extreme values (M)*	**Definition**
13.00–26.99	The value indicates that the individual misunderstood the questions or did not answer honestly.
86.00–91.00	The value indicates that the individual misunderstood the questions or did not answer honestly.

*Specific cut-off scores and population norms have not been established for sense of coherence (SOC-13) (Simmons & Lehmann, 2013). In a study by Antonovsky, who examined normative data from published studies, the mean SOC-13 ranged from 55.0 to 68.7 (Antonovsky, 1993). Eriksson and Lindström (2005), who compared the results from 127 research reports, found that the mean value varies between 35.39 to 77.60. Based on a community-based sample of 439 people, Pallant and Lae (2002) found a mean value of 60.8 points. The present thesis's cut-off values are an average calculation of the cut-off scores and mean values from Antonovsky (1993), Eriksson and Lindström (2005), and Pallant and Lae (2002).

TABLE 5 Cut-off values for Positive and Negative Affect Schedule.

Positive affect (PA)*					
Extremely low PA	**Very low PA**	**Low PA**	**Normal PA**	**High PA**	**Very high PA**
> 3 SD below normal variation	> 2 SD below normal variation	> 1 SD below normal variation	(+/- 1 SD)	> 1 SD above normal variation	> 2 SD above normal variation
10.0–11.6 ≈1–101	11.7–18.8 ≈19–12	18.9–26.0 ≈26–18	26.1–40.5 ≈26–40	40.6–47.7 ≈41–47	47.8–50.0 ≈48–50

Negative affect (NA)*				
Very low NA	**Low NA**	**Normal NA**	**High NA**	**Very high NA**
> 2 SD below normal variation	> 1 SD below normal variation	(+/- 1 SD)	> 1 SD above normal variation	> 2 SD above normal variation
-	10.0–11.1 ≈11.0–10.0	11.2–23.6 ≈11–23	23.7–29.8 ≈24–29	29.9–36.0 ≈30.0–36.0

*The cut-off values for Positive and Negative Affect Schedule (PANAS) have been calculated from Watson et al. (1988). PA (M = 33.3, SD = 7.2) and NA (M = 17.4, SD = 6.2).

TABLE 6 Cut-off values for Quality of Program Delivery.

Sub-scales	Number of items	Quality* value 1	Quality* value 2	Quality* value 3	Quality* value 4	Quality* value 5
Therapeutic relation	4 (5 if relatives participate)	0–2 p (0–2 p)	3–5 p (3–7 p)	6–9 p (8–12 p)	10–13 p (13–17 p)	14–16 p (18–20 p)
Pedagogic ability	5 p	0–2 p	3–7 p	8–12 p	13–17 p	18–20 p
Methodological competence	5 p	0–2 p	3–7 p	8–12 p	13–17 p	18–20 p
Total QPD	14 p (15 p if relatives participate)	0–7 p (0–8 p)	8–21 p (9–22 p)	22–35 p (23–37 p)	36–49 p (38–52 p)	50–56 p (53–60 p)

*The cut-off values for Quality of Program Delivery (QPD) have been calculated from the Quality of Program Delivery scale (Bergström, 2010).

2.3 Intervention

The three studies in this thesis examined the effect on risk factors (criminal thinking) and protective factors for criminal acts (salutogenesis/sense of coherence) of the intervention programs "A New Direction" for young offenders (Studies I and III) and "New Challenges" for adult offenders (Studies II and III). The programs were delivered by program leaders with most often a basic education in social work at upper secondary or post-secondary level. The program leaders had received an eight-day training course on the intervention

programs. The youth program, "A New Direction," involved 13 mandatory sessions for 18 weeks, totaling 20 hours, approximately 1.5 hours per session when running the program as individual multi-week treatment. When running the program as group treatment for 1 week, the 13 mandatory sessions were distributed over 20 hours for 5 days, approximately 4 hours and 2.6 sessions per day. The youth program had a cognitive orientation with systems theoretical elements. Table 7 presents additional information about the program sessions and their content, the criminogenic factors addressed in the sessions, and the psychological tools taught in the sessions.

TABLE 7 Description of the youth program "A New Direction."

Program sections	Sections content	Criminogenic factors*	Psychological tools
1) How is it going?	-Information about the program -The youth's description of his/her crimes and the perception of crime in the family	-Awareness of the youth's criminality and the family members' view of the youth's criminality	-Psychoeducation -Communication
2) Change and to change	-The result of the URICA test	-Awareness of degree of motivation -Antisocial cognitions -Antisocial personality pattern	-Psychoeducation
3) What do I want with my life?	-Pros and cons of crimes -Goal formulations	-Motivation -Antisocial cognitions -Antisocial personality pattern	-Pros and cons analysis -Valued direction
4) The family as a group	-Different perceptions in the family -Communication exercises	-Communication -Awareness and motivation of the parents -Parenting function	-Observe and describe feelings -Communication
5) The phases of lifestyle criminality (the criminal career)	-Information about the development process of the criminal lifestyle	-Awareness -Antisocial cognitions -Antisocial personality pattern	-Psychoeducation
6-8) Criminal thinking patterns	-Information about criminal thinking patterns - Consequences of thought and behavioral patterns -Alternative thoughts' influence on behavior	-Awareness -Problem solving -Antisocial cognitions -Norm-breaking behavior	-Psychoeducation -Identification of thinking patterns -Behavior analysis
9) To set goals	-Goal prioritization -How crime hinders goal fulfillment	-Awareness -Motivation -Problem solving	-Valued direction
10) What makes someone continue to commit crimes?	-Motives for crime, own choices, and responsibilities and how this affects the problem behavior	-Awareness -Antisocial personality pattern	-Psychoeducation -Identification of motives for crime
11) Who suffers from crime? A) Victims of crime	-Consequences of crime for the victim, victim's family and friends, and society -The victim's feelings	-Awareness -Antisocial cognition -Antisocial personality pattern	-Psychoeducation -Analysis of consequences -Observe and describe feelings -Role play
12) Consequence of crime B) Your own consequences	-Consequences of crime for the program participant -The participant's feelings	-Awareness -Antisocial personality pattern	-Psychoeducation -Analysis of consequences -Observe and describe feelings
13) Who suffers from crime - the relatives	-Consequences of crime for relatives -Relatives' feelings	-Awareness -Antisocial personality pattern	-Analysis of consequences -Observe and describe feelings
14) Leaving criminality - Ending of the program	-Risk factors for recidivism -Maintenance plan	-Antisocial cognitions -Antisocial personality pattern -Norm-breaking behavior	-Maintenance plan: summary of risk situations and what tools the participant can use in the situations

* Criminogenic factors are the conditions in or around the individual that research has shown to be changeable and considered to be central for treatment focus to reduce recidivism (Andershed & Andershed, 2005; Söderholm Carpelan et al., 2008). For youths, these factors are awareness and motivation, antisocial personality pattern, antisocial cognitions, rule-breaking behavior, linguistic ability and communication, problem solving, parents' awareness and motivation, parental function, antisocial associates/peer influence, school affiliation, depression or self-harming behavior, and alcohol and drug use.

The adult program involved 15 mandatory group-sessions distributed over 2 weeks, the first and the last (sixth) week of treatment. The adult program also involved one to four selectable sessions during the individual treatment period

of four weeks. In total, the adult program involved on average 17 sessions for 6 weeks, totaling 100 hours, or 6 hours per session. The adult program had a cognitive approach with existential components. The themes in the youth and adult program sessions were similar. Table 8 presents additional information about the program sessions and their content for adults, the criminogenic factors addressed in the sessions, and the psychological tools taught in the sessions.

TABLE 8 Description of the adult program "New Challenges."

Program sections	Sections content	Criminogenic factors*	Psychological tools
1) Change and to change	-The result of the URICA test	-Antisocial cognitions -Antisocial personality pattern	-Psychoeducation
2) What do I want with my life?	-Pros and cons of crime -Goal formulations	-Antisocial cognitions -Antisocial personality pattern	-Pros and cons analysis -Valued direction
3) The criminal career	-Information about the development process of the criminal lifestyle	-Antisocial cognitions -Antisocial personality pattern	-Psychoeducation
4) To stop taking drugs and committing crimes II	-Risk situations for criminality and drug use	-Substance abuse -Antisocial cognitions -Antisocial personality pattern	-Behavioral analysis
5) Motives for crime	-Information about motives for crime -Identification of the client's own motives for crime	-Antisocial personality pattern	-Psychoeducation -Identification of motives for crime
6) Who are you?	-The client's view of themself, others, and society.	-Antisocial cognitions -Antisocial personality pattern	-Identification of amplifiers and extinguishers to criminal behavior
7) Thoughts, feelings, and behaviors	-The relationship between thoughts, feelings, and actions	-Antisocial cognitions -Antisocial personality pattern	-Psychoeducation -Functional analysis
8) Criminal thinking patterns	-Information about criminal thinking patterns and questions regarding recognition of criminal thinking patterns	-Antisocial cognitions	-Psychoeducation -Identification of thinking patterns
9) Thinking patterns - Test and exercise	-Test results and discussion about recognition of criminal thinking patterns	-Antisocial cognitions	-Identification of thinking patterns
10) Hope and faith	-The participants prosocial values -Amplifiers and extinguishers to the problem behavior	-Antisocial cognitions -Antisocial personality pattern -Antisocial associates -Family and/or marital -School and/or work -Substance abuse	-Valued direction -Observe and describe emotions -Identification of prosocial values -Identification of amplifiers and extinguishers to the problem behavior
11) Goals and meaning - My values	-Differences between prosocial and antisocial values	-Antisocial cognitions	-Psychoeducation -Identification of antisocial values
12) Tactics to avoid responsibility	-Information about problem behavior -Identification and pros and cons of the participants problem behaviors	-Antisocial personality pattern	-Psychoeducation -Identification of problem behavior -Pros and cons analysis
13) Criminal thinking patterns III	-Identification of previous and current criminal thinking patterns	-Antisocial cognitions	-Mapping of progress by identification of previous and current cognitions
14) Who suffers from crime?	-Consequences of crime for the participants, family and friends, victims, victim's family and friends, and society -Guilt as a sign of mental salubrity	-Antisocial cognitions -Antisocial personality pattern	-Psychoeducation -Analysis of consequences -Role play
15) Leaving criminality - Ending of the program	-Risk factors for recidivism -Maintenance plan	-Antisocial cognitions -Antisocial personality pattern -Antisocial behavior	- Maintenance plan: summary of risk situations and what tools the participant can use in the situations

* For adults, the following criminogenic risk factors are important to change to reduce recidivism: substance use, antisocial cognition, antisocial associates, criminal and/or non-caring and non-monitoring family and marital relations, low employment performance and satisfaction, and low involvement and satisfaction in leisure and recreational activities (Andrews et al., 2006; Bonta & Andrews, 2016). Reduced association with criminal family members also improves work performance and decreases alcohol use, which give a greater reduction in offending (Wooditch et al., 2014).

Table 9 presents a comparison between the interventions for the younger and older offenders regarding treatment hours, treatment weeks, number of sessions, basic idea, treatment orientation, and care condition.

TABLE 9 Comparison of interventions.

Program	Care conditions	Treatment weeks	Number of basic sessions/ optional sessions	Methods	Treatment hours
A New Direction (Youths)	1) Individual multi-week treatment	18	13/0	CT/CBT	20
	2) One-week group treatment	1	13	CT/CBT	20
New Challenges (Adults)	Combined group and individual treatment	6	15/2	CT/CBT	100

Note: CT = Cognitive treatment, CBT = Cognitive-behavioral treatment.

2.4 Statistical analysis

Baseline differences in pre-treatment levels of criminal thinking and salutogenesis and in changes in these levels between the groups were analyzed by two-way mixed analysis of variance (ANOVA) tests. Post hoc analysis was made with the Tukey HSD test in Study I and the Bonferroni correction in Study II. Demographic variables were explored with frequencies analysis to compare data between the groups. To analyze recidivism, Friedman's non-parametric test was used in Study I. In Study II Kruskal–Wallis non-parametric test with Dunn–Bonferroni post-hoc method was used. A non-parametric Chi-square was used to measure the probability of frequency of convictions between the groups.

In Study II, baseline differences in pre-treatment levels of positive and Negative affect and in changes in these levels between the groups were also analyzed by two-way mixed analysis of variance (ANOVA) tests. Post hoc analysis was made with the Bonferroni correction. To control for the concurrent 12-step treatment in the cognitive treatment group, mixed ANOVA was used, analyzing differences between no-treatment control participants and control participants with 12 -step treatment in outpatient care. Also, since the reliability of the QPD scale measuring client-assessed quality had not been tested before, Cronbach's alpha was used to test the internal validity. Then, the independent *t* test was used to analyze differences in client-assessed quality between clients

who withdrew from and completed the program. Paired Samples t-test was used to measure differences in client-assessed quality between pre- and post-measurement for clients who completed the program. Pearson's correlation was used to analyze correlations between client-assessed quality and other dependent variables (criminal thinking, salutogenesis, and positive and negative affect) at post-measurement.

In Study III, a two-way mixed ANOVA was used to analyze changes in criminal thinking and sense of coherence both for the general levels and for the sub-scales. Post hoc test with Tukey HSD was used for the youths and the Bonferroni correction was used for the adults. The SPSS mediator syntax was used to analyze whether increases in the general levels and in the sub-scales of sense of coherence mediated the decrease in criminal thinking. All statistical analyses for the three studies were performed with the alpha level set to .05. The change score correlations were calculated for PICTS and SOC. The correlations were defined as $r > 0.50$ strong, $0.50 > r > 0.30$ moderate, and $r < 0.30$ weak (Kraemer et al., 2003). In all studies effect sizes (ESs) were reported using Cohen's *d*. The corrected between-group ES was calculated by dividing the mean difference in the change between the intervention and control groups by the pooled standard deviation of the pre-measurement. To interpret Cohen's between-group *d*, an ES of 0.20 was considered small, equal to or above 0.50 moderate, and equal to or above 0.80 large (Cohen, 1988). A rational for the choices of statistical analysis is presented in table 10. A summary of the statistical analyses for all three studies is presented in Table 11.

TABLE 10 Rational for choices of statistical methods.

Statistical method	Rational for the analyses
Two-way mixed ANOVA used in Study I, II and III to measure variable differences (PICTS, SOC; PANAS only in Study II) before and after treatment between the treatment- and control groups.	The aim of using a two-way mixed ANOVA is to investigate whether the changes in the treatment and control groups is different (before and after treatment).
Tukey post-hoc test after ANOVA tests used in Study I and III.	A post hoc test determined where (between which groups) the differences is observed. The Tukey post-hoc test is the most common test for comparing all possible group pairings.
Bonferroni correction after ANOVA tests used in Study II and III.	Bonferroni correction is a post-hoc method to examine more closely the differences between smaller groups. Bonferroni is a method to counteract multiple comparisons.
Frequencies used in Study I and II measuring demographic variables.	Frequency analysis determines the occurrence of a variable.
Friedman's nonparametric test used in Study I to measure differences in convictions between the treatment and control group before and after treatment.	When the sample sizes are unequal, the Friedman's nonparametric test is used to investigate whether the changes in the treatment and control groups is different (before and after treatment).
Cronbach's alpha used in Study II to analyze the internal validity of the QPD scale.	Cronbach's alpha measures how closely related a set of items are as a group.
Independent t-test used in Study II to measure differences in QPD between clients who withdrew from and completed the program.	Independent t-test is used to compare mean values between two groups on repeated occasions (before and after treatment).
Paired Samples t-test used in Study II to measure differences in QPD between pre- and post-measurement for clients who completed the program.	Paired Samples t-test is used to compare mean values for the same individual or group on repeated occasions (before and after treatment).
Pearson's correlation used in Study II to analyze correlations between QPD and other dependent variables.	A Pearson's correlation is used to investigate if there is a linear relationship between two variables.
Kruskal-Wallis H test used in Study II to measure differences in convictions between the treatment group, no-treatment control group and twelve-step treatment control group, after treatment.	When the sample sizes are unequal, the Kruskal-Wallis H test is used to investigate whether there is a difference between the treatment and control groups at an occasion (after treatment).
Post hoc Dunn–Bonferroni adjustment after Kruskal-Wallis H test used in Study II.	A Dun-Bonferroni adjustment determines where (between which groups) the difference is. Dunn–Bonferroni test measures differences between equal or unequal sample sizes.
Chi-square non-parametric test used in Study II to measure the probability of frequency of convictions between the treatment group and control groups.	When the sample sizes are unequal and the variables are categorial, the Chi-square test is used to compare observed results with expected results. The aim is to determine if a difference between observed data and expected data is due to chance, or if it is due to a relationship between the variables.
Cohen's d effect size used in Study I, II and III measure the treatments effect on change for PICTS, SOC and PANAS.	Cohen's d effect size measures the treatment effects. A large Cohen's d ($d \geq 0.80$) indicates the mean difference before or/and after treatment is large compared to the variability between the participants. (Small $d \geq 0.20$, medium $d \geq 0.50$.)
SPSS mediator syntax used to analyze whether increases in the general levels and in the sub-scales of sense of coherence mediated the decrease in criminal thinking.	A mediation analysis is used to explain the relationship and pathway between a presumed cause (treatment program) and effect with respect to causal links (mediating variables).

Note: PICTS = Psychological Inventory of Criminal Thinking Styles, SOC = Sense of Coherence scale, PANAS = Positive and Negative Affect Scales, QPD = Quality of Program Delivery, Convictions = Register data from the Swedish courts' public criminal record.

TABLE 11 Summary of statistical analyses in each of the three studies.

	Time	Statistical analysis	Variables
Study I	Pre-treatment	Two-way mixed ANOVA analysis	PICTS, SOC-13
	Pre-treatment	Frequencies	Demographic variables
	Post-treatment	Two-way mixed ANOVA analysis	PICTS, SOC-13
	Follow-up	Friedman's non-parametric test	Convictions
Study II			
	Pre-treatment	Two-way mixed ANOVA analysis	PICTS, SOC-13, PANAS
	Pre-treatment	Frequencies	Demographic variables
	Post-treatment	Two-way mixed ANOVA analysis	PICTS, SOC-13, PANAS
	Pre-treatment	Cronbach's alpha	QPD
	Post-treatment	Independent t-test	QPD
	Post-treatment (one-week and six-week)	Paired samples t-test	QPD
	Post-treatment	Pearson's correlation	PICTS, SOC-13, PANAS, QPD
	Follow-up	Kruskal–Wallis non-parametric test	Convictions
	Follow-up	Chi-square non-parametric	Convictions
Study III			
	Pre-treatment	Two-way mixed ANOVA analysis	PICTS and PICTS sub-scales, SOC and SOC factors
	Post-treatment	Two-way mixed ANOVA analysis	PICTS and PICTS sub-scales, SOC and SOC factors
		Cohen's d effect size	PICTS and PICTS sub-scales, SOC and SOC factors
		Pearson's correlation	Change-scores of PICTS and PICTS sub-scales, change-scores of SOC and SOC factors
		SPSS mediator syntax	PICTS, SOC* factors

*Note: PICTS = Psychological Inventory of Criminal Thinking Styles, SOC = Sense of Coherence scale, PANAS = Positive and Negative Affect Scales, QPD = Quality of Program Delivery, Convictions = Register data from the Swedish courts' public criminal record. * = investigated as mediators.*

3 SUMMARY OF RESULTS

3.1 Study I

Evaluation of the intervention program for young offenders

The aim of study I was to examine the youth program's impact on criminal thinking patterns and sense of coherence when offering the one-week group treatment or alternatively the individual multi-week treatment. These were compared with no-treatment control groups.[1] In addition, the aim was to examine recidivism. Recidivism was only examined for participants from the multi-week group and corresponding control group who had previous convictions.

Criminal thinking at pre-measurement. At pre-measurement, all participants had a total PICTS value higher than 50 points, showing that the general degree of criminal thinking (GCT) was above the cut-off value for the normal population mean (see cut-off values for PICTS in Table 3). All groups had high values of criminal thinking (> 60), and there were no significant differences between the groups. Thus, the investigated groups were not significantly different at the beginning of the intervention and were comparable in terms of levels of criminal thinking.

Criminal thinking at post-measurement. At post-measurement, there was a significantly lower mean value of criminal thinking for the multi-week treatment group compared to the control group. The mean value of criminal thinking decreased for the multi-week treatment group from high values at pre-measurement (M = 63.47, SD = 8.40) to values comparable to the normal population at post-measurement (M = 49.64, SD = 9.58). The 95% confidence interval was at pre 58.65–68.30, and at post 44.21–55.08, showing a significant decrease. There were no significant differences between the one-week treatment

[1] Note that observed power has been incorrectly reported as Cohen's d regarding the results for criminal thinking and sense of coherence in the original paper I, page 184–185.

and control group at post-measurement. Thus, decreases in criminal thinking were observed only in the multi-week treatment condition, and the effect size was large, d = 1.54 (Table 12).

TABLE 12 Youths' criminal thinking patterns before and after treatment.

Criminal thinking patterns (PICTS) before and after the treatment in the two treatment and two control groups. Mean values, standard deviation (SD), 95% confidence Intervals (CI), and within-group effect sizes (ES) with d-values.

	Pre	**Post**	Within ES d_w
Multi-week treatment			
M (SD)	63.47 (8.40)	49.64 (9.58)	1.54
95% CI	58.64–68.30	44.21–55.08	0.74–2.26
One-week treatment			
M (SD)	64.95 (10.42)	60.47 (12.43)	0.39
95% CI	60.38–69.51	55.33–65.61	-0.26–1.02
Multi-week control			
M (SD)	66.36 (9.00)	67.21 (11.36)	-0.08
95% CI	61.04–71.67	61.22–73.21	-0.82–0.66
One-week control			
M (SD)	69.64 (12.19)	71.18 (11.03)	-0.13
95% CI	63.64–75.63	64.42–77.94	-0.96–0.71

Sense of coherence at pre-measurement. At pre-measurement, the participants in the one- and multi-week treatment groups had a total value higher than 52 points, showing that the general degree of sense of coherence was just above the cut-off value for the normal population mean (see cut-off values for SOC in Table 4). The participants in the control groups had a total value slightly lower than 52 points. Thus, the general level of sense of coherence was just below the cut-off value for the normal population mean. However, the difference between the groups was not significant. This suggested that all groups had a general level of sense of coherence on the border of the cut-off value for the normal population mean. Therefore, the groups were not significantly different at the beginning and were comparable in terms of levels of sense of coherence.

Sense of coherence at post-measurement. At post-measurement, there was a higher mean value of sense of coherence in the multi-week treatment group compared to the multi-week control group (p = .02). The mean value of sense of coherence increased in the multi-week treatment group from low normal values at pre-measurement (M = 54.53, SD = 12.68) to values comparable to the normal population at post-measurement (M = 61.82, SD = 10.10). However, the 95% confidence intervals indicated that the range of pre and post measures were somewhat overlapping (pre 48.82–60.24; post 56.80–66.84). No significant increase was found in sense of coherence for the one-week treatment group compared to the one-week control group. However, the control group significantly decreased in sense of coherence compared to the treatment group. Thus, the program only increased sense of coherence when implemented as a multi-week treatment intervention during a period of 18 weeks, and the effect size was medium, d = 0.64 (Table 13).

TABLE 13 Youths' sense of coherence before and after treatment.

Sense of coherence (SOC) before and after the treatment in the two treatment and two control groups. Mean values, standard deviation (SD), 95% confidence Intervals (CI), and within-group effect sizes (ES) with d-values.

	Pre	**Post**	Within ES d_w
Multi-week treatment			
M (SD)	56.53 (12.68)	61.82 (10.10)	0.64
95% CI	48.82–60.24	56.80–66.84	-1.31–0.07
One-week treatment			
M (SD)	56.42 (10.89)	55.42 (11.87)	0.09
95% CI	51.02–61.82	50.67–60.17	-0.55–0.72
Multi-week control			
M (SD)	47.50 (10.57)	46.71 (6.83)	0.09
95% CI	41.21–53.79	41.18–52.25	-0.65–0.83
One-week control			
M (SD)	47.46 (13.10)	42.82 (11.46)	0.38
95% CI	40.36–54.55	36.58–49.06	-0.48–1.21

Recidivism two years after post-measurement. At the follow-up measurement, the results showed that recidivism was significantly reduced for the multi-week treatment group but not for the control group. The recidivism rate decreased for the multi-week treatment group from a total of 38 convictions two years before treatment to 0 convictions two years after treatment. This is in contrast to the control group, which increased their number of convictions from a total of 24 convictions two years before participation in the study to 31 convictions two years after participation in the study.

Conclusions. The result show that only the multi-week treatment resulted in a decrease in criminal thinking and an increase in sense of coherence. One-week group treatment shows no significant results. The results also indicated that the participants in the multi-week treatment group with previous convictions reduced their recidivism rate compared to the control group two years after treatment.

Key findings. The results provide evidence that it is possible to decrease young offenders' criminal thinking and increase sense of coherence by providing them with an individual multi-week treatment that lasted on average 18 weeks. The results also indicate that the effect of treatment remains outside the context of treatment in terms of reduced recidivism. However, the number of investigated participants was low for the recidivism measurements; thus, the results must be treated with caution.

3.2 Study II

Evaluation of the intervention program for adult offenders

The aim of Study II was to examine the adult program's impact on criminal thinking patterns, sense of coherence, and positive and negative affect for combined individual and group multi-week treatment. The changes in the

treatment group were compared to the changes in the control groups.[2] As well, the aim was to examine the client-rated quality of program delivery and correlations with criminal thinking patterns, sense of coherence, and positive and negative affect after treatment. In addition, recidivism was analyzed.

Criminal thinking at pre-measurement. At pre-measurement, all participants had a total value higher than 50 points, showing that the general degree of criminal thinking (GCT) was above the cut-off value for the normal population mean (see cut-off values for PICTS in Table 3). At pre-measurement, the participants in the treatment group had a total value higher than 70 points, showing that the general degree of criminal thinking was high above the cut-off value for the normal population mean. The participants in the control group had a total value higher than 60 points, showing the general degree of criminal thinking was also above the cut-off value for the normal population mean. The difference between the groups was not significant. Thus, the groups were not significantly different at the beginning of the intervention and were comparable in terms of levels of criminal thinking.

Criminal thinking at post-measurement. At post-measurement, there was a lower mean value of criminal thinking in the treatment group compared to the control group. The mean value of criminal thinking decreased in the multi-week treatment group from very high values at pre-measurement (M = 78.77, SD = 7.58) to values near the normal population at post-measurement (M = 54.42, SD = 11.19). The 95% confidence interval was at pre 76.00–81.55 and at post 50.10–58.74, showing a significant decrease. Thus, the program decreased criminal thinking implemented as a multi-week treatment intervention and the effect size was large, d = 2.55 (Table 14).

Changes in the control groups. From pre- and post-measurement there was no significant change in criminal thinking among control participants undergoing 12-step treatment or among control participants without treatment. This suggested that in outpatient care, the 12-step treatment alone did not decrease criminal thinking during the treatment of six weeks.

[2] Note that observed power has been incorrectly reported as Cohen's d and SE has been incorrectly reported as SD regarding the results for criminal thinking, sense of coherence, and positive and negative affect in the original paper II, pages 212, 214–216.

TABLE 14 Adults' criminal thinking patterns before and after treatment.

Criminal thinking patterns (PICTS) before and after treatment in the two treatment and two control groups. Mean values, standard deviation (SD), 95% confidence Intervals (CI), and within-group effect sizes (ES) with d-values.

	Pre	**Post**	Within ES d_w
Treatment			
M (SD)	78.77 (7.58)	54.42 (11.19)	2.55
95% CI	76.00–81.55	50.10–58.74	1.85–3.18
Control, no treatment			
M (SD)	69.17 (8.18)	64.17 (16.86)	0.38
95% CI	62.86–75.47	54.31–74.03	-0.79–1.49
Control, 12-step			
M (SD)	74.20 (7.40)	70.40 (9.76)	0.44
95% CI	67.29–81.11	59.60–81.20	-0.86–1.65
Control, total			
M (SD)	71.46 (7.89)	67.00 (13.81)	0.40
95% CI	66.79–76.12	59.75–74.25	-0.46–1.22

Sense of coherence at pre-measurement. At pre-measurement, all participants had a total value lower than 52 points, showing that the general degree of sense of coherence was below the cut-off value for the normal population mean (see cut-off values for SOC in Table 4). There was no significant difference between the multi-week treatment group and control group, indicating that the groups were not significantly different at the beginning of the intervention and were comparable in terms of levels of sense of coherence.

Sense of coherence at post-measurement. At post-measurement, there was no significant difference in sense of coherence between the multi-week treatment group and the control group, but there was an interaction effect showing the groups changed differently. The multi-week treatment group significantly increased the sense of coherence from low values (M = 43.80, SD = 8.68) to values comparable to the normal population (M = 56.53, SD = 9.13) between pre- and post-measurement. Also, the 95% confidence intervals indicated obvious increases: pre 40.55–47.06 and at post 54.48–60.58, while there was no significant change in the control group between pre- and post-measurement. Thus, the program increased sense of coherence implemented as multi-week treatment intervention, and the effect size was large, d = 1.43 (Table 15). In addition, at post-measurement, a low level of sense of coherence was highly associated with a high level of criminal thinking (r = .53).

Changes in the control groups. The change from pre- and post-measurement was not significant in the sense of coherence for control participants undergoing 12-step treatment in outpatient care or for control participants without treatment. This suggested that the 12-step treatment in outpatient care did not increase the sense of coherence during the treatment period for six weeks.

TABLE 15 Adults' sense of coherence before and after treatment.

Sense of coherence (SOC) before and after treatment in the two treatment and two control groups. Mean values, standard deviation (SD), 95% confidence Intervals (CI), and within-group effect sizes (ES) with d-values.

	Pre	**Post**	Within ES d_w
Treatment			
M (SD)	43.80 (8.68)	56.53 (9.13)	1.43
95% CI	40.55–47.06	52.48–60.58	-1.98–-0.85
Control, no treatment			
M (SD)	51.17 (8.68)	57.00 (15.07)	0.47
95% CI	43.81–58.53	48.30–65.70	-1.58–0.71
Control, 12-step			
M (SD)	48.80 (10.66)	43.80 (12.87)	0.42
95% CI	40.74–65.86	34.27–53.33	-0.87–1.63
Control, total			
M (SD)	50.09 (9.20)	51.00 (15.08)	0.07
95% CI	44.72–55.47	44.31–57.69	-0.91–0.77

Positive affect at pre-measurement. At pre-measurement, all participants had a total value higher than 26 points, showing that the general degree of positive affect was above the cut-off value for the normal population mean (see cut-off values for PANAS in Table 4). There was no significant difference between the multi-week treatment group and control group in positive affect ($p > .05$), which suggested that the groups were comparable in the levels of positive affect before the treatment started.

Positive affect at post-measurement. At post-measurement, there were no significant differences in positive affect between the multi-week treatment group and the control group but there was an interaction effect showing the groups changed differently. The multi-week treatment group significantly increased positive affect within the normal range from (M = 31.83, SD = 7.94) to (M = 35.53, SD = 6.54) between pre- and post-measurement. The control group showed no significant difference in positive affect between pre- and post-measurement. Thus, the treatment program increased the positive affect implemented as a multi-week treatment intervention during a period of six weeks, and the effect size was medium, $d = 0.51$ (Table 14).

Negative affect at pre-measurement. At pre-measurement, the participants in the multi-week treatment group had a mean value just above 24 points of negative affect, which is the cut-off value for the normal population, showing a high degree of negative affect (see cut-off values for PANAS in Table 5). The participants in the control group had a mean just below 24 points, showing negative affects within the range for the normal population. However, the difference between the groups was not significant, suggesting that both groups had a general degree of negative affect at the border of the cut-off value for the normal population mean. Therefore, the groups were not significantly different at the beginning of the intervention and were comparable in terms of levels of negative affect.

Negative affect at post-measurement. At post-measurement, there was no significant difference in negative affect between the multi-week treatment group and the control group. There were no significant changes in the treatment group (M = 24.60, SD = 7.12) to (M = 23.10, SD = 7.61) or the control group (M = 21.73,

SD = 7.75) to (M = 23.36, SD = 8.04) between pre- and post-measurement. Thus, the program did not decrease the negative affect implemented as a multi-week treatment intervention for an average of six weeks.

TABLE 16 Adults' positive and negative affect before and after treatment.

Positive and negative affect (PANAS) before and after treatment in the two treatment and two control groups. Mean values, standard deviation (SD), 95% confidence Intervals (CI), and within-group effect sizes (ES) with d-values.

Positive Affect	**Pre**	**Post**	Within ES d_w
Treatment			
M (SD)	31.83 (7.94)	35.53 (6.54)	0.51
95% CI	28.97–34.70	33.00–38.07	-1.02–0.01
Control, no treatment			
M (SD)	34.83 (7.14)	33.00 (7.62)	0.25
95% CI	28.34–41.32	27.25–38.75	-0.91–1.36
Control, 12-step			
M (SD)	34.20 (8.04)	32.20 (8.76)	0.24
95% CI	27.09–41.31	25.90–38.50	-1.03–1.46
Control, total			
M (SD)	34.54 (7.17)	32.64 (6.91)	0.27
95% CI	29.82–39.27	28.45–36;83	-0.58–1.10
Negative Affect	**Pre**	**Post**	Within ES d_w
Treatment			
M (SD)	24.60 (7.12)	23.10 (7.61)	0.20
95% CI	21.91–27.29	20.25–25.95	-0.31–0.71
Control, no treatment			
M (SD)	18.67 (4.50)	20.50 (5.79)	0.35
95% CI	12.75–24.58	14.19–26.82	-1.46–0.81
Control, 12-step			
M (SD)	25.40 (9.69)	26.80 (9.63)	0.14
95% CI	18.92–31.88	19.88–33.72	-1.37–1.11
Control, total			
M (SD)	21.73 (7.75)	23.36 (8.04)	0.21
95% CI	17.28–26.17	18.65–28.08	-1.04–0.64

Client-rated quality of program delivery for clients who fulfilled and withdrew from treatment. The parameters assessed as a total value of quality of programme delivery (QPD) were therapeutic relationship, pedagogical ability, and methodological competence. Analysis with Cronbach's alpha showed high internal consistency for QPD, α = .89, and the subscales pedagogical ability, α = .83, and therapeutic relationship, α = .88, and relatively good internal consistency for the subscale methods, α = .68. The average quality index assessed by the clients was high (4 out of 5) (see cut-off values for QPD in Table 6). There were no differences in the assessment of program quality for the 11 participants that withdrew from the program after one week (due to completed inpatient care) (M = 46.36, SD = 7.86) compared to the participants that completed the six-week program (M = 47.16, SD = 7.08). Also, there was no difference in mean value of the quality (QPD) after the first week of treatment (M = 47.16, SD = 7.08) and the last week of treatment for the participants who completed the six-week program (M = 49.21, SD = 5.60). Thus, both clients who interrupted and completed the program assessed the quality of program delivery as highly satisfying. The clients who completed the program assessed the quality of program delivery as high both during and after the intervention.

The correlations between the quality of program delivery and risk factors. At post-measurement, client-rated quality showed no significant correlation with the risk factors of criminal thinking or negative affect in the multi-week treatment group.

The correlations between the quality of program and protective factors. At post-measurement, client-rated quality showed a significant positive correlation with the protective factors sense of coherence (r = .39, p < .05) and positive affect (r = .64, p < .01) in the multi-week treatment group. Also, there was a positive correlation between sense of coherence and positive affect (r = .37, p < .05) in the multi-week treatment group.

Recidivism two years after post-measurement. At the follow-up measurement, Kruskal–Wallis non-parametric test was used to analyze the recidivism of the treatment group and control group (divided into no treatment and 12-step treatment) for 0-1 years and 1-2 years after post-measurement. The results showed that there was a significant difference in recidivism between the groups 1-2 years after treatment, $\chi 2(2) = 6.31$, n = 32, p = .043; mean rank was 20.50 for the treatment group, 22.60 for the 12-step control group, and 29.50 for the no treatment control group. Post hoc with Dunn–Bonferroni correction showed a significant difference between the treatment group and no treatment control group, p = .04. No significant differences were found for 0-1 year after treatment for the multi-week treatment group compared to the no treatment control group or the 12-step control group, although the difference was marginally significant (p = .07).

TABLE 17 Mean ranks of convictions among groups, two years follow-up.

	Group	N	Mean rank
Relapses 0–1 year after treatment	Treatment	32	22.22
	12-step control	5	19.50
	No treatment control	6	22.92
Relapses 1–2 years after treatment	Treatment	32	20.50*
	12-step control	5	22.60
	No treatment control	6	29.50*

* p < .05. Significant difference between the treatment group and control group.

At the individual level, the recidivism data 1–2 years after treatment showed that 3 (9%) of the 32 participants in the multi-week treatment group were convicted compared to the no treatment control group, where 3 of the 6 participants (50%) were convicted. On the group level, the recidivism data 1–2 years after treatment showed 16 convictions for the multi-week treatment group, 32 for the no treatment control group, and 2 convictions for the 12-step control group.

TABLE 18 Convictions among participants, two years follow-up.

No treatment control group			**12-step control group**					
Participants	0–1 year after treatment	1–2 years after treatment	Participants	0–1 year after treatment	1–2 years after treatment	Participants	0–1 year after treatment	1–2 years after treatment
1	0	0	**1**	0	0	**1**	0	0
2	0	0	**2**	0	1	**2**	0	0
3	0	0	**3**	1	8	**3**	0	2
4	0	0	**4**	0	23	**4**	0	0
5	0	0	**5**	0	0	**5**	0	0
6	0	9	**6**	0	0			
7	0	0						
8	0	0						
9	0	0						
10	1	0						
11	0	0						
12	0	0						
13	0	0						
14	0	0						
15	0	0						
16	0	0						
17	0	0						
18	0	6						
19	0	0						
20	0	0						
21	0	0						
22	13	0						
23	0	0						
24	0	0						
25	0	0						
26	0	0						
27	2	0						
28	0	0						
29	1	0						
30	0	1						
31	0	0						
32	0	0						

Analysis with the non-parametric chi-square test showed that there is, in principle, zero probability that the frequency of convictions in the adult treatment group, no treatment control group, and 12-step control group one to two years after treatment would show the observed difference, given that the groups had the same frequency of convictions before measurement, $\chi 2 = 169.44$, $p < .001$. Therefore, the difference is probably due to the treatment.

TABLE 19 Distribution of convictions for all groups, two years follow-up.

	Treatment group (n = 32)	**No treatment control group** (n = 6)	**12-step control group** (n = 5)
Relapse after	16	32	2

Conclusions. The results showed that among adult offenders, the cognitive multi-week treatment was effective in decreasing criminal thinking. Also, the protective factors sense of coherence and positive affect increased significantly during the treatment. The clients assessed the quality of program delivery as high in terms of the therapeutic relationship as well as the program leader's

pedagogical ability and methodological competence. The high evaluation of the quality of the program delivery was associated with the increased sense of coherence and positive affect after the treatment. Criminal thinking and negative affect were not associated with the quality of the program delivery. Furthermore, a high level of criminal thinking was associated with a low level of sense of coherence. Also, the recidivism results, only reported in this summary of results and not in the article, suggested a reduced recidivism rate in the treatment condition compared to the no treatment control group two years after treatment.

Key findings. The results provide evidence of decreased criminal thinking for combined individual and group treatment that lasted for six weeks. The protective factors sense of coherence and positive affect increased significantly in the treatment group and showed a significant positive correlation with client-rated quality, which may prove to be important precursors of reduced criminality. Additionally, there was a significant negative correlation between criminal thinking and sense of coherence, raising the question if increased sense of coherence could mediate the decrease in criminal thinking. Also, the results indicated that the effect of treatment remained outside the context of treatment in terms of reduced recidivism. However, this conclusion must be treated with caution because the number of investigated participants was low.

3.3 Study III

Evaluation of the impact of the interventions on sub-dimensions of criminal thinking and sense of coherence as a mediator

The aim of Study III was to examine the youth and adult programs' impact on the sub-scales of criminal thinking patterns and sense of coherence. In previous studies, it was shown that the individual 18-week treatment for young offenders and the 6-week individual and group treatment for adult offenders produced decreased criminal thinking and increased sense of coherence (Study I, II). However, only total scores of these measures were investigated. This study aimed to investigate further which sub-dimensions of criminal thinking and sense of coherence were impacted in the treatments. In addition, the purpose was to study whether changes in sense of coherence mediated changes in criminal thinking and if the mediators were similar for young and adult offenders. Thus, the purpose was to increase our knowledge of the key processes of change responsible for treatment effects.

Changes in the sub-dimensions of criminal thinking among the young offenders. At post measurement, the 18-week treatment group showed significantly larger decreases in all sub-scales of criminal thinking (PICTS), except sentimentality and super optimism, compared to the control group. Thus, six out of the eight dimensions of criminal thinking decreased among the youth

offenders. These six dimensions were: mollification, cut-off, entitlement, power orientation, cognitive indolence, and discontinuity.

Changes of the sub-dimensions of criminal thinking among the adults. At-post measurement, the six-week treatment group showed significantly larger decreases in all sub-scales of criminal thinking compared to the control group. This indicated that eight out of eight sub-dimensions of criminal thinking changed during the treatment. Positive changes were observed in the following sub-scales: mollification, cut-off, entitlement, power orientation, sentimentality, super optimism, cognitive indolence, and discontinuity.

Changes in the sub-dimensions of sense of coherence among the young offenders. At-post measurement, there was a higher mean value of total sense of coherence and the sub-factors of meaningfulness and manageability in the treatment group compared to the control group. There was no significant difference in the sub-factor of comprehensibility, suggesting that the program increased total sense of coherence, meaningfulness, and manageability among the young offenders.

Changes in the sub-dimensions of sense of coherence among the adults. At-post measurement, there was a higher mean value of total sense of coherence and the sub-factors of meaningfulness and manageability in the treatment group compared to the control group. There was no significant difference in the sub-factor of comprehensibility, indicating that the program increased total sense of coherence, meaningfulness, and manageability among the adults.

Mediation analyses among the young offenders. The mediator analysis showed that the observed decrease in the total score for criminal thinking was not mediated by the increase in the total score of sense of coherence or any of the sub-factors among the youths.

Mediation analyses among the adult offenders. The mediator analysis showed that the observed decrease in the total score for criminal thinking was mediated by the increase in the total score of sense of coherence and the sub-factor of manageability among the adults.

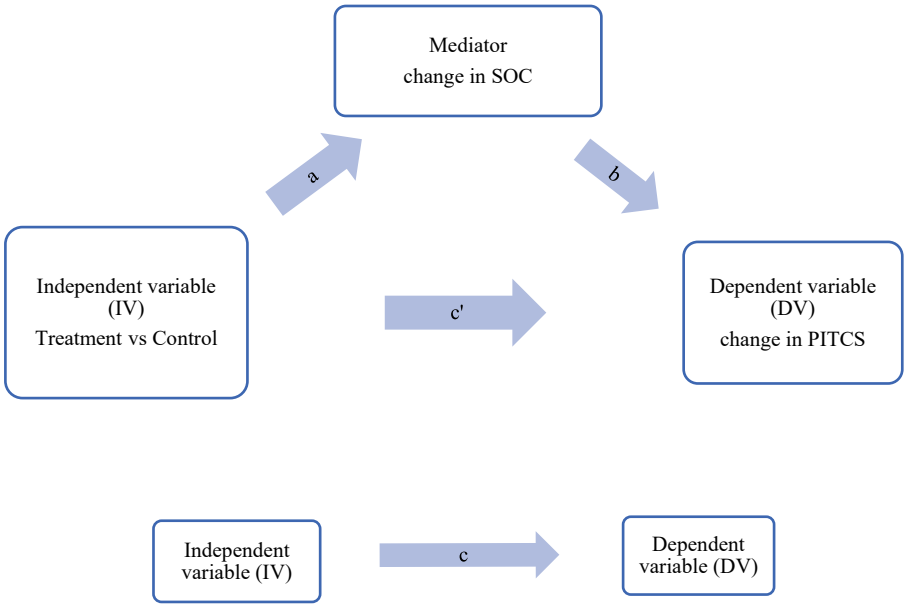


FIGURE 5 Mediation analysis.

TABLE 20 Simplified mediation analysis.

Mediator	Age group	IV to mediators (a-paths) *Estimate* *p*	Direct effects of mediators (b-paths) *Estimate* *p*	Direct effects of IV on DV (c′-paths) *Estimate* *p*	Indirect effects (a x b -paths) Bias Corrected Confidence Intervals		Mediators effect (percentage explained)
SOC	Young	Non-sign.	Non-sign.	Significant .0019**	Non-sign. -0.0162 ; 0.4029		-
	Adult	Significant .0177*	Significant .0009**	Significant .0057**	Significant 0.0708;0.9441		31.50%
Me	Young	-0.6945 .0526	-0.2140 .1831	1.0320 .0024**	-0.0109	0.5204	-
	Adult	-0.7364 .0341*	-0.1823 .2051	1.0750 .0016**	-0.0261	0.5299	-
C	Young	-0.2102 .5691	-0.1147 .4534	1.1565 .0006**	-0.0453	0.2631	-
	Adult	-0.4550 .1985	-0.3927 .0031**	1.0306 .0007**	-0.0488	0.5737	-
Ma	Young	-0.7853 .0269*	-0.1567 .3431	1.0575 .0027**	-0.1845	0.5785	-
	Adult	-0.8836 .0100*	-0.4481 .0014**	0.8134 .0082**	0.1046	1.0432	32.18%

Conclusions. The results showed that most of the sub-factors of criminal thinking were affected by the treatments provided to the young and adult offenders. Among the young offenders, the program decreased all sub-scales of criminal thinking except sentimentality and super optimism. Among the adult offenders, the program decreased all sub-scales of criminal thinking. Thus, the results showed many similarities between the younger and older offenders in treatment effect on the sub-dimensions of criminal thinking. Among both the youth and adult participants, the treatment increased the total mean value of sense of coherence and the sub-factors of meaningfulness and manageability. Hence, the results were similar, but compared to the younger offenders, larger changes were observed in the adult group in sense of coherence. In the mediation processes there were differences. It was only among the adults that total sense of coherence and the sub-factor of manageability mediated the decrease of criminal thinking.

Key findings. The results provide evidence of decreased criminal thinking in most sub-scales among younger offenders and in all sub-scales for adult offenders after the interventions. These programs also increased the protective sub-factor of sense of coherence. Only among the adults did changes in the total sense of coherence and the sub-factor of manageability mediate the decrease of criminal thinking.

4 DISCUSSION

Previous studies on the treatment effects of crime-reduction programs have often examined inmates (Klingele, 2019; Serin et al., 2016). They have seldom included psychological factors as outcome measurements and have usually applied the frequency of recidivism as outcomes. Less attention has been paid to negative group processes that enforce criminal norm systems. These quite unexplored variables such as antisocial attitudes and thinking patterns as well as personality variables, such as affect liability, have been shown to be important predictors of recidivism (Fridell & Hesse, 2005; Walters & Cohen, 2016). There are also few studies about what factors mediate the effect of crime-reduction programs. Previous research mainly has a focus on what risk factors mediate the development and maintenance of criminal behavior (Martin et al., 2019; Walters, 2021). Less attention has been directed to why psychological interventions are effective or what factors explain changes in criminal thinking patterns. The research is limited or missing regarding the measurements of protective psychological factors, such as sense of coherence, and their role in changes of criminal thinking patterns. Therefore, the present thesis focuses on examining changes in criminal thinking and the participants' salutogenic norm system related to the self-image and worldview measured by sense of coherence, in a setting outside prison. The sense of coherence scale (SOC) has empirical validity for the general perception of oneself, others, and the world (Antonovsky, 1993), and the salutogenic approach based on trust largely contrasts to the criminal self-image and worldview that is based on existential fear (Bergström, 2012). In cognitive theory, a tool for psychological change is to integrate an opposite mindset to change a current one (Beck, 2020), which is examined in the studies. In addition, recidivism was examined to evaluate whether changes in criminal thinking patterns and worldview relates to a change in behavior that remains over time, outside of the context of treatment.

The thesis represents a pilot project with the aim to give a first picture of the effects of the different ways to implement the cognitive interventions with behavioral elements for juveniles ("A New Direction") and for adult offenders ("New Challenges"). The programs have not been evaluated before, and the

studies in the current work were effectiveness studies with a quasi-experimental design implemented in the everyday practice of regular substance abuse care, outside the correctional institutions. The overall purpose of the studies was to examine whether the programs impacted the factors that the programs aim to change, namely criminal thinking patterns as well as self-image and worldview. The main aim of Study I was to examine the impact on criminal thinking patterns and sense of coherence among young offenders. Two methods of implementation were studied: group treatment for one week and individual multi-week treatment. Another aim was to examine the impact of the programs on recidivism two years after treatment. In Study II, the main aim was to examine the impact of the treatment on criminal thinking patterns and sense of coherence as well as on positive and negative affect among adult offenders. The implementation that was examined is known as the Val-bo model. This model includes treatment for a total of six weeks with one first week of cognitive group treatment, four weeks of individual cognitive treatment in combination with 12-step group treatment, and a final week of cognitive group treatment. The concurrent 12-step treatment was used as a control condition. Another aim of the study was to examine the relationship between client-rated quality of program delivery and the factors of criminal thinking patterns, sense of coherence, and positive and negative affect. Study III investigated whether the treatments impacted different sub-dimensions of criminal thinking patterns and sense of coherence, and whether the impact was similar among the younger and older offenders. A further aim was to examine whether changes in sense of coherence mediated changes in criminal thinking among young and adult offenders.

4.1 Main results

The main results from the youth study (Study I) showed no significant results for one-week group treatment. However, the individual treatment for an average of 18 weeks showed that the participants' criminal thinking patterns decreased from high mean values to mean values comparable to the normal population. The same trend was observed in the adult study (Study II) that examined the combined six-week individual and group treatment. The participants' criminal thinking patterns decreased from very high values to values close to the normal population. For both groups, the effect size was large ($d > 0.80$). It is worth noting that the adults received a significantly higher dose of treatment, on average 100 treatment hours compared to the younger offenders who received an average of 20 hours. However, the higher number of treatment hours is justified for the adult group according to the risk-need-responsiveness model, as the adults were in the advanced and burnout phases of lifestyle criminality while the youths were in the pre-criminal or early phases (Andrews et al., 2011).

Furthermore, the results from Study I corresponded to the results from Study II regarding the changes in sense of coherence. In Study I, the participants' sense of coherence increased significantly within the normal range, and in Study

II, the participants' sense of coherence increases from low mean values to values within the normal range. For the young offenders, the effect size was moderate (d > 0.50), and for the adults the effect size was large (d > 0.80). There was no significant change in criminal thinking patterns or sense of coherence among control participants undergoing 12-step treatment or among control participants without treatment. The changes in these variables in the treatment group are therefore assumed to be due to the cognitive treatment.

Additionally, the adult study (Study II) showed that the treatment increased positive affect within the normal range. The effect size was medium (d > 0.50); however, no significant changes in negative affect were found after treatment. For the treatment group, negative affect was constant on the border to high values after treatment. The results suggested that the treatment increased positive affect while the negative affect remained constant for both the treatment and control group during the measuring period. The non-decrease of negative affect can be assumed to relate to the fact that neuroticism (i.e., negative affect) is characteristic for offenders as a group and is difficult to change with increased age (Ellison, 2006; van Dam et al., 2005). Furthermore, Study II showed that the clients assessed the quality of the program delivery as highly satisfying (an average four out of five points). After the first week of treatment, this applied for both clients who were excluded after the first week due to completed care stay at the treatment facility and to participants who remained in the program. The clients who remained and completed the program assessed the quality of program delivery (QPD) as high both after one week of treatment and after all six weeks of treatment. The parameters measured with the QPD scale was therapeutic relationship, pedagogical ability, and methodological competence. Thus, the results indicated that the program leaders had a good therapeutic relationship with the clients, who felt respected and understood during treatment, and that the program leaders had good pedagogical ability as the clients understood the purpose of the program. Also, it was reported that the program leaders had good methodological competence since they had focused on the program's main themes and main components of lifestyle criminality. Thus, they had adherence to the program manual. The quality of program delivery was positively correlated with the level of sense of coherence and positive affect after treatment but not with criminal thinking patterns and negative affect.

Previous research has shown that adherence to evidence-based practices has a large systematic impact on recidivism rates (Caudy et al., 2013), and the results for both investigated treatments indicated positive effects on recidivism. In the youth study (Study I), the crime rate for the treatment group decreased significantly, while it did not for the control group. None of the 11 participants in the treatment group had any convictions two years after treatment, while 3 of the 6 participants (50%) in the control group had altogether 31 convicted crimes. This can be compared to the adults' result, which showed a significant difference between the treatment group and no treatment control group two years after treatment. Three of the 32 participants in the adult treatment group had 16

convicted crimes altogether, two years after treatment. In the no treatment control group, 3 of the 6 participants (50%) had altogether 32 convicted crimes. However, the number of investigated participants was low, and the results must be treated with caution.

In Study III, when examining the changes in the sub-scales of criminal thinking patterns, the results showed large effect sizes (d > 0.80) of the differences between the treatment and control groups for both young and adult offenders. Most of the sub-scales (six of eight) changed for the young offenders compared to the control group, and all of the sub-scales changed for the adult offenders compared to the control group. This means that the treatment had a broad effect on the participants' criminal thinking. Regarding the sub-factors of sense of coherence, none of the groups showed any significant changes in the sub-factor of comprehensibility. It is possible that the profound shame-based self-image described in Bergström (2012) is reflected in these results, as comprehensibility refers to realizing that a certain change is necessary (Hult et al., 1996). However, shame can prevent the client from asking if he or she does not grasp the program leader's explanations of the theory of criminality as a lifestyle, which could hinder the understanding of why a change is necessary. Another reason why the comprehensibility sub-factor did not change may be the characteristic egocentrism of criminal thinking that prevents self-awareness and self-reflection (Yochelson & Samenow, 1976) and the realization that a change is needed. Moreover, as comprehensibility refers to the experiences of perceiving internal and external stimuli as sensibly graspable and ordered, rather than as disordered and random (Antonovsky, 1987), the results may reflect the cognitive immaturity characteristic for criminal thinking, which impairs cognitive flexibility and the ability to sort information (Yochelson & Samenow, 1976).

Despite none of the groups showing any significant changes in the sub-factor of comprehensibility, both among the young and adult offenders there was a significant increase in total sense of coherence (a difference compared to the control: youths d = 0.70; adults d = 1.26) and the sub-factors of meaningfulness (youths d = 0.82; adults d = 0.77) and manageability (youths d = 0.18; adults d = 1.83) compared to the control groups. Meaningfulness is about perceiving that life has an emotional meaning and refers to the experience that at least some of the problems and demands that life presents are worthy of commitment and dedication (Antonovsky, 1987). Manageability refers to the experience of having disposable resources, which helps in meeting the demands made by the constant stimuli that we are exposed to. Thus, the between-group effects sizes showed large treatment effects (d > 0.80) regarding meaningfulness among the young offenders and close to large among adults. Further, among the adult offenders, large treatment effects were obtained for total sense of coherence and the sub-factor of manageability. Among the young offenders, manageability showed very small changes. Interestingly, among the adults, the decrease in criminal thinking was mediated by the increase in total sense of coherence and the sub-factor of manageability. No mediators were found in the group of young offenders. A possible explanation for these differences is that the younger

offenders' sense of coherence is not fully developed. According to Antonovsky (1997), sense of coherence is established in childhood but develops up to the age of 30. Thus, it is possible that the not fully developed sense of coherence among the young offenders resulted in smaller changes which were not sufficient for any significant mediation effects. Although we did not find significant mediation effects among the younger offenders, similar tendencies of change were observed among both age groups.

Another possible reason why criminal thinking was mediated by the manageability factors among the adults but not among the youths could be the difference in the treatment programs. Unlike the youth program, the adult program includes skills training. Also, unlike the youths, the adults received combined twelve-step treatment with the cognitive treatment, which could have improved some of the skills necessary to live a pro-social life. According to Antonovsky (1987), manageability is about having the right resources available to solve our problems through the ability to regulate emotions and internal locus of control, i.e. taking responsibility for the happenings you can control. Similarly, the Good lives model places a strong emphasis on human agency (Ward & Brown, 2004). Agency is about the ability to formulate goals and plans and act freely to implement them. To do this, however, you have to know how, including knowhow related to practical everyday things such as how to act among other people; how to get a mobile bank ID; how to plan your finances and follow the planning; how to get and keep a job and declare your income; how to take care of your home by paying the rent, cooking, cleaning, washing; finding out what you like doing in your leisure time; and how to take care of your mental and physical health. It is possible that some of these skills were learned by socializing in the twelve-step groups with people who have come further in terms of being part of society.

In summary, the investigated treatment programs showed effects on both criminal thinking as well as on self- and worldview measured by sense of coherence, and there were indications that they can decrease recidivism. The current study suggested that among adults, increased psychological resilience by sense of coherence and manageability is possibly one of the factors explaining why the treatment program decreased criminal thinking. Thus, changes in skills related to sense of coherence, and especially manageability, could be one mechanism that can be targeted in treatment that aims to effect changes in criminal thinking.

4.1.1 Sense of coherence as a mediator of criminal thinking

Research has fallen short of fully examining how the development of psychological resilience through interventions may help reduce persistent offending among young offenders (Hodgkinson et al., 2021). Mostly, studies have examined mediators of criminality and the role of criminal thinking (Walters, 2021, 2022). According to these results, criminal thinking is not only an important dynamic risk factor but should also be addressed in programs designed to alleviate current criminality and prevent future antisocial behavior.

Still, even though we do not know exactly how resilience helps to reduce offending, research proves that psychological changes through interventions including an increased sense of coherence, improved emotion recognition, more positive decision-making, and reduced defiance decrease recidivism among young people (Hodgkinson et al., 2021). Also, the perspective known as positive criminology points to the importance of the development of resources to distance from crime (Ronel & Elisha, 2011; Ronel et al., 2013). However, just as in the area of juvenile delinquents and resilience, studies investigating the relationship between resilience and recidivism concerning adult offenders are rather hard to find. Still, we found one Japanese study that shows that manageability is significantly related to the tendency of repeated offenses among adult offenders (Kish et al., 2018). Manageability primarily refers to the ability to regulate emotions and the locus of control, that is, an individual's perception about the underlying main causes of events in his or her life. This corresponds to Walters' (2002a) self-monitoring function in the criminal self-image and the dimension of fate versus free choice in the criminal worldview. According to Bergström (2012), the criminal's self-image and worldview are based on an existential fear and the self-image is described as shame based. Thus, an assumption in this thesis is that if the criminal client learns how to regulate the emotions of fear and shame, it becomes easier to place the locus of control within him-/herself, accept mistakes, and act responsibly. But how do we regulate emotions of fear and shame? Ronel and Segev (2015) suggest that altruism, which relates to sense of coherence (Jakovljevic, 2018), can shape and control psychological abilities as the ability to regulate emotions. In addition, research has found that increased altruistic behavior after compassion training is associated with altered activation in brain regions implicated in social cognition and emotion regulation (Weng et al., 2013). Compassion training involves training the mind to develop specific skills to relate to ourselves and others and making conscious efforts to think and act in a compassionate manner. These skills are trained by role-play in the session "Who suffers from crime?" in both the youth and adult programs. Thus, the current thesis suggests that compassion training that enhances altruism may be a way to achieve emotion regulation that helps the client to place the locus of control within him-/herself, accept mistakes, and act in a different way that makes life manageable.

4.2 Critical discussion of the results

4.2.1 Sample sizes

When making conclusions of the results, one possible problem is the small sample sizes, that can affect the internal validity (how well the results correspond to reality) and the external validity (the degree of generalizability) of the studies. The issue is particularly important to highlight for the recidivism analyses, where the sample sizes were even smaller than in the other analyses. In Study I, only

participants with previous convictions were included, because all young people in Study I were not old enough to have criminal responsibility and, thus, had not been convicted. Also, only participants from the 18-week treatment group with corresponding control group were included. This is because the 18-week treatment was the only condition showing significant differences in criminal thinking and sense of coherence, and we preferred to examine whether these effects remained outside the context of treatment in terms of reduced recidivism. Thus, this methodological choice reduced the sample size in both the treatment group (n = 11) and control group (n = 6). Also, in Study II, it was when we divided the control group into no treatment control participants (n = 5) and 12-step control participants (n = 6) that a significant difference between the no treatment control group and the treatment group was found. Therefore, due to the low number of participants, the results should be interpreted with caution. Also, the large effect sizes may partly be a result of the small sample sizes, since previous research shows small to medium-sized average effects (Beaudry et al., 2021; Granski et al., 2019).

4.2.2 Abuse of alcohol and drugs

Alcohol and drug abuse may also have affected the result of the recidivism analysis. As the control participants could not be recruited from the correctional institutions, which use urine samples to control alcohol and drug use, there is a higher risk of periodic abuse among the control participants. However, on the other hand, the use of alcohol, drugs, or medications that are addictive was not accepted among members at the associations where most of the control participants were recruited, and was ocular checked for by the contact persons. Consequently, both the treatment and the control groups were checked for abuse but with different methods, which may have affected the reliability of the measurements. Thus, we are not able to rule out the possibility that the higher frequency of convictions in the control groups compared to the treatment groups can be partly explained by these potential differences.

4.2.3 Concurrent treatment and length of the treatment periods

Concurrent treatment is another issue for discussion regarding the conclusions concerning the adult's treatment effects. Are the observed changes the result of the cognitive treatment or the result of the combination of 12-step treatment and cognitive treatment? Among the youths, the multi-week treatment and control groups had a relatively comparable prevalence of concurrent treatment (mainly 12-step treatment), 12% for the treatment group and 7% for the control group. When it came to the adults, on the other hand, there was a challenge to assess how the concurrent 12-step treatment affected the results. All participants in the six-week treatment group except one (97%) and 45% of the control group participants had concurrent 12-step treatment. When comparing the participants in the control group without treatment with those who received 12-step treatment in the control group, the results showed no differences between the

conditions. That is, none of the conditions in the control group decreased criminal thinking or increased the sense of coherence. In contrast, the treatment group showed significant changes for these variables compared to the control group. This suggested that neither the 12-step treatment or no treatment decreased criminal thinking or increased sense of coherence, but cognitive treatment did. However, previous studies have shown that 12-step treatment increases the sense of coherence and decreases negative emotions in the long run (Chen, 2006, 2010). Also, Bergström argues that cognitive understanding and processing is not enough to change the criminal norm system (Bergström, 2012). The logical processing needs to be combined with an emotional anchoring, which requires time. Cognitive understanding is assumed to be created faster, while the emotional processing that contributes to a deeper change in norms is created more slowly. Therefore, the most likely direct factor to reduced criminal thinking is assumed to be the cognitively oriented treatment programs. Yet, the adult study with concurrent 12-step treatment showed greater effect sizes compared to the youth study, and we cannot rule out that the interaction of cognitive treatment and 12-step treatment play a part in this result.

The fact that the lengths of the treatment periods are relatively short is another issue for discussion. For young people, previous research shows that programs with a similar amount of treatment hours and treatment period as provided in the "A New Direction" program show significant effects in reducing recidivism, that is, 10–30 sessions over a period of ten weeks to six months (Socialstyrelsen, 2022a, 2022b, 2022c). For adults, previous research shows effects for longer treatment periods, at least 4.5 months (Öberg & Holmberg, 2008). However, the "New Challenges" program only had a treatment period for an average of six weeks. Counselling programs, that is, group treatment with 12-step elements, cognitive elements, skills training, drug information, and educational elements, have shown modest effects on recidivism (Mitchell et al., 2012). Further, treatment programs that include aftercare after release show a greater effect size than programs without aftercare. Thus, what do the large effect sizes of the changes in criminal thinking and sense of coherence and the reduced recidivism in Study I and Study II indicate? Are the programs particularly effective and the program leaders exceptionally skilled? Or is there a risk that the changed thinking made the participants smarter thieves so they can avoid being caught by the police and convicted for their crimes? Or have the participants changed types of crime, for example from burglary and drug sales to financial crime, so that these crime types were excluded from the recidivism analysis? Another explanation is that the adult participants received approximately three months of 12-step treatment at the Val-bo treatment facility before the cognitive crime treatment. About half of the control participants had the same extent of 12-step treatment before the study. These participants showed no difference in recidivism compared to participants with no previous 12-step treatment, which may indicate that it is the cognitive treatment that primarily influences the criminal thinking patterns and recidivism. Also, the cognitive treatment as a part of a longer treatment period corresponds to what previous research has shown

to be effective (Landenberger & Lipsey, 2005; Mitchell et al., 2012; Öberg & Holmberg, 2008). In addition, Landenberger and Lipsey (2005) found some of the largest treatment effects among more serious offenders receiving cognitive or CBT interventions. This may prove that the large effect size among the adults may partly reflect the program's suitability for serious offenders and not just be a result of bias in the study.

4.2.4 Representativeness

A last issue for discussion is representativeness, which includes for whom the results are valid regarding age and ethnical background. In Study I, 95% of participants were male and 5% were female, with a mean age of 18.35 years (the total group). The ethnic background of the participants was 72% Nordic and 28% other ethnicities. In the youth multi-week treatment group, which showed significant results, 90% were male and 10% female, and the mean age was 17.45 years. The ethnic background of the participants was 81% Nordic and 19% other ethnicities. In Study II, 100% were men with an average age of 29.46 years (min 19, max 60). The ethnic background of the participants was 86% Nordic and 14% other ethnicities.

Thus, the results are valid when providing the 18-week individual treatment for Nordic boys with an average age of 17 years in the pre-criminal and early phase of criminality, and when providing the 6-week combined group and individual treatment for Nordic men with an average age of 29 years who are in the advanced and burned-out phases of criminality.

4.3 Ethical discussion

4.3.1 Recruitment of participants and data collection

In this study, research ethics were considered when recruiting participants. Compared to the normal population, offenders as a group experience more developmental disorders, reading and writing difficulties, concentration difficulties, planning difficulties, and organizational difficulties as well as poorer impulse control (Steiner et al., 1997; Doyle et al., 2002; Lundberg, 1996). Therefore, the participants required structure and clarity. To avoid exhausting the participants and affecting how the treatment is usually conducted, the Psychological Inventory of Criminal Thinking Styles (PICTS) was chosen to measure criminal thinking because it is already mandatory in the treatment. Additionally, some of the word choices in the Sense of Coherence Scale short form (SOC-13) were simplified. For example, "Do you have a feeling that you are in an unknown situation and don't know what to do?" was simplified to "How often do you feel that you don't really know what to do in different situations?" Prior to participating in the study, the participants were provided with verbal and written information about their role in the project, the conditions that

applied to it, their right to personal data, and how to access the data. They were also informed that participation was voluntary and that they had the right to withdraw at any time. Participants under the age of 16 required approval from both their guardians and the program leader or contact person. These interventions aimed to affect the participants psychologically. It was possible that reliance on program leaders could make it difficult for both young and adult participants to decline participation. Therefore, the program leaders were verbally informed about this risk and asked to emphasize to the participants that participation was voluntary. To ensure confidentiality and to hinder data misuse, unauthorized persons were prevented from accessing the questionnaires that included information about social security numbers and other sensitive information, such as ethnic background. This was accomplished by mandating all staff in the research project to sign a confidentiality agreement before participation. This agreement declared that the data must only be used for research purposes. During the study, the questionnaires were stored in the treatment and control units in accordance with the regulations governing the storage of such documents (SOSFS 2014:5). Each unit sent the forms to the doctoral student, Sophia Söderström, once all participants had completed the questionnaires. The doctoral student anonymized the data when entering it into matrices for statistical analysis. It was impossible to identify single individuals because only group data were collected during the study.

4.3.2 Using control groups with young offenders

Another issue for ethical considerations is the use of control groups with young offenders. It could be argued that it would be unethical to have a control group that does not have access to interventions, particularly when it comes to young people. For the youth study (Study I), most of the control participants were recruited from the KRIS and X-Cons peer associations. These associations offer support and fellowship to people who are attempting to change their criminal behavior or lifestyle. The contact persons at these associations support prosocial activities and work to motivate and help individuals obtain access to interventions. In this context, participating in the study served as a step in the motivation process. It is possible that answering the questionnaires increased the participants' awareness of how criminal thinking patterns hinder a prosocial life. Additionally, at the beginning of Study I, an ethical consideration was made regarding the young people who should be recruited from the social service's waiting list to the control groups. According to Swedish law, the period for investigating young people's need for youth care cannot exceed 16 weeks (SFS 2001:453). However, there is no requirement that youth care must be enforced immediately or only after the sentence has become legally binding. In practice, this could mean that the young person is investigated for 16 weeks, sentenced, and then made to wait for a couple of weeks for the sentence to be conducted. Thus, the Swedish Ethical Review Authority has approved the recruitment of young people for a fixed period of 18 weeks, which corresponds to the pre-measurement and post-measurement for treatment groups, based on two

reservations: (1) A young person can participate in the study if the investigation period exceeds 16 weeks because of the workload of the social service; (2) a young person must not be recruited as a participant in the study but must instead receive care if the investigation period exceeds 16 weeks because of the young person's extensive problems. Considering these reservations, the youths in this study did not risk any time delays in implementing care interventions.

4.3.3 Comparing young and adult offenders and criminal identification

A third issue for ethical considerations is the risk of identification and stigmatization when comparing young people with adolescence-limited antisocial behavior to life-course-persistent adult offenders. According to research on life-course criminality, an individual identifies with a criminal identity by adopting and expressing the behaviors, attitudes, and interactions that they associate with that identity (Skardhamar, 2010). This applies if influential people in the environment treat the individual as though they fit the stereotypical image of "a criminal" and if the individual's criminal identity is considered to have a higher social status than their previous identity. Consequently, it becomes difficult for individuals to stop exhibiting antisocial behavior because of the identification that becomes a part of their self-image as well as societal stigmatization. Thus, if young people with adolescence-limited antisocial behavior are mixed with or compared to life-course-persistent offenders, there is a risk that they will associate themselves with a criminal identity. Therefore, to prevent young people from idealizing antisocial attitudes from peers, the participants in this study were asked to complete questionnaires that measured their criminal thinking individually under the supervision of the contact persons and program leaders, who then explained and discussed the results with them.

4.4 Future research

Future evaluations of the treatment programs should continue to examine whether decreased criminal thinking and increased sense of coherence reduce recidivism, as indicated by the preliminary recidivism measurement in Study I and Study II. Further studies are also needed to investigate the role of sense of coherence and whether increased sense of coherence is mediating the effect of decreased criminal thinking for both younger and older offenders. The results suggested that the changes in criminal thinking were due to changes in manageability, which refers to the ability to regulate emotions and the locus of control, that is, the degree to which people believe that they, as opposed to external forces (beyond their influence), have control over the outcome of events in their lives. But which mechanisms in the treatment enable the client to regulate emotions and gain a more realistic view of having control over life? Studies have shown that altruism has great potential to strengthen the self-changing process

and prevent future criminality (Maruna, 2002; Post, 2005; Ronel et al., 2009). Altruism is assumed to shape and control other psychological abilities such as the ability to forgive and love, the ability to regulate emotions, and the ability to exhibit moral behavior. Thus, altruism and how altruism is increased in treatment is an issue for further research. A question for further research may also be to examine concurrent 12-step treatment and cognitive treatment compared with only cognitive treatment and only 12-step treatment alone to get a greater clarity of differences. Further research is also needed to study how age, cultural background, level of education, and previous treatment interact with the treatment effect, and why the studies showed large effect sizes when previous research showed modest treatment effects.

4.5 Conclusions and recommendations

The aim of the current thesis was to make an initial evaluation of the cognitively oriented programs "A New Direction" for young offenders and "New challenges" for adult offenders. Study I showed that criminal thinking decreased and the sense of coherence increased when young offenders were provided the individual 18-week treatment. The recidivism measurements showed a decreased rate of convictions two years after the treatment.

Study II examined the adult program in the condition called the Val-bo model, which is group and individual treatment with concurrent 12-step treatment. The results showed that criminal thinking decreased and sense of coherence and positive affect increased. Additionally, recidivism measurement over a two-year period after treatment showed a decreased rate of convictions for the treatment group compared to the no treatment control group.

Study III suggested that "A New Direction" treatment provided a significant decrease in most sub-dimensions of criminal thinking among the younger offenders. Also, total sense of coherence and the sub-factors of meaningfulness and manageability increased compared to the control group. In line with the younger offenders, among the adults the "New Challenges" treatment decreased criminal thinking in all sub-scales. Treatment increased the total scores of sense of coherence and the sub-factors of meaningfulness and manageability compared to the control group. The increase in the total scale of sense of coherence and the sub-factor of manageability mediated the decrease of criminal thinking among the adults.

In summary, the current thesis demonstrates that it is possible to impact both younger and older offenders' criminal thinking patterns and sense of coherence with the examined cognitive multi-week treatment programs. The follow-up indicated that the impact remained based on the results, showing a tendency of reduced recidivism for both young and adult offenders two years after treatment. The results also suggested that changes in criminal thinking can be attributable to changes in manageability, which refers to the ability to regulate emotions and the locus of control. At least among adults, manageability can act

as a mediator for changes in criminal thinking that may impact criminal thinking and recidivism. Thus, the current work increases our knowledge of possible mediating factors. However, further research is needed to find out what mechanisms enable the client to regulate emotions and change the locus of control that increases manageability. The current thesis suggests that compassion training in role-play that enhances the change from an egocentric perspective to an altruistic approach may be such a mechanism.

The results correspond to previous research showing positive effects for cognitive programs with similar lengths and content for young offenders (Lipsey, 2009; Socialstyrelsen, 2021). Young people with tendencies to criminal acts request programs that are structured, aimed at specific risk factors and are behavior- and skill-oriented, usually including both children and parents. As suggested, interventions for young people with a high risk of norm-breaking behavior that could theoretically prevent crime, and which are perceived to work well by care facilities and clients, should not be refrained from being used (SBU, 2020). In line with previous research showing that the intervention tends to be less effective when given in a group where the group members consist of youth with a criminal history (Lipsey, 2009), the results of the youth study also showed that the one-week group treatment was not effective. Further, the results considering the adult offenders correspond to previous research showing positive effects for cognitive treatment with similar lengths and content (Beaudry et al., 2021; Landenberger & Lipsey, 2005; Mitchell et al., 2012). The content of the program is similar to what previous treatment research has found to be effective for adult offenders. The treatment program investigated in the current study included lessons and exercises to increase positive social skills, means-ends problem solving, critical reasoning, moral reasoning, cognitive style, self-control, impulse management, and self-efficacy (Landenberger & Lipsey, 2005).

Based on these findings, it is recommended that "A New Direction" or an equivalent individual multi-week treatment would be available for young offenders. The investigated program is especially suited for young people who have started to develop or have developed distinct criminal thinking. Also, "New Challenges" or an equivalent program is recommended for adults with lifestyle criminality. The program is suited to serious offenders with high to very high levels of criminal thinking. Further, it is recommended, especially in the treatment of adult offenders, to pay attention to the ability to regulate emotions and the perception and ability to control the events that influence their lives. Or, put in another way, to end with how we started in the acknowledgments: paying attention to making your inner peace by leaving destructive choices and following your good will, is what this thesis really is all about.

YHTEENVETO (SUMMARY)

Rikollisen elämäntavat: Positiiviseen kriminologiaan perustuvien interventioiden vaikuttavuus

Mielipiteet rikoksiin syyllistyvistä ihmisistä ja käsitykset siitä, miten rikollisuuteen tulisi suhtautua, ovat vaihdelleet aikojen kuluessa (Cullen & Gendreau, 2001). Kahden viime vuosikymmenen aikana uusintarikollisten kuntouttamisesta on vahvistunut näkemys, jonka mukaan rikosten uusintaan voidaan vaikuttaa (Ward & Brown, 2004). Kehitys on johtanut siihen, että on laadittu näyttöön perustuvia hoito-ohjelmia, joilla pyritään vaikuttamaan niihin rikollisuuden riskitekijöihin, jotka ovat muutettavissa (Kolind et al., 2013; Kriminalvården, 2014). Pohjoismaissa rikollisuuden tutkimus ja hoito tapahtuu pääasiassa vankeinhoitolaitoksissa. Päihderiippuvuuden ja rikollisuuden välisen yhteyden vuoksi useita rikosten tekijöitä hoidetaan myös päihdehuollossa. Vankilan ulkopuolisesta hoidosta on saatu hyviä kokemuksia (Oberg & Holmberg, 2008). Käyttäytymisen muutos on monitahoinen prosessi, ja on ehdotettu, että sen sijaan, että rikollisen toiminnan ja elämäntavan muutoksia mitattaisiin pelkällä uusintarikollisuuden määrällä, tulisi käyttää monipuolisempia mittareita rikollisuuden ehkäisyssä (Klingele, 2019). Yksi tällainen vaihtoehto on ns. desistanssin markkerit. Tässä yhteydessä desistanssilla tarkoitetaan prosessia, jossa yksilöt siirtyvät rikollisesta elämästä rikoksettomaan elämään. Positiivisena kriminologiana tunnettu näkökulma viittaa elämäntapamuutokseen prosessina, voimavarojen kehittämiseen sekä riskinhallinnan ja elämänlaadun väliseen suhteeseen (Ronel & Elisha, 2011; Ronel ym., 2013). Tämän positiiviseen kriminologiaan pohjautuva opinnäytetyö keskittyy sellaisten rikollisuuden hoitoon tarkoitettujen interventio-ohjelmien tutkimukseen, joissa yhdistyvät sekä riski- että suojaavat tekijät.

Tässä tutkielmassa elämäntaparikollisuus määritellään Waltersin (1990, 2002a) mukaan siten, että se sisältää rikollisuuden alkamisen, esiintymistiheyden ja keston lisäksi myös sosiaaliset ja psykologiset tekijät. Walters (1990, 2002a) määrittelee elämäntaparikollisuuden seuraavasti: 1) toistuvat lakien, normien ja moraalin rikkomukset, 2) loukkaavat asenteet muita ihmisiä kohtaan, 3) nautinnonhalu ja 4) vastuuttomuus. Lisäksi elämäntaparikollisuuden esirikollisessa ja varhaisessa vaiheessa olevat nuoret määritellään esirikollisen käyttäytymisen perusteella (Bergstrom, 2012; Loeber ym., 1999; Walters, 1990). Tämä tarkoittaa sitä, että elämäntaparikollisiin voi kuulua myös henkilöitä, joiden rikosta ei ole rekisteröity.

Tämän työn yleisenä tarkoituksena on lisätä ymmärrystämme sellaisista elämäntaparikollisuutta koskevista interventioista, joissa yhdistyvät sekä riski- että suojaava näkökulma. Tämän työn vaikuttavuustutkimuksilla pyritään selvittämään, miten interventiot toimivat käytännön toiminnassa, jossa hoidosta vastaa henkilökunta eikä alan huippuasiantuntijat (Sundell, 2012). Tutkimuksen ensisijaisena tavoitteena oli arvioida nuorille ja aikuisille rikoksentekijöille suun-

nattujen kognitiiviseen käyttäytymisterapiaan pohjautuvien ohjelmien tehokkuutta. Lisäksi kiinnostuksen kohteena oli tutkia, mitkä suojaavat tekijät välittävät tai selittävät muutoksia rikollisissa ajattelumalleissa.

Tutkimuksessa 1 oli mukana 61 esirikollisvaiheessa olevaa nuorta, jotka olivat iältään 13–21-vuotiaita. Yhteensä 30 nuorta osallistui viikon pituiseen ryhmäohjelmaan ja 31 nuorta 18 viikon ohjelmaan. Tutkimuksen I tavoitteena oli tutkia nuoriso-ohjelman vaikutusta rikollisiin ajattelumalleihin ja elämänhallinnan (koherenssin) tunteeseen, kun käytettiin viikon kestävää ryhmäohjelmaa tai vaihtoehtoisesti yksilöllistä useamman viikon kestävää ohjelmaa. Lisäksi tavoitteena oli tutkia uusintarikollisuutta. Uusintarikollisuutta tutkittiin vain niiden osallistujien osalta, joilla oli aiempia tuomioita. Viikon kestävä ryhmässä toteutettu ohjelma sisälsi 13 pakollista ryhmäistuntoa viiden päivän aikana (4 tuntia päivässä, yhteensä 20 tuntia viikossa). 18 viikon (4,5 kuukauden) pakolliseen yksilöohjelmaan sisältyi 13 istuntoa (yhteensä 20 tuntia) ja kukin istunnoista oli noin 1,5 tunnin pituinen. Tarkka ohjelman sisältö on kuvattu yhteenvedon taulukossa 7.

Tulokset osoittivat, että 18 viikon pituisen yksilöohjelman seurauksena rikollinen ajattelu väheni ja elämänhallinnan tunne lisääntyi, joka sisälsi parantuneen ymmärryksen todellisuudesta ja elämän hallittavuudesta sekä elämän merkityksellisyydestä. Yhden viikon ryhmäohjelma ei osoittanut merkitseviä tuloksia. Tulokset osoittivat myös, että 18 viikon ryhmän osallistujat, joilla oli aiempia tuomioita, vähensivät uusintarikollisuutta verrattuna kontrolliryhmään. Tulosten perusteella on mahdollista vähentää nuorten rikoksentekijöiden rikollista ajattelua ja lisätä elämänhallinnan tunnetta tarjoamalla heille yksilöllinen, keskimäärin 18 viikon pituinen kognitiiviseen käyttäytymisterapiaan pohjautuva ohjelma. Tulokset osoittivat myös, että ohjelman vaikutus säilyi kahden vuoden kulutta ohjelman lopettamisesta tehdyssä seurannassa ja ilmeni uusintarikollisuuden vähenemisenä. Tutkittavien määrä oli kuitenkin pieni tarkasteltaessa uusintarikollisuutta, joten tuloksiin on suhtauduttava varovaisesti.

Tutkimukseen II osallistui 43 yli 18-vuotiasta rikoksentekijää, jotka olivat elämäntaparikollisuuden pitkälle edenneessä vaiheessa. Tutkimuksen II tavoitteena oli tutkia yhdistetyn yksilö- ja ryhmäohjelman vaikutusta aikuisten rikoksentekijöiden rikollisiin ajattelumalleihin, elämänhallinnan tunteisiin sekä positiivisiin ja negatiivisiin tunnetiloihin. Ohjelmassa havaittuja muutoksia verrattiin kontrolliryhmissä tapahtuneisiin muutoksiin. Lisäksi tavoitteena oli tutkia rikoksentekijän arvioimaa ohjelman toteutuksen laatua ja niiden yhteyksiä rikollisiin ajattelumalleihin, elämänhallinnan (koherenssin) tunteeseen sekä positiivisiin ja negatiivisin tunnetiloihin ohjelman jälkeen. Lisäksi tarkasteltiin uusintarikollisuutta. Aikuisten kuuden viikon pituiseen ohjelmaan sisältyi 15 ryhmätapaamista, jotka jakautuivat kahden viikon aikajaksolle (ohjelman ensimmäiselle ja viimeiselle viikolle). Ohjelmaan kuului myös ryhmätapaamisten lisäksi yhdestä neljään valittavissa olevaa yksilötapaamista neljän viikon yksilöllisen hoitojakson aikana. Tapaamisia oli keskimäärin 17 kuuden viikon aikana, yhteensä niihin käytetty aika oli 100 tuntia. Nuorten ja aikuisten ohjelmien tapaamisten teemat olivat samankaltaisia, mutta aikuisten ohjelmassa oli viisi kertaa enemmän

tunteja (100 verrattuna 20 tuntiin nuorten ohjelmassa). Tarkka ohjelman sisältö on kuvattu yhteenvedon taulukossa 8.

Tulokset osoittivat, että kuuden viikon pituinen ohjelma vähensi rikollista ajattelua aikuisilla rikoksentekijöillä. Myös suojaavat tekijät elämänhallinnan tunne ja positiiviset tunnetilat lisääntyivät merkitsevästi. Osallistujat arvioivat ohjelman toteutuksen laadun korkeaksi niin terapeuttisten menetelmien suhteen kuin ohjelman vetäjien pedagogisen kyvyn ja metodologisen pätevyyden osalta. Ohjelman toteutuksen laatu oli yhteydessä elämänhallinnan tunteen ja positiivisten tunnetilojen lisääntymiseen. Sen sijaan rikollinen ajattelu ei ollut yhteydessä ohjelman toteutuksen laatuun. Lisäksi havaittiin, että rikollisen ajattelun korkea taso oli yhteydessä matalaan elämänhallinnan (koherenssin) tunteeseen. Myös uusintarikollisuuden tulokset viittasivat siihen, että uusintarikollisuutta esiintyi vähemmän ohjelman saaneessa ryhmässä kaksi vuotta ohjelman jälkeen verrattuna kontrolliryhmään, joka ei saanut vastaavaa ohjelmaa.

Tutkimuksen III tavoitteena oli tutkia nuorten ja aikuisten ohjelmien vaikutusta rikollisten ajattelumallien ja elämänhallinnan tunteiden muutoksiin laaja-alaisemmin ja tarkemmin. Tutkimuksessa I ja II osoitettiin, että nuorten rikoksentekijöiden 18 viikon yksilöllinen ohjelma ja aikuisten rikoksentekijöiden 6 viikon yksilö- ja ryhmäohjelma vähensivät rikollista ajattelua ja lisäsivät elämänhallinnan tunnetta. Näissä tutkimuksissa selvitettiin kuitenkin vain näiden mittareiden kokonaispistemääriä. Tutkimuksessa III selvittiin tarkemmin, mihin rikollisen ajattelun ja elämähallinnan tunteen ulottuvuuksiin ohjelmat vaikuttivat. Lisäksi tarkoituksena oli tutkia, välittivätkö muutokset elämänhallinnan tunteessa muutoksia rikollisessa ajattelussa ja olivatko välittäjät tekijät samanlaisia nuorten ja aikuisten rikoksentekijöiden kohdalla. Tarkoituksena oli siis lisätä tietämystä keskeisistä muutosprosesseista, jotka selittivät ohjelmien vaikuttavuutta.

Tulokset tutkimuksessa III osoittivat, että nuorille ja aikuisille rikoksentekijöille tarjotut ohjelmat vaikuttivat useimpiin rikollisen ajattelun osatekijöihin. Nuorten rikoksentekijöiden kohdalla ohjelma vähensi kaikkia rikollisen ajattelun ulottuvuuksia lukuun ottamatta sentimentaalisuutta ja superoptimismia. Aikuisten rikoksentekijöiden keskuudessa ohjelma vähensi kaikkia rikollisen ajattelun ulottuvuuksia. Tulokset osoittivat siis monia yhtäläisyyksiä nuorempien ja vanhempien rikoksentekijöiden välillä hoidon vaikutuksessa rikollisen ajattelun osa-alueisiin. Sekä nuorten että aikuisten osallistujien keskuudessa hoito lisäsi yleisesti elämänhallinnan tunnetta ja erityisesti elämän mielekkyyden ja hallittavuuden osatekijöitä. Tulokset olivat siis samankaltaisia, mutta nuorempiin rikoksentekijöihin verrattuna aikuisten ryhmässä havaittiin suurempia muutoksia elämänhallinnan tunteessa. Ohjelmien vaikutusta välittävissä tai selittävissä prosesseissa havaittiin eroja. Ainoastaan aikuisten rikoksentekijöiden ryhmässä elämänhallinnan tunne ja erityisesti sen osa-alueen elämän hallittavuuden muutokset välittivät rikollisen ajattelun vähenemistä. Nuorilla rikoksen tekijöillä ei tätä yhteyttä havaittu.

Yhteenvetona voidaan todeta, että tutkituilla kognitiivisiin käyttäytymisterapioihin perustuvilla ohjelmilla on mahdollista vaikuttaa sekä nuorempien

että vanhempien rikoksentekijöiden rikollisiin ajattelutapoihin ja elämänhallinnan tunteisiin. Seurantatulokset osoittivat myönteisiä vaikutuksia ohjelmien jälkeen. Sekä nuorten että aikuisten rikoksentekijöiden uusintarikollisuus oli vähentynyt kaksi vuotta ohjelman lopettamisesta. Tulokset viittasivat myös siihen, että muutokset rikollisessa ajattelussa voivat johtua muutoksista elämän hallittavuuden tunteessa, jolla tarkoitetaan kykyä säädellä erityisesti omia tunnekokemuksia. Ainakin aikuisten keskuudessa elämän hallittavuuden tunteen muutoksilla voi olla merkittävä rooli muutettaessa rikollista ajattelua ja tällä voi olla vaikutusta myös rikosten uusintaan. Näin ollen tämä tutkimus lisää tietämystämme tekijöistä, joihin rikollisuuden ehkäisyssä pitäisi kiinnittää erityistä huomiota. Tarvitaan kuitenkin lisätutkimusta, jotta saadaan selville, miten rikoksentekijöitä voidaan auttaa käsittelemään paremmin tunnetilojaan ja miten he pystyvät lisäämään elämän hallittavuuden tunnetta. Yhtenä vaihtoehtona voi olla myötätuntotaitojen harjoittelu, jossa harjoitellaan itsekeskeisen näkökulman laajentamista näkökulmaan, jossa on enemmän epäitsekästä ja toisia huomioon ottavaa ajattelua sekä toimintaa.

Kaiken kaikkiaan tutkimus osoitti, että rikollisia ajattelumalleja voidaan muuttaa. Lisäksi tutkimus lisäsi ymmärrystämme mahdollisista rikollisen ajattelun muutosmekanismeista. Tutkimuksessa tehtyjen havaintojen perusteella suositellaan, että nuorille rikoksentekijöille olisi tarjolla yksilöllinen 18-viikon pituinen rikollista ajattelua ehkäisevä ohjelma. Tutkittu ohjelma soveltuu erityisesti nuorille, jotka ovat alkaneet kehittää tai joille on kehittynyt selkeä rikollinen ajattelutapa. Vastaavaa 6-viikon pituista yksilö- ja ryhmäohjelmaa suositellaan myös aikuisille, joilla esiintyy elämäntaparikollisuutta. Ohjelma soveltuu myös vakavien rikosten tekijöille, joilla ilmenee laaja-alaista rikollista ajattelua. Lisäksi suositellaan, että ohjelmissa kiinnitetään huomiota kykyyn käsitellä tunteita sekä kykyyn havaita ja hallita elämään vaikuttavia tapahtumia.

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ORIGINAL PAPERS

I

EVALUATION OF THE COGNITIVE INTERVENTION PROGRAMME 'A NEW DIRECTION' TARGETING YOUNG OFFENDERS IN SWEDEN

by

Sophia Lindblom, Lars Eriksson, & Arto J. Hiltunen, 2017

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ABSTRACT

The treatment of offenders has changed from focusing on risk management to also emphasizing salutogenic experiences as a protective factor. The programme 'A New Direction' involves cognitive intervention combining the above-mentioned approaches to treat young criminals and young persons at risk of developing a criminal lifestyle. In evaluating this programme, 61 participants from the Swedish social services and youth care facilities were divided into two treatment groups and two control groups. All participants were subjected to pre- and post-measurements using two questionnaires: the Psychological Inventory of Criminal Thinking Styles (PICTS) and the Sense of Coherence (SOC-13). The two treatment groups followed the programme during one week and 9–30 weeks, respectively, with the control groups measured at approximately the corresponding time intervals. The results show reduced PICTS from high to low levels and increased SOC only for the multi-week treatment group. Although the recidivism analysis revealed a greater reduction of convicted offences in the multi-week treatment group compared with the control group, the finding is tentative because of small sample sizes. To conclude, cognitive intervention shows promise for reducing criminal thinking patterns and increasing sense of coherence, which may have beneficial effects on the behaviour of young offenders.

Keywords: Criminality; thinking patterns; sense of coherence; PICTS; SOC-13; cognitive intervention

INTRODUCTION

The interventions that currently dominate the field of offender rehabilitation are based on the risk–need model (Ward & Brown, 2004). Hence, the treatment is focused on changeable risk factors, such as antisocial norms and attitudes, related to recidivism, and the treatment intensity is related to the individual's level of risk. Despite the benefits of the risk–need model, Ward and Brown (2004) argue that criminal behaviour is more complex and occurs when people lack the internal and external resources needed to achieve their life goals by prosocial means. Thus, interventions should perhaps not only focus on reducing the risk of recidivism but also on increasing wellbeing or salutogenics as a protective factor. This article evaluates the Swedish treatment programme 'A New Direction' concerning effects on criminal thinking patterns, sense of coherence (SOC) and recidivism. 'A New Direction' focuses on cognitive intervention for prevention and reduction of criminal behaviour in young people aged 13–21 years who are showing or are at risk of developing criminal behaviour (Bergström, 2006).

Young people who commit many crimes often socialize with other young offenders and have a permissive attitude to criminal reasoning and behaviour. They can be attracted to a career in crime if criminal behaviour or a permissive attitude towards criminality is somehow rewarded, leading them to gradually develop thinking patterns (e.g. coping strategies) that maintain criminal behaviour (Walters, 1990). Yochelson and Samenow (1976, 1977) identified 52 types of flawed thinking (i.e. irrational and dysfunctional processing or interpretation of information) prevalent among criminals. This flawed thinking is characterized by controloriented thinking, cognitive immaturity and egocentrism (Mandracchia, Morgan, Garos, & Garland, 2007, Yochelson & Samenow, 1976, 1977). The control-oriented thinking, which is the core of criminal thinking, implies thinking patterns where the offender, because of low trust in others, wants to control and dominate others and the environment, avoid being controlled and control his or her own anxiety. Cognitive immaturity implies thinking patterns characterized by generalizations and prejudice, to only consider oneself in the moment (no foresight) and to have a tendency to self-pity. Egocentrism implies thinking patterns leading to a self-centred perspective in the understanding of one's own importance as well as of other people's behaviour. These thinking patterns contribute to the antisocial attitudes, values and beliefs that predict criminal behaviour (Mandracchia et al., 2007).

Based on Yochelson and Samenow's (1976, 1977) research, Walters (1990) categorized eight criminal thinking patterns: mollification, cut-off, entitlement, power orientation, sentimentality, super optimism, cognitive indolence and discontinuity. The general functions of these thinking patterns are to increase self-assertion and shut down fear and anxiety through denial, distortion, dissipation and justification. These eight thinking patterns also guide the individual's basic perception or interpretation of various situations (Bergström,

2012). Therefore, the concept of criminal thinking is one of the main factors that the programme 'A New Direction' is intended to affect.

The other main factor intended to be affected by the programme is the individual's way of perceiving and thinking about him- or herself and the world, which is captured by the concept of SOC. It refers to a salutogenic perspective that focuses on the factors that contribute to health (e.g. protective factors). SOC indicates trust in oneself, others and life in terms of comprehension, manageability and meaningfulness (Antonovsky, 1991). These latter terms reflect the degree of trust that (1) the individual's perception of internal and external occurrences is orderly, coherent, structured and clear rather than chaotic, disordered, random, unexpected and unexplained; (2) there are resources available for handling the challenges that the individual is faced with; and (3) there is a sense of meaning in facing those various occurrences and challenges. Thus, the assumption is that SOC relates to the perception of the self and the world, the degree of mental health and the ability to choose appropriate strategies to manage current and new problems or situations (Antonovsky, 1991). These salutogenic aspects are important in the change of lifestyle that giving up crime means.

The individual needs to find new strategies to manage the situations of the prosocial world. To accomplish this, the individual has to perceive the self and the world in an entirely new way. He or she needs to have trust in others, which is the opposite of control-oriented criminal thinking where the individual has low trust in others (Bergström, 2012). A low SOC has been shown to correlate with a high level of criminality and antisocial behaviour (Ristkari et al., 2009). Also, a normal or high SOC seems to protect against mental illness (Antonovsky, 1991), whereas criminality has been related to mental illness (Elonheimo et al., 2007; McManus, Alessi, Grapentine, & Brickman, 1984). As to the relation between SOC and treatment, Hult, Waad, Cederblad, and Hansson (1996) suggested that treatment could promote SOC through salutogenic experiences. For example, high social capacity, which is a salutogenic factor, can be promoted by increased problem solving skills through perspective-taking and humour. When successful, this leads to the experience of positive and trustful interaction with others.

Regarding interventions for young offenders, there are to date only a few studies in a Swedish context. However, Söderholm Carpelan et al. (2008) summarize 36 meta-analyses from the period 1990–2008 based on 30–548 evaluations per analysis. Only meta-analyses with pre- and post-measuring and control groups are included in the survey and the participants are 12–21 years old. The accumulated knowledge in the field indicates six general criteria assumed to have an impact on the effectiveness of interventions for young offenders (Söderholm Carpelan et al., 2008). These criteria are: (1) focus on criminogenic factors; (2) focus on general principles of risk, need and responsiveness; (3) therapy method; (4) circumstances of the therapy; (5) scope and quality of intervention; and (6) core principle of the intervention. These criteria will be elucidated below.

The focus on general principles of risk, need and responsiveness encompasses choice of intensity, duration or amount of intervention (Andrews et al., 1990). For example, individuals who run a great risk of relapsing should participate in more intensive and extensive interventions, while individuals running less risk of relapsing should participate to a lesser extent or not at all (Dowden & Andrews, 2002). The need principle involves treating the criminogenic risk factors linked to the specific individual (Andrews et al., 1990). The responsiveness principle refers to choosing an intervention that matches the person's learning style, where offenders with low cognitive skills need more structure (Andrews et al., 1990; Dowden & Andrews, 2003).

The therapy methods that most consistently have a positive effect on reducing relapse are family-based interventions and cognitive behavioural therapy (Dowden & Andrews, 2003; Lipsey, Landenberger, & Wilson, 2007). Generally, the intervention is not affected by whether it is performed in institutions or out-patient care (Lipsey, 2009). However, interventions focusing on counselling and therapies designed to change mindsets and behaviour show lesser effect in institutional treatment than in out-patient care. The intervention that tends to be least effective is the one taking place in groups with a majority of young people with criminal records (Ang & Hughes, 2001), which may be attributed to the risk of increasing antisocial attitudes among the group members. Regarding the scope and quality of an intervention, better results are found when the staff have relevant qualifications, the programme directives are followed, many participants remain in the programme and when staff turn-over is small (Lipsey, 2009). The core principles of interventions shown to have the greatest effect include counselling and therapy where an adult tries to change the young person's thought patterns and behaviour (Andershed & Andershed, 2005; Andershed, Andershed, & Söderholm Carpelan, 2010).

The Swedish intervention programme 'A New Direction' is based on the above-mentioned criteria. That is, the programme includes 13–14 sessions focusing on criminogenic factors and can be extended to 30 sessions to meet the individual's risk of reoffending and individual problem areas. The programme is also structured to meet the cognitive skills common for the target group. It has a cognitive orientation and elements of family interventions. The programme is performed both in institutions and in outpatient care in the different settings of one-week group treatment and individual multi-week treatment. Relevant qualifications required for conducting the programme are formal training as a therapy assistant and ten days of explicit training to manage the programme. The programme integrity is controlled by instructor questionnaires and tutoring during one year after training. The core principle of the interventions is counselling with an adult with the purpose of changing thought patterns and behaviour.

The programme is designed for young people aged 13–21 years who are at risk of developing or have developed criminal behaviour (Bergström, 2006). According to Walters (1990) definition of lifestyle criminality, these young people are in the pre-criminal and early criminal phases of their criminal careers.

Lifestyle criminality is persistent criminality defined not only by the criteria's debut, frequency and duration, but also by social and psychological factors such as criminal norms and values and association with other offenders (Osgood, Wilson, O'Malley, Bachman, & Johnston, 1996; Walters, 1990, 2002). This type of criminality usually shows at a young age (<15 years) and includes a high frequency of both minor and serious crimes. Typical lifestyle crimes are assault and violent crimes, theft and drug offences. Walters (1990) classifies the criminal career, where different motives and criminal behaviours are central at different stages, into four phases: (1) the pre-criminal phase, (2) the early criminal phase, (3) advanced criminality and (4) the burnout phase. The phases are partially overlapping. The pre-criminal phase includes pre-criminal behaviour that does not have to be illegal but indicates a risk for developing more advanced criminality. Such behaviour may involve aggression, fighting and violence, authority conflicts against adults, repeated truancy and running away from home.

In order to target the problems of young people in these phases of criminal development, each session of the 'A New Direction' programme involves tasks with themes focused on risk- and protective factors (Bergström, 2006). The session themes concern advantages and disadvantages of crime, communication in the family, ambitions in life, the challenging of criminal ideas, effects on the victims of crime, problem solving, social skills training and relations with friends. The intervention also aims to help young people establish healthy relationships with adults and find meaningful leisure activities (Bergström, 2006; Socialstyrelsen [National Board of Health & Welfare], 2013). Common counselling techniques to address the themes are psycho-education, discussions, role play and movies. Cognitive skills training are conducted by collecting information, developing alternative solutions and evaluating results. Also, cognitive restructuring is used in treatment by finding alternative ways of thinking.

The theoretical framework of the programme links to the theories of psychosocial development, systemic family theory (Bergström, 2006, 2012; see also Lundsbye, Sandell, Währborg, Fälth, & Holmberg, 2010; Newman & Newman, 2012; and Perris, 1996) and cognitive behavioural therapy (e.g. Beck, 1970; Lardén, 2009; Lipsey et al., 2007). However, the framework is primarily based on the cognitive theory of criminality developed by Walters (1990) and Yochelson and Samenow (1976, 1977). The main idea is that criminality is motivated by thought patterns that in different ways justify and sustain criminal acts, self-image and worldview. Thus, the main factors the programme is designed to affect are criminal thinking patterns and ways of perceiving and thinking about oneself and the world (e.g. SOC; Bergström, 2012). As outlined initially, the treatment of offenders is changing from a sole focus on risk management to also supporting salutogenic experiences as a protective factor (cf. Serin, Chadwick, & Lloyd, 2016). Thus, targeting criminal thinking patterns and SOC in combination seems to be in accordance with the latest ideas regarding offender rehabilitation.

The present study can be considered a pilot intended as the first systematic evaluation of the programme 'A New Direction' in terms of combining the treatment aspects of risk management and salutogenics promotion. More specifically, the study is a clinical study with quasi-experimental design. Independent variables are treatment (according to the cognitive intervention programme or no treatment) and duration (one-week or multi-week). Dependent variables are criminal thinking patterns, SOC and recidivism rates.

MATERIAL AND METHODS

Participants

The participants were young people aged 14–21 years in pre-criminal and early criminal phases, gathered from 16 units – eight treatment units and eight control units. (One of the treatment units could also provide a participant to the control group from the waiting list.) Each of the 61 participants belonged to one of four groups receiving (1) treatment in individual out-patient care and in-patient care for several weeks, (2) group treatment in in-patient care for one week, (3) no treatment for several weeks (multi-week control group) or (4) no treatment for one week (one-week control group). The individual multi-week treatment group included 17 participants (two girls) with a mean age of 16.9 years (SD = 1.1) and the one-week group treatment group had 19 participants with a mean age of 16.8 years (SD = 1.9). The multi-week and one-week control groups included 14 (one girl) and 11 participants, respectively, with a mean age of 18.2 years (SD = 2.2) and 18.4 years (SD = 1.6), respectively. The individual multi-week and one-week group treatment groups' therapy hours were comparable (Md = 20). See Table 1 for more details about group characteristics.

Please insert Table 1 about here

The study involved voluntary participation and was approved by the regional Ethical Board in Uppsala (approval number 2012/075). Data were collected from treatment units from February 2012 to February 2015. In June 2016, data for recidivism were collected from criminal records. The criminal records include both minor offences (e.g. speeding fines) and severe offences. The treatment units were social services units (out-patient care) and youth care facilities (in-patient care) selected on the inclusion criterion that the units were licensed and thereby authorized to use the programme. A total of 65 units were licensed to use the 'A

New Direction' programme. All 65 units were invited to participate in the study; 43 accepted and 27 could provide participants. The units that could provide participants were those that were running the programme continuously. Among these 27 units, a random selection of four youth care facilities and six social services units was made. The units were distributed across the northern, central and southern parts of Sweden. Two of the social service units along with 16 individuals withdrew from the study. The reasons for the withdrawals were heavy workloads, authorized personnel quitting, reorganizations and a shortage of participants. In total, four youth care facilities and four social services units continued to recruit participants to the treatment group consisting of two subgroups: participants for one-week group treatment and participants for individual multi-week treatment.

For the treatment groups, inclusion criteria comprised being 13–21 years of age, having no ongoing abuse of alcohol and drugs and being in the early and pre-stages of their criminal career (as defined by Walters, 1990). Bergström's (2006) self-report instrument was used by the treatment and control units to test these criteria. Data from the test were not available for the study. The instrument is based on The Lifestyle Criminality Screening Form (LCSF) (Walters, White, & Denney, 1991), an analysis of psychosocial history to assess phases of criminal career according to Walters (1990), phases of dependence by Gorski and Miller (1993) and the psychological inventory of criminal thinking styles (PICTS).

Lifestyle criminality is measured by self-reporting that can measure the early development before it is possible to be prosecuted for crimes. Self-reports can reveal crimes not discovered by the criminal justice system. Some thought patterns subject to the present study are specific for lifestyle criminality, which include violent crimes, vandalism, theft, shop lifting, fraud, receiving stolen goods, burglary, robbery, drug offences, drunk and drugged driving and driving without a licence. Other types of criminality such as environmental crimes, minor traffic violations like traffic tickets, economic crimes carried out within a company and sex crimes probably have other thought patterns and were therefore excluded from the present study. Furthermore, according to Bergström's (2006) instructions, ongoing alcohol and/or drug abuse (legal and illegal drugs but not tobacco) must be treated before or possibly parallel to participation in 'A New Direction'. In Sweden, drug abuse is regularly treated before or simultaneously to treatment of criminality. The participants were tested with urine samples during the programme and were discharged if tested positive. The inclusion criteria for the no-treatment control groups were identical to those of the treatment groups. Instead of urine samples, the recruiters outside the care system used their knowledge of psychological and social circumstances to recruit participants whose main problem was criminal behaviour and not abuse of alcohol and/or drugs. The exclusion criteria for the control groups were the same as for the treatment groups (i.e. environmental crimes, minor traffic violations, economic crimes and sex crimes).

The inclusion criteria for the recidivism follow-up were previous convictions in lifestyle criminality from two years before participating in the

study according to the criminal records register. It is the date of the criminal offence that is included in the analysis, not the date of conviction. Only groups that displayed a significant treatment effect on criminal thinking and/or SOC were included (and corresponding control groups). This methodological choice was made to investigate if the effect of treatment (e.g. reduced criminal thinking and increased salutogenic thinking) remained outside the context of treatment in terms of reduced recidivism. Thus, non-significant results were not tested for recidivism in this study. Exclusion criteria for the recidivism analysis were the same as mentioned above.

At the start of the study, eleven randomly selected correctional institutions participated and recruited 23 control group members, but withdrew in the early stages of the study. Initially, the employees of the correctional institutions had accepted to recruit participants. The withdrawals were due to a decision from superiors that employees were not allowed to give the inmates permission to participate in the study. We then selected nine units – distributed across the northern, central and southern parts of Sweden – that could define control group members according to the inclusion criteria. The selection included five units of the association KRIS (Kriminellas Revansch i Samhället, Criminals' Restitution into Society), one unit of the association X-Cons, two social services units and one youth care facility. (KRIS and X-Cons are non-profit organizations where former criminals and addicts help each other back into the community.) One of the KRIS units could not provide participants. In total, eight of the control units continued to recruit participants to the control groups (one-week control and 18-weeks control).

Instruments

The juvenile version of the PICTS questionnaire measures criminal thinking patterns with 80 items on a four-level Likert scale. The scores identify the values for eight different thinking patterns, and the total value indicates the general degree of criminal thinking (GCT). The GCT scale is the most reliable PICTS scale for predicting further criminal behaviour (Walters, 2012). In the present study, the individual GCT scores were used in statistical analyses. The lowest GCT value is 34 and the highest is 103. Cutpoint for criminal thinking is >50. Scores from 61 to70 indicate a high degree of criminal thinking and scores above 70 indicate a very high degree of criminal thinking. In accordance with Walters (1995), the criminal thinking patterns are defined as an integration of thinking errors (i.e. negative irrational thoughts) and pathological defence strategies (i.e. different types of reality distortion and denial). The test is a validated instrument with moderate to moderately high internal validity and reliability (Walters, 2002) and with moderately good validity and reliability for young people specifically (Palmer & Hollin, 2004). Examples of statements are: 'The more times I wasn't caught, the more certain I got that the police would never catch me' and 'I'm

basically a decent person although I've committed crimes'. The former statement illustrates super optimistic thinking (i.e. a coping strategy of self-assertion by denial of risks). The latter statement illustrates sentimentality (i.e. a coping strategy that enables denial of harm to others as well as looks at oneself with understanding and self-pity to keep up high self-esteem). The instrument was chosen based on the overall purpose of the programme to change criminal thinking patterns and because it is a mandatory component of the treatment, which means that it is not an added burden to the participants.

The SOC-13 questionnaire is an abbreviated version of the original 29-item scale (SOC-29) that includes 13 items for respondents from 13 years of age (Antonovsky, 1991). The score identifies the value of the three factors comprehension, manageability and meaningfulness, as well as a total value indicating sense of coherence. The total SOC shows the individual's degree of salutogenic coping, which is the individual's choice of coping strategy perceived as most suited to deal with the stress experienced. In the present study, the individual total SOC scores were used in the statistical analyses. The lowest total SOC value is 13 and the highest is 91. Scores from 27 to 51 indicate a weak value, 52–68 indicate a modest value, 69–72 indicate a strong value and 73–85 indicate a very strong value. (Scores from 13 to 26 and 86 to 91 may indicate that the respondent misunderstood or did not answer sincerely.) The SOC-13 is a validated instrument, and translated into Swedish it has shown good internal consistency close to the high internal consistency of the Swedish translation of SOC-29. Cronbach's α is .89 for SOC-13 and .93 for SOC-29 (Olsson, Gassne, & Hansson, 2009). The short version was chosen because it would help the participants stay focused during the test, which was assumed to increase reliability. In five questions, words and word order were simplified to match the participants' cognitive level and increase their understanding of the meaning of the questions. An example of a simplification is using 'How often do you feel that you don't really know what to do in different situations?' instead of 'Do you have a feeling that you are in an unknown situation and don't know what to do?' The response alternatives range from 'very often' to 'very seldom/never' at opposite ends of the Likert scale, with values graded in steps of one from 1 to 7.

In addition, recidivism rates according to the criminal records were included as a follow-up contingent on positive treatment effect on criminal thinking patterns and/or SOC (also for the corresponding control group).

Procedure

The programme leaders of the treatment groups and the contact persons of the control groups were initially informed and consented to participate. The programme leaders and the contact persons then asked the young people who met the inclusion criteria to participate. The inclusion criteria were determined through Bergström's (2006) self-report instrument verbally or in writing. For the

treatment groups, any chemical addiction was treated before starting the programme. The young people were informed about the study in accordance with the ethical principles and consented verbally and in writing to participate (guardian's consent if under 18 years of age). The participants of the treatment groups then answered the PICTS and the SOC-13 before and after treatment with the 'A New Direction' programme. On the first occasion, they also filled out demographic information. The same procedure applied to those in the control groups. For the multi-week treatment group, every session lasted for one and a half hours and took place once or twice a week. The one-week group treatment included three sessions a day during four to five days. Participants with convictions from two years before the study were followed up in the criminal records register 6–24 months after treatment.

Data analysis

A two-way mixed ANOVA ('split plot') was used to analyse effects on criminal thinking patterns and sense of coherence, respectively, with post hoc analysis made with the Tukey HSD test. Friedman's non-parametric ANOVA was used to analyse recidivism. Recidivism was treated as a continuous variable. All statistical analyses were made with the alpha-level set to .05.

RESULTS

Criminal thinking patterns – PICTS

A mixed ANOVA showed significant main effects of group, $F(3, 57) = 5.55$, $p < .005$, partial $\eta 2 = 0.23$, Cohen's $d = 0.93$ and duration, $F(1, 57) = 10.64$, $p < .005$, partial $\eta 2 = 0.16$, $d = 0.89$. The interaction group × duration was also significant, $F(3, 57) = 8.76$, $p < .001$, partial $\eta 2 = 0.32$, $d = 0.99$. Table 2 shows the average value with 95% confidence interval for all conditions, and Figure 1 shows the average values for the treatment and control groups at pre- and post-measurements. The post hoc analysis with Tukey's HSD (unequal n and pooled error term) showed a higher mean PICTS value before compared to after the multi-week treatment ($p < .001$). The pre- and post-measurements showed no significant difference in mean PICTS value for any of the other three groups. At pre-measurement, there were no significant differences between the groups. At post-measurement, there was a higher mean PICTS value for the multi-week control group compared to the multi-week treatment group ($p < .001$).

Please insert Table 2 and Figure 1 about here

Sense of coherence – SOC

A mixed ANOVA showed a significant main effect of group, $F(3, 57) = 6.10$, $p < .001$, partial $\eta 2 = 0.24$, $d = 0.95$ and a significant interaction of group × duration, $F(3, 57) = 3.71$, $p < .02$, partial $\eta 2 = 0.16$, $d = 0.78$. The main effect of duration was not significant, $F(1, 57) = 0.03$, $p = .87$. Table 3 shows the average value and 95% confidence interval for all conditions, and Figure 2 shows the average values for the treatment and control groups at pre- and post-measurements. Tukey's HSD post hoc analysis (unequal n and pooled error term) showed a lower mean SOC value before compared to after the multi-week treatment ($p < .03$). The pre- and post-measurements showed no significant difference in mean SOC values for any of the other three groups. At post-measurement, however, there was a higher mean SOC value for the multi-week treatment group compared with the one-week control group ($p < .001$) and the multi-week control group ($p < .01$).

Please insert Table 3 and Figure 2 about here

Recidivism

Friedman's non-parametric ANOVA was used to analyse the recidivism of the multi-week treatment group and the multi-week control group. (Note that only participants from the multi-week groups with convictions before the study were included in the analysis, which reduced the number of participants.) The results showed that recidivism was significantly reduced for the multi-week treatment group, $\chi 2\ (2) = 20.18$, $N = 11$, $p < .0001$, but not for the multi-week control group, $\chi 2(2) = 2.80$, $N = 6$, $p = .25$ (Table 4).

Please insert Table 4 about here

DISCUSSION

During the past two decades, the attitude to rehabilitation of lifestyle criminality has changed from the assumption that nothing works to a focus on risk factors, and now towards considering both risk and protective factors (Cullen & Gendreau, 2001; Ward & Brown, 2004). The present study represents an evaluation of the intervention programme 'A New Direction' where the focus on both risk and protective factors is essential. The main conclusions are that individual treatment during 9–30 weeks shows promise for reducing criminal thinking patterns and increasing SOC, which in turn may contribute to a reduction in criminal behaviour.

The present study can be considered a pilot designed to test the programme in small scale with analysis of existing programme settings. The main purpose was to measure its effect on criminal thinking patterns and SOC, which are the main factors that the programme was designed to impact. One conclusion is that the individual multi-week intervention reduces criminal thinking. In fact, it reduces criminal thinking from a rather high level to a low level. Furthermore, SOC increased for the multi-week treatment group. Additionally, the group means of SOC were not different at measurement before the intervention, but the multi-week treatment group showed a higher level of SOC than the control group at measurement after the intervention. That is, there was an increased SOC only for the individual multi-week treatment group, and it was higher than the control group's SOC at post-measurement. This may indicate a more functional perception of the self and the world. An increase in SOC means that the individual has changed some of his or her assumptions about him- or herself and the world towards a more trusting attitude (Antonovsky, 1991).

Furthermore, this treatment effect on criminal thinking and SOC is coupled with decreased recidivism at follow-up (i.e. 6–24 months after treatment). This may indicate that the treatment can have an effect on reoffending. However, by including only those having convictions prior to the study, the sample sizes are quite small. Thus, the conclusion of the recidivism analysis is rather tentative. In addition, only convicted crimes regarding lifestyle criminality were included in the rates (i.e. environmental crimes, minor traffic violations, economic crimes and sex crimes were excluded). Hence, the recidivism rates are most probably higher in reality. On the other hand, none of the 17 participants in the treatment group (also including participants without convictions before treatment) had convictions up to and including 12 months after treatment. For eight of the

participants in the treatment group included in the analysis, recidivism could be followed up 24 months after treatment and showed no convictions. In the control group, however, three of the six participants were convicted during a 12 months' period. For one of the four participants that could be followed up after 24 months, further convictions were found. Thus, although the analysis mainly measures recidivism during 12 months after treatment, it nevertheless reveals a significantly reducing effect in the multi-week individual treatment group. Hence, reductions in recidivism may be a result of treatment effects.

The one-week group treatment in in-patient care does not show any improvements measured by PICTS and SOC. This is assumed to be caused by the short time that the participants had to assimilate the new knowledge that the programme brings; the target group usually has difficulty absorbing and processing information in a short time (Morgan & Lilienfeld, 2000; Toupin, Déry, Pauzé, Mercier, & Fortin, 2000). Also, interventions taking place in groups with young people with criminal records can be less effective due to increased antisocial attitudes (Ang & Hughes, 2001).

While our results can be seen as valid for Swedish boys aged about 17 years, they cannot be generalized to girls, other ethnicities or age groups. The low rate of girls in our sample reflects the actual situation. It is a known fact in criminology that boys are overrepresented in crime statistics (Elonheimo et al., 2014). Still, Rosenthal and Wilson (2006) did not find any differences in treatment effect between boys and girls. Nor are gender, age and ethnicity of any importance to the effectiveness of reducing recidivism according to Lipsey's (2009) meta-analysis. In the present study, analyses of age and ethnicity showed no significant impact when the effects on pre- to post-measurements of PICTS and SOC-13 were tested as co-variates (not shown). However, the overall lack of data in terms of age groups, gender and ethnicity render it impossible to draw any valid conclusions about this. Concerning the small sample in relation to possible site effects, the variation of treatment effects is larger within the units than between them, which indicates no site effect (i.e. no specific unit or units explain(s) the results).

Another question is how dropouts affect the results. The reasons for withdrawal regarding the two social service units in the individual multiple-week treatment group were heavy workloads, authorized personnel quitting, reorganizations and a shortage of participants. Even the four remaining units were struggling with a shortage of participants. These circumstances affected the sample size. Still, the evaluation regarding the participants' compatibility with the inclusion criteria assures the representativity of the sample. A strong effect size also supports the effectiveness of the programme. Concerning the control groups, eleven correctional institutions withdrew from the study, which impacted the random selection and the sample size. It also affected the study in terms of a higher risk of periodical alcohol and drug use in the control groups compared to the treatment groups. This was a factor difficult to control when the control groups were not imprisoned, and also made it harder to collect the data. Instead of the correctional institutions, the sample was selected mainly by the

associations KRIS and X-cons. However, the recruiters in these associations have closer contact with and greater knowledge about the participants' lifestyle than correctional personnel. Such knowledge is valuable for identifying lifestyle criminality when the definition includes social and psychological circumstances. Furthermore, the knowledge gave more accuracy in the recruitment of participants whose main problem was criminal behaviour and not abuse of alcohol and/or drugs. In this way alcohol and/or drug use could be reduced without using urine samples. Only one participant in the multi-week control group was recruited from the waiting list of one social services unit. This made the group rather homogeneous but different from the multi-week treatment group regarding how the risk of alcohol and/ or drug use was controlled. If there was a higher frequency of alcohol and/or drug abuse in the control group, it could have resulted in more offences. Therefore, the higher recidivism rates in the multi-week control group, compared with the multi-week treatment group, could then at least partly be explained by these potential differences.

How then can the results be used to improve interventions for young offenders? This pilot study was aimed to test the programme in small scale and can be seen as the first indication that the programme can reduce criminal thinking and behaviour among the intended age group. A possible avenue for future research could be to investigate whether a change in criminal thinking patterns and SOC mediate the treatment–recidivism relationship by testing for a chain running from treatment to decreased PICTS scores and increased SOC to reduced recidivism.

Disclosure statement

No potential conflict of interest was reported by the authors.

Founding

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TABLE 1 Descriptive data of the treatment groups and the control groups, *N = 61*.

	Multi-week therapy	One-week therapy	Multi-week control group	One-week control group
Therapy form	Individual out-patient care and individual in-patient care	Group therapy, In-patient care	-	-
Duration *(M ± SD)*	18.24 ± 5.64	5±1 days	18.21 ± 5.01	7±1 days
Range of variation	9-30 weeks	4-5 days	9–33 weeks	7–8 days
No. of therapy hours *(M ± SD)*	20.29±4.93	24.42±7.51	-	-
No. of therapy hours *(Md)*	20.0	20.0	-	-
Range of variation	13–30 hrs	14–35 hrs	-	-
Age (years) *(M ± SD)*	16.9 ± 1.1	16.84 ± 1.92	18.2 ± 2.2	18.45 ± 1.57
Range of variation	15–19 years	14–21 years	14–21 years	16–21 years
Sex (boys, girls)	15, 2	19, 0	13, 1	11, 0
Ethnicity (frequency)	13	14	13	5
Scandinavian	2	1		1
East European		3		2
Middle Eastern	1	1	1	
African				3
Mixed	1			
Missing				
No. of participants	17	19	14	11

TABLE 2 Criminal thinking patterns (PICTS; GCT 34–103) for each group before and after.

				95% Confidence interval	
				Lower Bound	Upper Bound
Participant group	Time	*M*	*SD*		
One-week	Before	64.95	10.42	60.38	69.51
therapy	After	60.47	12.43	55.33	65.61
Multi-week therapy	Before	63.47	8.40	58.64	68.30
	After	49.64*	9.58	44.21	55.08
One-week control group	Before	69.64	12.19	63.64	75.63
	After	71.18	11.03	64.42	77.94
Multi-week control group	Before	66.36	9.00	61.04	71.67
	After	67.21	11.36	61.22	73.21

Note: Mean (M), standard deviation (SD) and 95% CI.
*$p < .001$

TABLE 3 Sense of coherence (SOC; 13–91) for each group before and after.

				95% Confidence interval	
				Lower Bound	Upper Bound
Participant group	Time	*M*	*SD*		
One-week	Before	56.42	10.89	51.02	61.82
therapy	After	55.42	11.87	50.67	60.17
Multi-week therapy	Before	54.53	12.68	48.82	60.24
	After	61.82*	10.10	56.80	66.84
One-week control group	Before	47.46	13.10	40.36	54.55
	After	42.82	11.46	36.58	49.06
Multi-week control group	Before	47.50	10.57	41.21	53.79
	After	46.71	6.83	41.18	52.25

Note: Mean (M), standard deviation (SD) and 95% CI.
*$p < .03$

TABLE 4 Recidivism among multi-week treatment group and control group, measured by convicted crimes according to the criminal register before, during and 6–24 months after, *N = 17.*

Treatment Group				Control Group			
Participants	Before	During	After	Participants	Before	During	After
1	4	0	0	1	6	0	21
2	8	0	0	2	1	0	8
3	3	0	0	3	11	8	0
4	1	1	0	4	3	8	8
5	6	0	0	5	2	0	0
6	2	0	0	6	1	0	2
7	3	0	0				
8	7	0	0				
9	1	0	0				
10	2	0	0				
11	1	0	0				

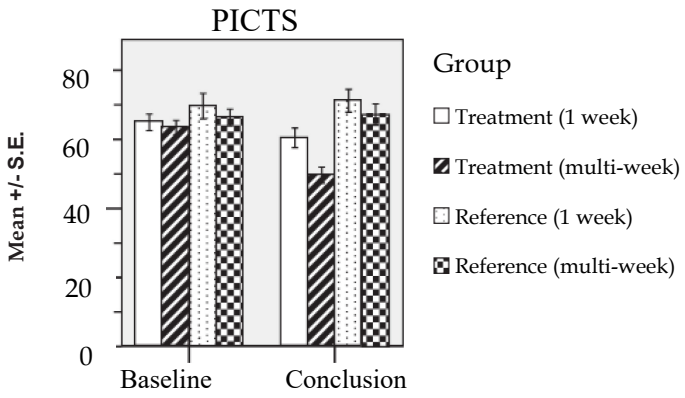

FIGURE 1 Mean score of the Psychological Inventory of Criminal Thinking Styles (PICTS) before and after for each treatment and control group. Note: Each mean with ± SE (Standard Error).

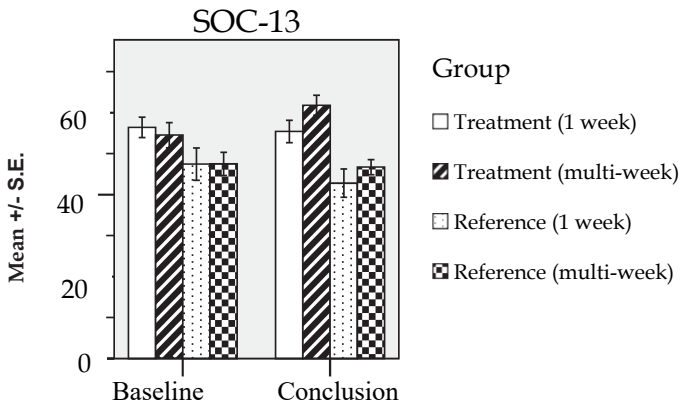

FIGURE 2 Mean score of the Sense of Coherence Scale (SOC-13) before and after for each treatment and control group. Note: Each mean with ± SE (Standard Error).

II

CRIMINALITY, THINKING PATTERNS AND TREATMENT EFFECTS: EVALUATION OF THE SWEDISH COGNITIVE INTERVENTION PROGRAMME 'NEW CHALLENGES' TARGETING ADULT MEN WITH A CRIMINAL LIFESTYLE

by

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Criminality, thinking patterns and treatment effects – evaluation of the Swedish cognitive intervention programme 'new challenges' targeting adult men with a criminal lifestyle

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ABSTRACT

The cognitive intervention programme 'New Challenges' targeting adult men with a criminal lifestyle was evaluated in a pilot study. The participants were divided into a cognitive treatment group (n = 32) and a control group (n = 11). In the control group, six participants had no treatment and five participated in 12-step treatment. The participants were measured pre and post using the Psychological Inventory of Criminal Thinking Styles (PICTS), the abridged version of sense of coherence (SOC), Positive and Negative Affect Scale, and Bergström's quality of programme delivery (QPD). The results of the treatment group showed that criminal thinking patterns dropped significantly from high values to close to normal level. SOC and positive affect increased significantly in the treatment group. Both SOC and positive affect showed positive correlation with QPD. Regarding the possible influence of the 12-step treatment, there was no difference in the control group between participants receiving 12-step treatment and those not receiving treatment. The main conclusion is that the cognitive treatment programme 'New Challenges' can contribute to reduced criminal thinking and increased SOC and positive affect, which may prove to be important precursors of reduced criminality.

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Criminality; crime prevention; PICTS; SOC; PANAS; client satisfaction

Introduction

Present knowledge regarding the treatment of long-term criminality is primarily based on risk models and prison studies (Kriminalvården, 2014; Mitchell, Wilson & Mackenzie, 2006; Ward & Brown, 2004; Öberg & Holmberg, 2008). However, established methods such as cognitive therapy and cognitive behavioural therapy have less effect in prisons because of the fellow-inmate group processes that inevitably result in conformity to criminal norm systems (Fridell & Hesse, 2005). Fridell and Hesse (2005) also argue that a problem regarding research on criminal rehabilitation effects is that variables such as criminal thinking patterns, antisocial norms and attitudes and personality variables (e.g. negative affect) are seldom included although they have proved to be important predictors of relapse. In positive criminology, focusing on developing inner and outer protective factors, salutogenic value systems and positive affect are central.

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Lifestyle criminality is habitual criminality, defined in terms of debut, frequency and permanence as well as social and psychological factors (Andersson & Nordh, 2014; Torstensson Levander, 2013; Walters, 1990, 2002). This involves early debut (<15 years of age), high frequency of different types of crime with increasing gravity, permanent connections with criminal persons, documented drug abuse and/or psychiatric problems.

According to cognitive theory, criminal acts can be related to an automatic information processing (Beck, 1995), which takes place spontaneously on the basis of cognitive schemata. This is habitual thinking that functions with little or no critical thinking. Individual cognitive schemata comprise both positive and negative thinking patterns that involve thinking errors (Beck, 1995). Thinking errors are irrational thinking, meaning seeing something categorically without nuances. It can involve assuming something without grounds, focussing on negative events that may happen, seeing occasional events as a pattern and magnifying or diminishing isolated aspects. If the individual's thinking patterns and automatic thoughts are too negative or unrealistic, the result is misinterpretations of situations, negative or unrealistic feelings and in some cases mental illness or destructive behaviour such as criminality (Beck, 1995). According to Walters (1990), lifestyle criminality can be related to eight specific thinking patterns consisting of mollification, cut-off, entitlement, power orientation, sentimentality, superoptimism, cognitive indolence and discontinuity. According to cognitive theory, thinking patterns are assumed to influence how the individual views him/herself and existence and reacts in different situations.

In similar ways, salutogenic theory links the individual's general perception of self and surroundings and coping ability to sense of coherence (SOC; Antonovsky, 1993). The concept is based on comprehensibility, manageability and meaningfulness, and is linked to the individual's trust in inner and outer resources. Comprehensibility is the cognitive aspect of SOC, and it is developed through predictable social interaction that makes the individual aware of the connections in social relationships. Manageability is the subjective experience of having sufficient inner resources and ability through others to handle different situations in life. Manageability is dependent on comprehensibility in that the individual needs to understand an event to act adequately. Meaningfulness is the emotional and motivational aspect of SOC, which increases when the individual is involved and participates in social situations. Konarski (1996) demonstrates that meaningfulness is partly dependent on the values structuring the individual's life. Low values of SOC have shown to correlate with high levels of criminality and antisocial behaviour (Lindblom, Eriksson, & Hiltunen, 2017; Ristkari et al., 2009). Similarly, the degree of emotional stability, so-called neuroticism, relates to antisocial behaviour such as criminality (Ellison, 2006; Van Dam, Janssens, & De Bruyn, 2005). Neuroticism is a personality variable that comprises negative affects such as anxiety, irritability, dysphoria, insecurity, impulsivity and stress sensitivity (Paunonen & Ashton, 2001). Persons with antisocial behaviour have higher values of neuroticism than the normal population (Ellison, 2006; Van Dam et al., 2005), and the correlation is stronger with increased age (Ellison, 2006). This relation between neuroticism and criminality can seem contradictory since criminal behaviour is often associated with antisocial personality disorder and psychopathy that seemingly lack neurotic characteristics such as fear and anxiety (Bulten, Nijman, & Van Der Staak,

2009; Mitchell & Tafrate, 2012). However, research on affective states shows that such anxiety-free states rather can be a result of specific coping strategies (Brody & Rosenfeld, 2002; Gacono, 1990; Gacono, Meloy, & Berg, 1992). Lack of anxiety is assumed to be dependent on the immediate acting out of inner sensations in combination with denying own weakness (i.e. escape from anxiety), as the coping strategy of an antisocial person is control (Sundell & Sundell, 2005).

Emotions are also linked to the self-image, which, according to Johnson (2003), is defined by the affective experience of ourselves. A good self-image is thus associated with high values of SOC (Johnson, 2003, 2004). For the individual, SOC can change in a positive direction through external events and experiences of being able to handle new challenges. Changes that strengthen the SOC are, however, rare and relate to consistent changes in attitudes and behavioural patterns (Svartvik & Nilsson, 1998). Hult, Waad, Cederblad, and Hansson (1996) have translated the concepts comprehensibility, manageability and meaningfulness into how they are used in treatment (i.e. salutogenic practice). To make a change, the individual has to understand that a certain change is necessary (comprehensibility). In addition, the individual needs to feel involved in relation to his/her value system where change is desirable (meaningfulness). Finally, the individual needs to have practical knowledge of assets, resources and opportunities (manageability). The salutogenic approach to change in treatment meets the requirements for individual experience of SOC (Hult et al., 1996).

In the same way as the salutogenic perspective, positive criminology clarifies the experiences that help the individual to develop personally and socially (Ronel & Segev, 2015). Aspects such as the environment, meaning-creating activities and relationships are seen as significant to the individual's value system and reduced risk of criminal behaviour. Research on criminal treatment in prisons has shown that the therapeutic environment in the prison section is of great importance to the treatment results (Mitchell et al., 2006; Öberg & Holmberg, 2008). The therapeutic environment refers to the basic character of the treatment units; the treatment units are separate from other prison sections, run frequent urine screens to prevent drug abuse and often practice self-governance with activities such as work, study, parental groups and artistic projects to a greater extent than in other prison sections. Also, Öberg and Holmberg (2008) show that the effects of cognitive treatment are greater if the intern is reintegrated from prison by inpatient care, which often provides 12-step treatment. Inpatient care means that the intern is under treatment outside of the prison during the last time of the sentence. Interns participating in 12-step treatment display a greater SOC and meaning in life with gradual decrease of negative feelings compared to interns who only receive social support through self-help groups (Chen, 2006). The results show that developing a salutogenic value system gives a greater effect than only social support. Similarly, Bergström (2012) claims that it is important to develop a value system that is incompatible with criminality. Here, logic processing is not enough and it should be combined with rituals, symbolic actions and shared experiences that give an emotional conviction of the possibility of change. Walters (2001) emphasizes the importance of achieving a strong alliance and trustful relationship between therapist and client. This allows criminal rituals to be replaced with more salutogenic rituals.

Aim of the study

The general aim of the study was to contribute to evidence-based research of criminal rehabilitation by combining the risk and protective factors. The cognitive intervention programme 'New Challenges' targeting adult men with a criminal lifestyle was evaluated with a major focus on criminal thinking styles and salutogenic factors. Using a quasi-experimental design, the Val-Bo model was studied, which involves 1 week of group treatment, 4 weeks of individual treatment, and 1 week of group treatment. The effects of concurrent 12-step treatment on criminal thinking patterns and SOC were also analysed.

Material and methods

Participants

The participants were men aged 19 to 60 years of age in the advanced phase of lifestyle criminality, recruited from one treatment institution and seven control units. The participants in the treatment group received (1) 1 week of cognitive group treatment (40 h), 4 weeks of individual treatment (20 h) and 1 week of group treatment (40 h) combined with 12-step treatment (100 h, five hours/day for 4 weeks). Participants in the control group received (2) no treatment or (3) 12-step treatment (107 h in outpatient care, three hours/day for seven weeks). The therapy group consisted of 32 participants with a mean age of 30.6 (SD = 9.1). The control included 11 participants with a mean age of 28.4 (SD = 2.2), of whom six participated in no treatment and five participated in 12-step treatment. Only the participants who completed a whole programme according to the Val-Bo model were included in the study. Five participants were excluded from the study because they withdrew before the conclusion of the first week of treatment. An additional 11 participants were excluded, but they completed the first week of group treatment and were used to measure differences in client satisfaction and the programme leaders' adherence to the programme. The distribution in terms of age, ethnicity, creed, level of education and previous treatment was the same for the treatment and control groups (Table 1).

The participants were matched by self-screening procedures instead of register data because the target group was defined by Walters (1990) definition of lifestyle criminality. The difference between lifestyle criminality and other forms of criminality is that the latter depicts criminality per se (debut, frequency and duration), whereas the former include also other circumstances such as habits, social activities and alcohol and drug use (Torstensson & Levander, 2013). Thus, a more detailed picture of the individual and the living circumstances is needed when lifestyle criminality is assessed, and therefore a self-screening instrument developed by Bergström (2014) was used. This included lifestyle analysis made by The Lifestyle Criminality Screening Form, assessment of psychosocial history (phases of criminal career), screening of cognitive thought patterns (The Psychological Inventory of Criminal Thinking Styles; PICTS), as well as assessment of the phases of drug dependence (Gorski & Miller, 1993).

The treatment institution was an inpatient care facility where the programme was implemented with the so-called Val-Bo model. Inclusion criteria were that the unit was licenced to use the programme and that the therapists met the required formal

Table 1. Descriptive data on the therapy and participants in the study, $N = 43$.

	Multi-week therapy	Multi-week control group
Therapy form	Cognitive group therapy combined with individual therapy in residential care	No cognitive therapy
Therapy weeks *(M ± SD)*	6.22 ± 2.60	7.0 ± 2.24
Range of variation	3–11 weeks	3–11 weeks
Number of group therapy hours	80.0 ± 0.0	-
Number of individual therapy hours	20 ± 2.60	-
Range of variation	5–45	-
Total number of hours in group and individual therapy *(Md)*	100 hrs	-
Current 12-step counselling	31/32	5/11
Previous 12-step counselling	14/32	6/11
Age *(M ± SD)*	30.56 ± 9.14	28.36 ± 2.2
Range of variation	19–60 years	21–54 years
Education	1	0
Special needs comprehensive school	9	2
Compulsory school, completed	12	4
Upper secondary school, interrupted	7	4
Upper secondary school, completed	2	1
University, initiated	1	0
University, completed		
Religion	14	6
None	11	3
Christian	3	0
Catholic	2	0
Muslim	0	1
Jewish	1	1
Mixed	1	0
Missing		
Ethnicity (frequency)	27	10
Scandinavian	1	0
Latino	0	1
Middle Eastern	2	0
Asian	2	0
Mixed		
Number of participants	32	11

qualifications, which were training as therapy assistant and 8 days of programme leader training. Inclusion criteria for participants were a minimum age of 18, no ongoing alcohol or drug abuse and being in an advanced phase of criminal lifestyle (Walters, 1990). The criteria were tested with Bergström's (2014) self-report instrument (see Instruments section).

Participation was voluntary, and the study was approved by the Regional Ethics Review Board in Uppsala. However, the treatment programme 'New Challenges' is mandatory in the Val-Bo model.

According to Bergstrom's (2014) instructions, ongoing alcohol or drug abuse must be treated before or possibly concurrent with participation in 'New Challenges'. Urine testing was carried out during the programme and the participants were discharged if the result was positive. Also, the cohort study of Nilsson, Estrada, and Bäckman (2014) shows that drug abuse, social inclusion and/or exclusion in adult life are correlated with criminality. Taken together, these studies demonstrate that drug abuse is a central factor for maintaining the process of criminality as well as to keep a distance from positive changes in their lives.

The control units were recruited from eight randomly selected organizations affiliated to KRIS (Kriminellas Revansch i Samhället [Reintegration of Prisoners into Society]), which is a non-profit organization helping ex-prisoners and addicts to re-enter society. One control unit withdrew from participating because of lack of staff. Inclusion criteria for the control group were identical with the treatment group. Instead of urine testing, the recruiters from KRIS used their knowledge of psychological and social circumstances to recruit participants whose main problem was criminal behaviour and not alcohol and/or drug abuse. The control group participants received 12-step treatment and were screened for abuse (urine testing) according to the Swedish guidelines for addiction treatment. Exclusion criteria for the control group were the same as for the treatment group (environmental crime, traffic misdemeanours (fines), financial crime involving companies and sexual crimes). In total, 12 control persons were excluded from the study. Eleven control persons were excluded because they withdrew from the study and one was excluded on the grounds of missing answers in the questionnaires.

Treatment

The programme 'New Challenges' combines the risk and protective factors through the cognitive and salutogenic practice in the attempt to change thinking patterns and self- and world perception. The programme includes 15 mandatory sessions and 38 additional sessions, which can be implemented if needed. The exercises of the programme are based on Walters' (2002) theory of change processes regarding responsibility, self-confidence, meaning and coherence. 'New Challenges' is usually practised in individual treatment for several weeks and during one to two intensive weeks in groups. However, the so-called Val-Bo model means 1 week of group treatment, 4 weeks of individual treatment, and finally, one further week of group treatment. The number of treatment hours during the period is usually around 80 to 100 h. The factors that the programme is designed to influence are individual self- and world perception and the criminal thought patterns, according to Walters (1990). The aim of the programme is to increase the individual´s understanding of the criminal norm system underlying the criminal lifestyle. The norm system is based on motives derived from unfulfilled psychological needs that also underlie the criminal thinking (i.e. pathological coping strategies) (Bergström, 2012). The motives and thinking patterns are related to the self- and world perceptions and are expressed in criminal behaviour. Through the programme the clients become aware of the causal links in the decision-making process towards a criminal act. This is the crime process that shows individuals commit criminal acts based on their own choices (Walters, 1990). The behavioural patterns emerging in lifestyle criminality are defined as a career including of four phases: the pre-criminal phase, the early criminal phase, advanced criminality and the burnout phase (Walters, 1990). Different prime motives such as peer pressure, excitement, status, money and anger are characteristics that vary for the various phases.

The most common technique to change thinking patterns is cognitive skills training, which means collecting information, developing alternative solutions and evaluating results (Lipsey, Landenberger, & Wilson, 2007). This process takes place with the psychological testing to map the client's thinking pattern. Based on the results, the therapist and client reach a mutual understanding of the thinking patterns that underlie

the client's problems. Then, together with the group and the therapist, the client can find more functional interpretations of problem situations and alternative ways of acting. To raise awareness of the causal links in the crime process, the therapist uses psycho-education. The change of the criminal self and world perception primarily takes place through discussions and role play about values in different problem situations, dilemmas and issues. In addition, Bergstrom (2012) stresses the difficulty in changing a criminal lifestyle. Challenging criminal thinking patterns usually makes the client consider giving up crime. The moral development, however, requires time to merge with the emotional progress. Thus, Bergstrom (2012) regards the concurrent and subsequent 12-step treatment and the self-help groups as important parts of the rehabilitation process. The programme is presently used in residential institutions in Sweden combined with 12-step-based treatment.

Instrument

The Bergstrom's (2014) self-report instrument used for inclusion is based on The Lifestyle Criminality Screening Form (Walters, White, & Denney, 1991), an analysis of psychosocial history illustrating the phases of the criminal career of Walters (1990), dependency phases (Gorski & Miller, 1993) and the PICTS, in accordance with Walters (2006). Data from the test were not available for this study.

The part of Bergstrom's (2014) assessment that measures criminal lifestyles consists of the four sections – irresponsibility, pleasure, abusive conduct and violation of social rules. Section 1, which measures irresponsibility, has four questions about the breadwinning of children, discontinued education, redundancies and ability to stay in a workplace. Section 2 measures pleasure and has three questions about alcohol and drug history, marital status and physical attributes related to criminal identity. Section 3, which measures abusive behaviour, has four issues of the latest crime, such as murder, rape, robbery, burglary or assault, previous arrests for offensive crimes, the use of weapons at the latest crime and physical abuse of relatives or other related persons. Section 4 that measures break of social rules has three questions about the number of previous arrests, age at first arrest and behavioural problems in school. The test has a total of 0–22 points. A total score of 0–6 points means low probability of a criminal lifestyle (pre-criminal phase), 7–9 points some risk (early criminal phase) and 10 or higher means high risk (advanced criminal phase). The tested must also have at least 1 point on each section.

Self-reporting can measure criminal tendencies early in life before it is possible to be prosecuted for crimes and can reveal crimes undetected in the criminal law system. The thinking patterns investigated in this study are the characteristics of lifestyle criminality, which include crimes of violence, vandalism, theft, shoplifting, fraud, receiving stolen goods, burglary, robbery, drug offences, drunk and drugged driving and driving without a licence. Other types of criminality such as environmental crime, traffic misdemeanours (fines), financial crime involving companies and sexual crimes are associated with other thinking patterns and therefore excluded from this study.

The PICTS questionnaire measures criminal thinking and comprises 80 items with a four-grade Likert scale, 1 to 4. The instrument identifies the values of eight different criminal thinking patterns and a total sum of 32–104 scores, indicating the general

degree of criminal thinking (GCT) with the limit value of >50. Values from 61 to 70 indicate a high GCT. Values above 70 indicate a very high level of GCT. According to Walters (1990), criminal thinking patterns are defined as an integration of negative irrational thoughts (thought errors) and different types of denial and distortion of reality (pathological coping strategies). PICTS has a moderate to moderately high internal validity and reliability (Walters, 2002). The total score has shown to predict relapse into crime for a 24-month period after release (Walters, 2009). The instrument was chosen to fit the purpose of the programme to have an impact on criminal thinking. PICTS is mandatory for the programme and does not involve an extra strain on the participants.

SOC-13 is an abridged version of the original scale SOC-29 (Antonovsky, 1991). SOC-13 measures the SOC and encompasses13 items on a seven-grade Likert scale with response alternatives from *Very Often* to *Very Seldom/Never*, with the lowest value of 13 and the highest of 91. Score are obtained for comprehensibility, manageability and meaningfulness, which together indicate a total value of SOC. SOC-13 has shown good internal consistency close to the high internal consistency that SOC-29 has shown (Cronbach´s α: SOC-13 = .89, SOC-29 = .93) (Olsson, Gassne, & Hansson, 2009). SOC also provides an indication of individuals' self-image and perception of their surroundings and has an empirical validity concerning the following areas: (1) general perception of self and others (r = .19), (2) stressors (r = .11), (3) health, illness and well-being (r = .32) and (4) attitudes and behaviour (r = .50) (Antonovsky, 1993). SOC is negatively correlated with crime, antisocial and rule-breaking behaviour (Ristkari et al., 2009).

SOC-13 was chosen for the purpose of providing a measure of an individual's image of self and the world, which is one of the variables that the programme aims to change. The shorter version of the scale was chosen to facilitate the participant's concentration during the test, which was assumed to increase reliability.

Positive and Negative Affect Scale (PANAS) includes 20 items describing 10 positive and 10 negative mood states on a five-grade Likert scale with the response alternatives from Very Seldom to Very Often. The lowest value is 20 and the highest is 100. The scale has shown high internal consistency, and the factors positive affect and negative affect are to a high extent non-correlated and stable over a 2-month period (Watson, Clark, & Tellegen, 1988). PANAS has high validity for measuring psychological stress, anxiety and depression (Watson, Clark & Tellegen, 1988). Personality variables such as emotional instability have proved to be important predictions for crime cases (Ellison, 2006; Fridell & Hesse, 2005). Emotional instability implies negative affects such as anxiety, irritability, depression, self-esteem, impulsivity and stress sensitivity (Paunonen & Ashton, 2001). PANAS was chosen to measure the impact of the programme on the participants' affects.

Bergström's quality of programme delivery (QPD) is an evaluation that is included as a concluding element of the programme, which comprises 14 questions (15 if next-of-kin participates) with a five-grade Likert scale from 0 to 4. The test estimates a total score between 0 and 56 (60 if next-of-kin participates). Clients assess the therapeutic relationship, the therapist's pedagogical ability and the therapist's methodological competence. Therapeutic relationship is evaluated on the basis of how respected the client has felt during treatment regarding feelings and thoughts. The pedagogical ability is rated on the basis how well the client has understood the purpose of the programme. The

methodological competence is rated in terms of how theoretically knowledgeable the therapist was perceived to be and how well the therapist followed the content of programme sections. QPD was used in this study to measure the relation between the client's assessment of treatment quality, thinking patterns, SOC and positive affect and negative affect.

Multiple-choice questions on age, ethnicity, creed, level of education and previous and concurrent treatment were used for comparison of the demographic composition of the groups.

Procedure

The recruited programme leaders and the contact persons consented to participate asked the persons in the units that met the inclusion criteria to participate. Inclusion criteria were established with Bergstrom's (2014) self-report instrument. For the treatment group, chemical addiction was treated before the programme. The treatment group filled in a questionnaire with questions on demography, previous and concurrent treatment, PICTS, SOC-13 and PANAS pre- and post-treatment with the programme 'New Challenges'. QPD was answered after the first and final weeks, respectively, of the programme.

The same procedure was applied to the control group participants, except they did not answer the QPD. The control group participated for the same time period as the treatment group. For the selection process and flow of the participants, see Figure 1.

Data analysis

Mixed ANOVA was used to analyse the effect of the treatment on criminal thinking patterns, SOC and positive and negative affect. Mixed ANOVA was used to analyse the effects of the 12-step treatment and no treatment, respectively, regarding criminal thinking patterns and SOC. Cronbach's alpha was used to test the QPD scale's internal consistency. Independent *t* test was used to analyse differences in client-assessed quality between clients who withdrew from and completed treatment, respectively. Pearson's correlation was used to analyse the correlation between programme quality and other dependent variables (criminal thinking patterns, SOC and positive and negative affect). The independent variable used in the analysis was treatment, with the conditions of cognitive treatment with concurrent 12-step treatment, only 12-step treatment and no treatment. The dependent variables were criminal thinking patterns, SOC, positive and negative affect and quality of programme delivery.

Results

Criminal thinking patterns – PICTS

Treatment vs. control

Mixed ANOVA showed significant main effect of *time,* $F(1,40) = 39.69$, $p < .01$, *partial*, $\eta^2 = .50$, $d = 1.0$, and significant interaction of *group* × *time,* $F(1,40) = 18.94$, $p < .01$, *partial* $\eta^2 = .32$, $d = 0.99$. The main effect of *group* was not significant, $F(1,40) = 0.97$,

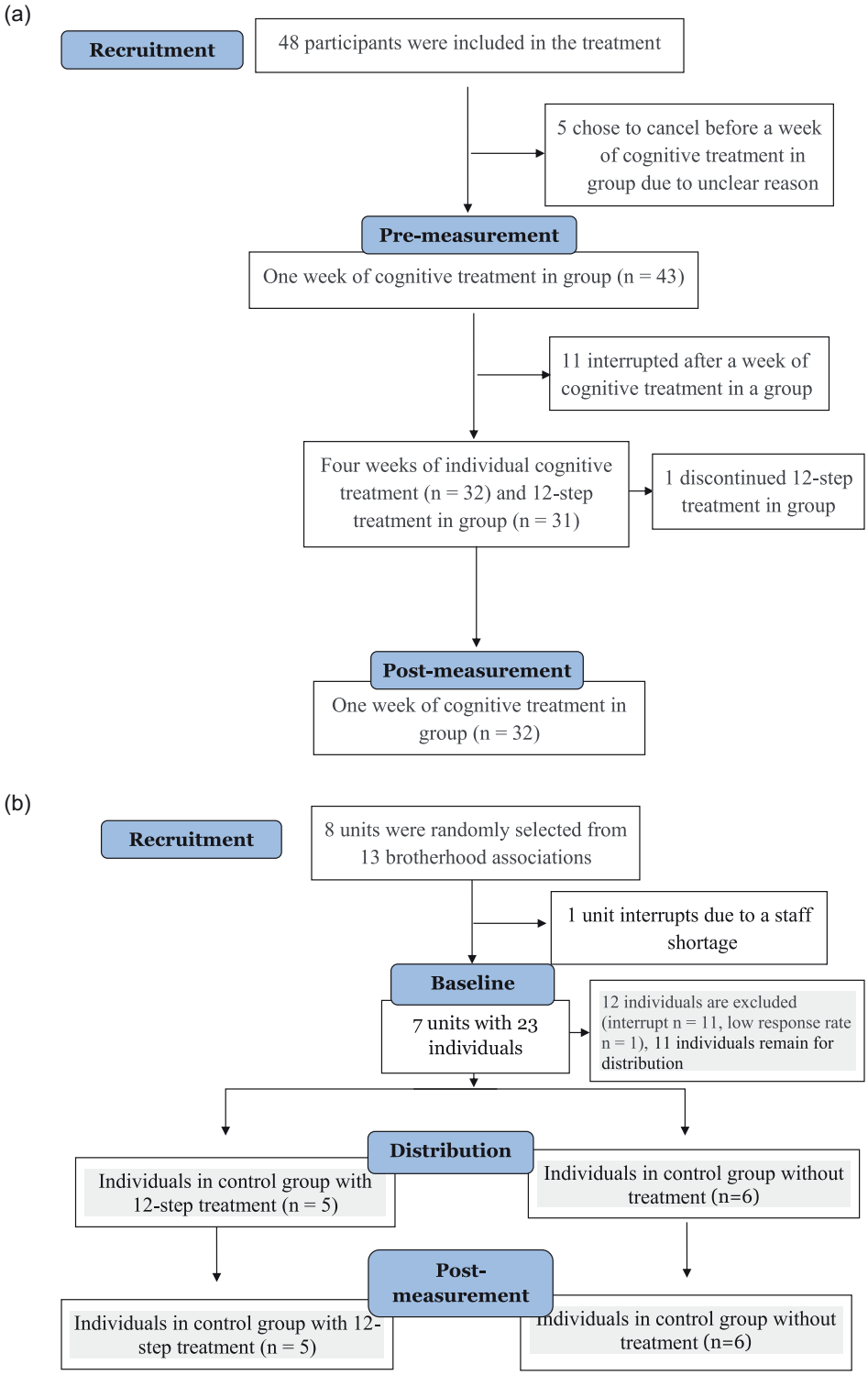

Figure 1. Flow charts depicting the recruitment process of the two groups. a) Flowchart of treatment subjects and b) Flowchart of control subjects.

p = .33. Table 2 shows the mean value with confidence interval for each condition. *Post hoc* comparisons with Bonferroni showed that there was no significant difference in the PICTS mean value between the treatment group and the control group at pre-measurement (p = .24). The treatment group had a significantly higher mean value in PICTS before compared with after the treatment (p < .001). The control group showed no significant difference in PICTS mean value between pre- and post-measurement (p = 1.0). Post-measurement, the treatment group had a significantly lower mean value in PICTS compared with the control group (p < .005). Figure 2 shows the mean values of PICTS measurement for both the treatment and control group at pre- and post-measurement.

Treatment vs. only 12-step vs. no treatment

Mixed ANOVA was used, which showed a significant main effect of *time,* F(1,39) = 15.83, p < .001, *partial*, η^2 = .29, d = 0.97, and significant interaction of *group* × *time,* F(2,39) = 9.25, p < .001, *partial* η^2 = .32, d = 0.97 (Table 2). The main effect of *group* was not significant, F(2,39) = 0.56, p = .58. *Post hoc* comparisons with Bonferroni showed no significant differences in PICTS between pre- and post-measurement for control persons undergoing 12-step treatment or for control persons without treatment (p = 1.0 in all comparisons).

Sense of coherence – SOC-13

Treatment vs. control

Mixed ANOVA showed significant main effect of *time,* F(1,39) = 8.92, p < .01, *partial*, η^2 = .19, d = 0.83, and significant interaction of *group* × *time,* F(1.39) = 6.70, p < .02, *partial* η^2 = .15, d = 0.71. The main effect of *group* was not significant, F(1,39) = .02, p = .89. Table 3 shows the mean values with confidence interval in all conditions. *Post hoc* with Bonferroni showed that there was no significant difference in mean value in SOC between the treatment and control group at pre-measurement (p = .46). The treatment group had a significantly lower mean value in the SOC pre-measurement compared with the post-measurement (p < .001). The control group showed no significant difference in SOC mean value between pre- and post-measurement (p = .26). There was no significant difference in SOC mean value between the treatment and the

Table 2. Mean (*M*), standard deviation (*SD*) and 95% CI of mean regarding criminal thinking patterns for each group before and after..

				95% confidence interval	
Participant group	Time	*M*	*SD*	Lower bound	Upper bound
Therapy group	Before	78.77	1.38	76.00	81.55
	After	54.42	2.14	50.10	58.74
Control group	Before	69.17	2.94	62.86	75.47
(no treatment)	After	64.17	4.81	54.31	74.03
Control group (12-step counselling)	Before	74.20	3.22	67.29	81.11
	After	70.40	5.27	59.60	81.20
Control group	Before	71.46	2.31	66.79	76.12
(total)	After	67.00	3.59	59.75	74.25

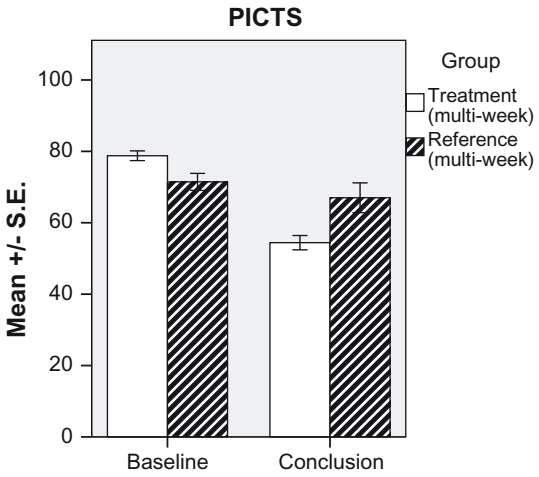

Figure 2. Mean score of the psychological inventory of criminal thinking styles (PICTS) before and after for the therapy group and the control group. Each mean with ±SE.

Table 3. Mean (*M*), standard deviation (*SD*) and 95% CI of mean regarding sense of coherence for each group before and after..

				95% confidence interval	
Participant group	Time	*M*	*SD*	Lower bound	Upper bound
Therapy group	Before	43.80	1.61	40.55	47.06
	After	56.53	2.00	52.48	60.58
Control group	Before	51.17	8.68	43.81	58.53
(no treatment)	After	57.00	15.07	48.30	65.70
Control group (12-step counselling)	Before	48.80	10.66	40.74	56.86
	After	43.80	12.87	34.27	53.33
Control group	Before	50.09	2.66	44.72	55.47
(total)	After	51.00	3.31	44.31	57.69

control group at post-measurement (p = .71). Figure 3 shows the mean values for SOC-13 in the treatment and the control group at pre- and post-measurement.

Treatment vs. only 12-step vs. no treatment

Mixed ANOVA was used, which showed a significant interaction of *group* × *time, F* (2,38) = 5.05, $p < .01$, *partial* η^2 = .21, d = 0.79 (Table 3). The main effects of *group* [F (2,38) = 0.94, p = .40] or *time* [F(1,38) = 3.90, p = .06] were not significant. Except for a significant (p = .001) difference in the treatment group (pre- and post-treatment), *post hoc* with Bonferroni showed no significant differences in SOC between pre- and post-measurement for control persons under 12-step treatment or for control persons without treatment (p = 1.0).

Positive and negative affect – PANAS

Analysis with mixed ANOVA showed significant interaction of *group* × *time* regarding positive affect, F(1,39) = 6.0, $p < .02$, *partial* η^2 = .13, d = 0.67. Interaction showed (*post*

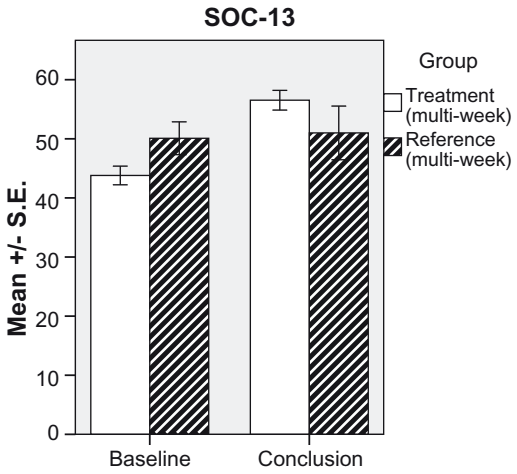

Figure 3. Mean score of the brief version of the sense of coherence scale (SOC-13) before and after for the therapy group and the control group. Each mean with ±SE.

hoc with Bonferroni) that positive affect increased significantly (p = .02) for the treatment group between pre- and post-measurement, while it remains the same (p = 1.0) for the control group. There were no significant differences regarding negative affect for *time*, $F(1,39) = 0.0$, p = .96, *group*, $F(1,39) = 0.32$, p = .57, or *group* × *time*, $F(1,39) = 1.42$, p = .24. Table 4 shows the PANAS's mean values with confidence interval in all conditions. Figure 4 shows the mean values for positive affect for the treatment and the control group at pre- and post-measurement.

Quality of Programme Delivery – QPD

Analysis with Cronbach's alpha showed high internal consistency for QPD, α = .89, and the subscales pedagogical ability, α = .83, and therapeutic relationship, α = .88, and relatively good internal consistency for the subscale methods, α = .68. Analysis with independent t -test showed no significant difference in mean value of QPD after the first week of treatment between those who withdrew from treatment and those who

Table 4. Mean (*M*), standard deviation (*SD*) and 95% CI of mean regarding positive and negative affect for each group before and after.

				95% confidence interval	
Participant group	Time	*M*	*SD*	Lower bound	Upper bound
Therapy group (positive affect)	Before	31.83	1.42	28.97	34.70
	After	35.53	1.25	33.00	38.07
(negative affect)	Before	24.60	1.33	21.91	27.29
	After	23.10	1.41	20.25	25.95
Control group (positive affect)	Before	34.55	2.34	29.82	39.27
	After	32.64	2.07	28.45	36.83
(negative affect)	Before	21.73	2.20	17.28	26.17
	After	23.36	2.33	18.65	28.08

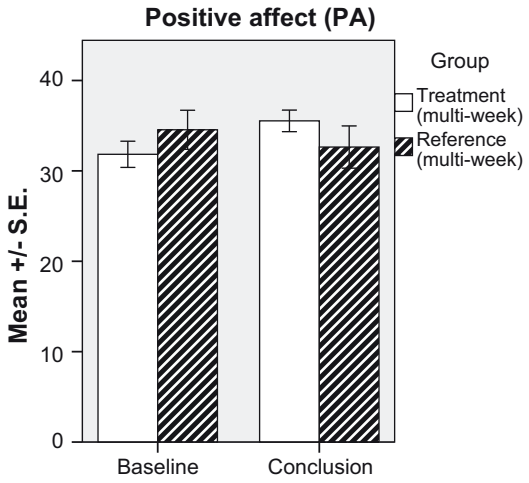

Figure 4. Mean score of the PANAS positive affect before and after for the therapy group and the control group. Each mean with ±SE.

withdrew after the first week (M = 46.36, SD = 7.86) and those who completed 6 weeks (M = 47.16, SD = 7.06), $t(34) = -0.30$, $p = .77$.

Analysis with independent t test showed no significant difference in mean value in QPD for those who withdrew from the programme after the first week (M = 47.16, SD = 7.06) and those who withdrew after 6 weeks (M = 49.21, SD = 5.60), $t(23) = -1.13$, $p = .27$.

Pearson's correlation showed a significant positive correlation after the treatment between QPD and SOC, $r = .39$, $p < .05$, and QPD and PA, $r = .64$, $p < .01$. There was also a significant positive correlation between SOC and PA, $r = .49$, $p < .01$, and a significant negative correlation between PICTS and SOC, $r = -.56$, $p < .01$, and PICTS and PA, $r = -.38$, $p < .05$. Table 5 shows the correlation between QPD, PICTS, SOC and positive affect after treatment.

Discussion

The positive criminology is a new perspective, which emphasizes positive experiences that potentially prevent or hinder deviant and criminal behaviour, including alcohol and drug abuse (Openhaim & Timor, 2005; Ronel, Frid, & Timor, 2013). An example of this is the Good Lives Model (GLM) with the main idea of building an internal capacity and coping skills of an individual to elevate the risk of criminality (Ward & Brown, 2004). The

Table 5. Correlation matrix for quality of programme delivery, PICTS, SOC and positive affect after treatment, N = 31.

	QPD	PICTS	SOC	Positive affect
QPD	–	−.22	.39*	.64**
PICTS	−.22	–	−.53**	.10
SOC	.39*	−.53**	–	.37*
Positive affect	.64**	.10	.37*	–

* $p < .05$. ** $p < .01$.

perspective widens the traditional criminology that primarily aims at understanding risk factors and processes leading to criminal behaviour (Ronel & Elisha, 2011). In the present study, the effects of the treatment programme 'New Challenges', which combines the two perspectives, are studied. This study is a small-scale pilot study according to the Val-Bo model's combined group and individual treatment. The main result of the study shows that combined group and individual treatment during 6 weeks reduced criminal thinking patterns and increased SOC as well as positive affect. The result relates to the high degree of client satisfaction and to programme leaders' adherence to the programme.

The result also shows that the degree of criminal thinking was very high for both the treatment and control groups prior to the treatment. After the treatment, the treatment group's criminal thinking was reduced to a level near that of the normal population.

Also the effects of the 12-step treatment and the effect of no treatment regarding criminal thinking were compared. All participants except one in the treatment group received 12-step treatment concurrently, while half of the control group received 12-step treatment and the other half no treatment. The result showed no difference in the control group between participants receiving treatment and not receiving treatment. This means that none of the conditions in the control group reduced criminal thinking. The number of participants in the control group was low, however, and the result should be interpreted with caution. A reasonable interpretation is that 12-step treatment on its own does not have a direct impact on criminal thinking patterns, but that a combination of 12-step treatment and cognitive treatment is effective. On the other hand, the study cannot show if a combination of 12-step treatment and the cognitive treatment is more or less effective than only cognitive treatment. On the basis of the fact that concurrent 12-step treatment did not turn out to have a significant effect on the reduction of criminal thinking, however, a conclusion is that a significant change factor for reduced criminal thinking during the 6-week treatment is the cognitive intervention, which is a prediction for reduction of relapse into criminality (Walters, 2009). This interpretation is supported by the previous youth study where the participants reduced their criminal thinking and behaviour as a result of cognitive treatment only (Lindblom et al., 2017).

The result showed a low degree of SOC in both the treatment and control group prior to treatment. After treatment, the SOC increased to normal values in the treatment group, while the control group remained at its low level.

Further, the effect of 12-step treatment and no treatment, respectively, in the control group was analysed. There were no differences in the control group between participants receiving 12-step treatment or no treatment in the control group. In short, none of the conditions in the control group increased SOC. In the light of the low number of participants, the result should be treated with caution. In contrast to our result, earlier studies show that there is a positive correlation between increased SOC and 12-step treatment (Chen, 2006, 2010). Besides the low number of participants, a reasonable explanation to the result may be that the control group's 12-step treatment in outpatient treatment does not provide the same type of impact as in inpatient treatment. Another difference is that the control group's outpatient 12-step treatment took place in 7 weeks, while the treatment group's inpatient treatment took place in 4 weeks. However, the number of treatment hours was the same for both groups. The result can also be an effect of a simultaneous salutogenic effect on the treatment participants through both cognitive and 12-step treatment. Control group participants, in contrast, only received 12-step

treatment. Yet, an increase in SOC was shown with only cognitive treatment in the previous youth study (Lindblom et al., 2017). A further aspect is time. Chen and Gueta (2015) assume that a 12-step programme contributes to a better SOC and gradually decreasing negative affect in the long run. The most immediate change factor for increased SOC is therefore assumed to be the cognitive treatment with 'New Challenges'.

The result also shows that the degree of positive affect increased for the treatment group while remaining at the normal value level for the control group. No division was made of the control group regarding 12-step treatment or no treatment because comparison of pre- and post-measurement was non-significant for both of these sub-groups. No significant differences in negative affect were found after the treatment. Both the treatment and control group bordered on increased values of negative affect. The result can be interpreted to mean that the treatment increased positive feelings while the negative feelings remained constant on the border of increased level for both groups during the measuring period. The non-decrease of negative feelings can be assumed to relate to the fact that neuroticism (i.e. negative affect) is characteristic of the target group criminals and difficult to change with increased age (Ellison, 2006; Van Dam et al., 2005).

Finally, the programme quality was assessed to be good by the participants. The average quality index was 4 (out of 5). Test with Cronbach's alpha showed that the scale has a high internal consistency. The assessment applied to both during and after the programme. There were no differences in the assessment of programme quality for the 11 participants that withdrew from the programme after the first week and the participants that completed the 6-week programme. The 11 participants who withdrew after the first week did so because they had completed their time at the inpatient care. It is not uncommon that certain participants are in for only 1 week in group treatment. This has to do with how often the programme is run in the unit. The participants' scheduled time at the inpatient facility is sometimes over before they have completed a second week. The result can be interpreted to indicate that the clients' assessment of programme quality does not vary during the programme for clients who complete their whole treatment period. On the other hand, there is no information on how the five clients who chose to withdraw from treatment before the end of the first week assessed the programme.

There was, however, a correlation between programme quality and the outcome variables SOC and positive affect. The client-assessed quality increased with increased SOC and increased positive affect. There was also a positive correlation between the last mentioned variables. As the effect sizes were small and medium sized, the result must be treated with caution. A possible interpretation is the good quality of the treatment in terms of therapeutic relationship, pedagogical skills and methodological competence, which contribute to positive affects and a more salutogenic self- and world-image. Regarding the factors SOC and positive affect, the result is in line with the result of previous research, which indicates that a greater client satisfaction is combined with greater alleviation of symptoms (Clifford Attkisson & Zwick, 1982). There was also a correlation between reduced criminal thinking and increased SOC. An interpretation can be that a more salutogenic image of self and the world correlates with reduced criminal thinking but without a causal relationship. In conclusion, the high number of participants completing the programme is assumed to support the positive results regarding

programme quality. Only five participants chose themselves to withdraw. A contributing factor to the high number of participants completing, however, can be that some clients were in inpatient care and would have been sent back to prison if they had chosen to withdraw. We have no information about the number of participants who were reintegrated from prison in the inpatient care.

There was also a difference in terms of dropouts in the treatment and control group, which might have slightly influenced the results. While only five participants in the treatment group chose to withdraw, 11 participants in the control group chose to do so. Primarily, the difference is assumed to be an effect of the better circumstances provided for the programme leaders to maintain a continual contact with the participants than the contact persons at the control units. The control units also had a harder time recruiting participants because of the low inflow of individuals meeting the inclusion criteria. This affected the size of the control group. There is also a difference between how alcohol and drug abuse was checked in the treatment group and the six persons in the control group who did not partake in any treatment. Instead of urine screening, the contact persons, who had past experience of chemical addiction and criminality, used their experience-based knowledge which makes it difficult for participants to hide using alcohol or drugs. According to KRIS policy, their members are not allowed to use alcohol, drugs or addictive pharmaceuticals. The contact persons' special knowledge, the KRIS policy and the relatively short measure period are substantially assumed to be as safe as urine screening. If no-treatment participants had used alcohol or drugs, the result would have shown a higher degree of PICTS and a lower degree of SOC in comparison with the 12-step control participants. The control group participants in the 12-step programme were screened according to the guidelines in Swedish addiction treatment. However, there were no significant differences.

Another difficulty concerning the reliability of the study is that only self-screening instruments were used. Therefore, we were unable to compare the distribution of offence and verdict between the groups. These variables have often been correlated with crime relapses and therefore frequently reported (Fridell & Hesse, 2005; Lipsey, Chapman & Landenberger, 2001; Tong & Farrington, 2004). However, Fridell and Hesse (2005) emphasized that criminal thought patterns, norms, and affects are often ignored, although it has been shown that these variables predict crime relapses. Therefore, our focus was on these factors instead of the common outcome measures.

In subjective reporting, there is also a risk that the results would be influenced by the participants wishing to please (Bryman, 2002). It is also well known that there is a placebo effect in subjective reporting, which is influenced, *inter alia*, by the attendant's attitudes. Factors in the treatment can therefore have contributed to the improved results. One such factor is that there is often a recognition factor between participants and therapists, as the therapists often have a background in abuse and crime. However, in the youth study by Lindblom et al. (2017), the therapist's background varied, but the results were still positive. The therapists both in the previous and in the present study were committed and could convincingly communicate the lifestyle model. The improvement can therefore be seen as part of the general process factors described by Frank and Frank (1991), namely an emotionally charged and confidential relationship with the therapist, a particular arrangement for treatment, a theory that provides a way of change and a method that both therapists and participants are involved in and believe in. The

relapse analysis of the previous youth study also confirms that the results are maintained over time. This contradicts that the treatment effect to a greater extent would be a result of the participants' willingness to please or the attitudes of the therapists would have contributed to a placebo effect.

Motivational level of the participants in the treatment group can be discussed, even though it is difficult to estimate. Participants in the treatment group consisted both of persons who were chosen by the Correctional System, as well as of persons who sought the treatment by themselves. Persons at risk to be put back to prison in case of non-compliance to the treatment programme are not necessarily more motivated to treatment than the other participants. One possibility may be that they adopt the treatment with no depth and thus avoid the prison. Even the motivation of the persons who sought the treatment by themselves can be questioned. Reasons for participation can be other than the will to quit the criminality, e.g. a pressure from the relatives or difficult life circumstances (i.e. escape due to threat, dispossession, etc.). In general, there is a lack of motivation to change (Levander, Adler, Gefvert, & Tuninger, 2008). Persons with anti-social personality characteristics often prefer simple solutions instead of proposals implicating own responsibility and own efforts (Ekselius, Isaksson & Luciano, 2006).

Further, the distribution of age, gender, ethnicity, creed, level of education and previous treatment was similar across the groups, but due to the low number of participants an analysis of these variables was not deemed meaningful. The sociocultural context of the control unit is in agreement with the Swedish general population, with approximately 16% foreign-born citizens (Statistiska central byrån, 2018).

The result of the study can be considered to be valid for Swedish men in their thirties in the advanced phase of criminality, according to Walters' (1990) definition. The main results regarding reduced criminal thinking and increased SOC show the same trend as the results from the youth studies (Lindblom et al., 2017). Both studies show substantial effectiveness despite low number of participants. The present adult study, however, displays the effect in a shorter time (6 weeks) compared with the youth study (M = 17 weeks) (Lindblom et al., 2017). The adults, however, have had a higher dose of treatment in terms of treatment hours (M = 100) compared with the young people (M = 20). The adults, however, were in the advanced phase of criminality, while the young people were in a pre-criminal or the early phase, which motivates the difference in treatment hours, according to the risk-need-responsitivity model (Andrews, Bonta, & Hoge, 1990; Andrews, Bonta, & Wormith, 2011). Similarly, the result of the present study corresponds with the youth study regarding SOC (Lindblom et al., 2017). Although the studies differ in terms of treatment form (individual and group) as well as in intensity, frequency and duration, the results still indicate that the programme affects the intended factors and target groups. The most probable direct change factor for reduced criminal thinking and increased SOC for the treatment period is assumed to be the cognitive intervention programme 'New Challenges'. The 12-step programme is presumed to have a more indirect and long-term effect and to be of importance for the sustainability of new thinking and new lifestyle. This assumption is supported by Holmberg and Öberg (2012) who shows positive results against relapse into crime both for cognitive and 12-step treatment. Greatest differences were shown for the sub-population of men above 30 years of age who after the intervention also finished outpatient care during 4½ months. In this longer treatment setting, it looks like 12-step

treatment might be more effective compared to cognitive treatment, even though the design of that study was not specifically aimed for this comparison. Therefore, these results might be tentative.

An issue for further research may be to investigate the combined 12-step programme and cognitive intervention compared with only cognitive intervention and only the 12-step programme. A relevant future research focus would therefore be to investigate a larger number of participants over a longer period, investigating both self-reported psychological factors and records of previous culprits, number of convictions, types of crimes and recurrence rate after treatment.

Furthermore, research on rehabilitation efforts for criminals has overruled psychological factors such as criminal thinking and personality variables (Fridell & Hesse, 2005). Current research on personality organization relates the criminal thinking primarily to antisocial personality disorder (Bulten et al., 2009) and psychopathic personality traits (Mitchell & Tafrate, 2012). One common opinion is that the target group is not vulnerable to loss or in need of interpersonal intimacy, and treatment interventions that change the personality structure show poor results (Brody & Rosenfeld, 2002). However, these ideas have been questioned because the development of treatment efforts has been hampered by the relatively limited knowledge of how these individuals perceive themselves and the world. The treatment programmes that are used today in lifestyle criminality are based on a cognitive or cognitive behavioural therapeutic perspective (Kriminalvården, 2014; Lipsey et al., 2007). The 'New Challenges' programme focusing on challenging the criminal thought patterns is therefore assumed to contribute to a cognitive understanding that can help the client to change his behaviour (Bergstrom, 2012; Lindblom et al., 2017). Therefore, if the psychological factors that predict crimes are scrutinized more in research, this may contribute to better-tailored treatment programmes for the target group.

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III

SALUTOGENESIS AS A MEDIATOR IN DECREASED CRIMINAL THINKING: AN EVALUATION OF COGNITIVE PROGRAMS FOR JUVENILE AND ADULT OFFENDERS

by

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ABSTRACT

This study is based on two previous studies that showed a post-treatment decrease in total criminal thinking and an increase in total sense of coherence (SOC) among youths and adults. The current study utilized Walters' (1992) cognitive theory of criminality to investigate whether these interventions decreased the sub-scales of criminal thinking (PICTS) and increased the sub-dimensions of SOC. We were especially interested in investigating whether a decrease in criminal thinking would be mediated by an increase in SOC. The study included 17 treatment participants and 14 controls from a youth program and 32 treatment participants and 11 controls from an adult program. For the youth offenders, the treatment significantly decreased most sub-scales of criminal thinking and increased SOC. But SOC did not mediate changes in the participants' criminal thinking. For the adults, we observed a decrease in criminal thinking in all of the sub-scales and an increase in SOC. Interestingly, changes in the SOC sub-dimension of manageability mediated the decrease in criminal thinking among the adult offenders.

Keywords: salutogenesis, criminal thinking patterns, mediation effect, cognitive treatment programs, evaluation

INTRODUCTION

Offender rehabilitation: From a risk focus to an understanding of the importance of protective factors

The accumulated knowledge in the field of interventions involving juvenile delinquents shows that psychological treatment methods that have most consistently shown a positive effect on reducing relapse are family-based interventions and cognitive behavioral therapy (Dowden & Andrews, 2003). Furthermore, based on prison studies, cognitive therapy and cognitive behavioral therapy are the treatment methods with the most positive effects on adult men involved in long-term criminality (Öberg & Holmberg, 2008; Ward & Brown, 2004). However, these methods are less effective in prison settings because of fellow-inmate group processes that inevitably result in conformity to criminal norm systems (Fridell & Hesse, 2005). Researchers (e.g., Fridell & Hesse, 2005) have also pointed out that research on criminal rehabilitation effects seldom includes variables such as criminal thinking patterns, antisocial norms and attitudes, and personality variables (i.e., negative affect). This is noteworthy because these variables can be important predictors of recidivism.

Today, the dominant interventions in the field of offender rehabilitation are based on the risk–need–responsivity (RNR) model (Ward & Brown, 2004), where the main question revolves around whom to target on the basis of the likelihood of an individual reoffending. Rehabilitative interventions should be offered to moderate high-risk cases, while low-risk cases should receive minimal or less intensive interventions. Interventions should focus on identified criminogenic needs rather than needs that are not related to offending behaviors. Responsivity refers to the manner in which the treatment should be delivered. General responsivity promotes the use of cognitive social learning methods aimed at influencing behavior, while specific responsivity provides that interventions should be tailored to the strengths of the individual. Despite the benefits of this model, Ward and Brown (2004) argue that criminal behavior is complex and arises when people lack the internal and external resources necessary to achieve their life goals by prosocial means. Thus, interventions should not only focus on reducing the risk of recidivism but also on increasing general well-being and protective factors. In positive criminology, the focus on developing inner and outer protective factors, such as salutogenesis and salutogenic value systems—factors that support human health and well-being—and positive affect are essential (Ronel & Elisha, 2011).

Previous studies of programs focusing on both risk and protective factors

In recent years, various treatment programs have been developed in the field of offender rehabilitation, such as the Swedish treatment programs A New Direction for young people and New Challenges for adult men (Bergström, 2012). These programs are based on Walters' (1992) cognitive theory of criminality as a lifestyle. The theory also emphasizes the importance of the development of internal value systems (i.e., salutogenic value systems) that run contrary to pathological criminal thinking (Walters, 2002). These programs are run in Sweden and are intended for lifestyle criminals in substance abuse care outside the prison system; they have also been evaluated in two clinical studies with a quasi-experimental design (Lindblom et al., 2017, 2018). The main focus of these studies was the programs' impact on criminal thinking and sense of coherence (SOC; the capacity to deal with everyday life stressors) as salutogenic factors. The results showed that criminal thinking patterns were reduced, and SOC increased among both youth and adult offenders. The youth study comprised an individual treatment lasting 18 weeks and included participants from 14 to 21 years. It found that the participants' criminal thinking patterns decreased from high levels (M = 63.47) to levels corresponding with those of the normal population (M = 49.64). The adult study—which included participants from 19 to 60 years and examined both individual and group treatments over six weeks—showed the same trend. The program reduced criminal thinking patterns from very high levels (M = 78.77) to values nearing those of the normal population (M = 54.42).

From evidence-based care to process-based holistic health: The role of protective factors as mediators of change

In the two previous studies, we examined the programs A New Direction and New Challenges by looking at changes in the total score for criminal thinking (PICTS) and salutogenesis (SOC), respectively. The studies aimed to be a first step in the process of investigating the quality and effectiveness of the programs. Evidence-based cognitive therapy and cognitive behavior therapy have traditionally applied different interventions for different diagnoses (Hofmann et al., 2012). However, current research in psychological disorders have raised concerns over the validity and usefulness of the diagnostic categories and whether symptoms can be grouped as the diagnostic systems suggest (Capsi et al., 2014). Therefore, at present, attention is increasingly focused on moderators and mediators of change and the construction of intervention models that emphasize the role of changeable transdiagnostic processes (Hayes & Hoffman, 2017). Psychological and mental health are not solely the absence of disorders. As a purely syndromic focus weakens and a process focus strengthens, human

psychological prosperity and the thriving of whole persons, not merely psychopathology, are also becoming more central. These changes in the approach to mental health and diagnosis are accelerating the transition from evidence-based care toward a process-based field that seeks to integrate the full range of psychosocial and contextual biological processes.

Previous research on mediators of criminality

It is important to increase knowledge of the variables that mediate the effect of treatments of antisocial characteristics such as criminal thinking, numbing of emotions, aggression, impulsivity, and recidivism. For youth offenders, the salutogenic concept of SOC, measured using the SOC-13 scale, has shown sensitivity to antisocial and rule-breaking behavior (Ristkari et al., 2009). Low SOC values have been shown to correlate with high levels of criminal offences. In relation to juveniles, SOC is considered crucial for information processing in resolving conflicts and coping with enduring stress and has been shown to be a mediator between violence exposure and psychopathology. Koposov (2003) found that SOC partially mediated the link between victimization and psychopathology; the direct relationship between victimization and psychopathology decreased in size, suggesting that higher SOC levels can potentially reduce the level of psychopathology. These results are meaningful for clinical work as they suggest that preventive and therapeutic interventions should aim to increase SOC, which might be especially valuable for at-risk populations. However, a high SOC has also been related to the tendency among juveniles to turn to substitute activities as a means to cope with stress. Konaszewski and Niesiobędzka (2021) sought to determine the role of SOC and ego-resiliency as buffers for maladaptive coping among juveniles with varying levels of delinquency. The results showed that stronger levels of SOC meant that juveniles had a lower tendency to cope with stress by reducing emotional tension and, instead, turned to substitute activities. Thus, these findings reveal the deleterious effects of a lack of ego-resiliency.

In terms of adult criminals, we did not find research on the mediating effects of SOC on antisocial characteristics or recidivism. SOC determines how a person handles stress (Antonovsky, 1987). During stressful episodes, cognitive flexibility is reduced, which increases the risk of acting on the basis of habitual behavioral patterns; for criminals, this means lowered self-control (Bunker, 2011; Goldfarb et al., 2017). Although there is a lack of research on SOC and adult criminal behavior, there is some research on the concept of self-compassion, which is closely related to SOC. They both reflect one's coping capacity to deal with everyday life stressors. Morley et al. (2016) found that self-compassion was correlated with self-control, self-esteem, and social connectedness and was related to all six sub-scales of self-control. However, only low impulsivity predicted self-compassion. Furthermore, Morley (2017) found that self-

compassion, criminal impulsivity, and length of practicing mindfulness meditation were all connected. The results also showed that the relationship between practicing mindfulness meditation and self-reported criminal impulsivity was mediated by self-compassion. Thus, the current state of research raises the questions of whether factors that support health and well-being can mediate criminal thinking, which, according to Fridell and Hesse (2005), is a predictor of offences, and how the various salutogenic factors interact with the different patterns of criminal thinking. Further, very few studies have investigated whether there are differences between young and adult offenders regarding these aspects and how this knowledge could improve treatment.

Aim of the study

In our previous studies (Lindblom et al., 2017, 2018), we showed that intervention programs based on Walters' (1992) cognitive theory had a positive effect on general criminal thinking and SOC among both younger and older offenders. However, these studies did not specifically investigate which dimensions of criminal thinking and SOC were impacted and whether the effects were similar among younger and older offenders. Further, these studies did not aim to understand the possible mechanisms through which the intervention programs affected the outcome.

The purpose of the present study was to examine whether interventions for young offenders—A New Direction—and adult offenders—New Challenges (Bergström, 2012)—based on Walters' (1992) cognitive theory of criminality decreased the sub-dimensions or areas of criminal thinking (PICTS) and increased the distinct elements of SOC. Based on our earlier findings we expected that the changes in PITCS and SOC are larger in the treatment groups compared to the controls. Second, the aim was to investigate whether the decrease in criminal thinking was mediated by the increase in the SOC total score and the components of SOC among the young and adult offenders, respectively. If so, in both groups, is there a mediation effect that is similar?

MATERIAL AND METHODS

Participants

The current study is based on two previous studies in which participant recruitment and method are described in detail (Lindblom et al., 2017, 2018). The study involved voluntary participation and was approved by the regional Ethical Board in Uppsala (approval numbers 2012/075, and 2014/075). The treatment

groups were recruited from treatment facilities that run the Swedish treatment programs, and control groups were recruited from peer associations (non-profit organizations where former criminals and addicts help each other back into the society). The inclusion criteria were to be 13–21 years old for the youth participants and 19 years or older for the adult participants, not currently abusing drugs and alcohol, and being in the early and pre-stages of their criminal career for the youths and the advanced or burn-out stages for the adults (as defined by Walters, 1992). The inclusion criteria were clear urine tests and completed self-report measures, including the Lifestyle Criminality Screening Form, an assessment of psychosocial history, the Psychological Inventory of Criminal Thinking Styles (PICTS), and an assessment of the phases of drug dependence (Bergström, 2004, 2006; Gorski & Miller, 1993). Only participants reporting a PICTS total score over 50 (the cut-off point for criminal thinking) were included. The exclusion criteria for the groups were environmental crime, traffic fines, financial crime involving companies, and sexual crimes. Individuals who attended the facilities for a defined period of time and met the inclusion criteria could participate.

In the youth multiweek treatment group, there were 17 participants and a further 14 in the control group, the majority of whom were boys. The treatment group received individual treatment for an average of 18 weeks. The adult multiweek treatment group comprised 32 participants, with an additional 11 in the control group, all of whom were male. The treatment group received treatment for an average of six weeks, including one week of cognitive group treatment, four weeks of individual cognitive treatment combined with a twelve-step treatment, and one week of cognitive group treatment. Six of the participants in the control group received no treatment at all, and five of them received a twelve-step treatment comparable to that of the treatment group (but no cognitive group and individual treatments; see figure 1–2 on the recruitment of participants for the studies). The participants' background data are described in Table 1.

Please insert Table 1 about here

Procedure

Initially, the program leaders of the treatment groups and the contact persons of the control groups were informed about the studies and consented to participate, see Figures 1 and 2. The program leaders and contact persons then contacted youths and adults who met the inclusion criteria to participate. The inclusion criteria were determined verbally or in writing through Bergström's (2006) self-

report instrument for youths and Bergström's (2004) self-report instrument for adults. Chemical addictions among the participants in the treatment groups were treated before starting the program. Also, the participants were informed about the studies in accordance with ethical principles and consented verbally and in writing to participate (guardian's consent if the youth was under 18 years of age). The participants of the treatment groups then answered the PICTS and SOC-13 questionnaires before and after the treatment. On the first occasion, they also filled out their demographic information. The same procedure was performed with the participants in the control groups.

Please insert Figures 1 and 2 about here

Treatment

The youth treatment involved 13 mandatory sessions over 18 weeks, totaling 20 hours or 1.5 hours per session. The treatment for the youth offenders (A New Direction) applied a cognitive approach and components of family interventions. The adult treatment (New Challenge) involved 15 mandatory sessions distributed over the first and sixth weeks. The adult treatment also involved one to four of these sessions during the individual treatment period of four weeks. In total, the adult program involved 100 hours distributed over an average of 17 sessions for six weeks, approximately six hours per session. The treatment for older adults applied a cognitive approach with existential components. The session themes were similar to those of the youth program. The program leaders who participated in the study had a basic education in social work at the upper secondary or post-secondary level and an eight-day education program. Appendix 1 and 2 present additional information about the program sessions and their content, the criminogenic factors addressed in the sessions, and the psychological tools taught in the sessions.

Measurements

PICTS

The PICTS questionnaire was used for both the youths and adults (the juvenile version was used for the youths). The PICTS measures criminal thinking patterns and consists of 80 items on a four-level Likert scale. The scores show the values for eight thinking patterns, and the total value shows the general degree of

criminal thinking (GCT). According to Walters (1992), criminal thinking patterns are defined as an integration of negative irrational thoughts (thought errors) and various types of denial and distortions of reality (pathological coping strategies), which can be described as follows: mollification (Mo), that is, finding explanations as excuses for crime; cutoff (Co), which has to do with thought strategies that block fear and sharpen focus; entitlement (En), that is, the self-image of being entitled to violate the rights of others and take what you want; power orientation (Po), that is, controlling others and the surroundings; sentimentality (Sn), that is, justifying one's crimes with good deeds; superoptimism (So), which concerns overestimating one's ability; cognitive indolence (Ci), which is about making the easiest choice in the moment and ignoring long-term consequences; and discontinuity (Ds), which implies thoughts jumping from one association to another, making it difficult for others to follow. In the two studies, the individual GCT and sub-scale scores were used in the statistical analyses. The lowest value was 32 and the highest 104. The cut-off point for criminal thinking was > 50. The test is a validated instrument with moderate to moderately high internal validity and reliability (Palmer & Hollin, 2004a; Walters, 2002). The GCT scale is the most reliable PICTS scale for predicting further criminal behavior (Walters, 2012).

SOC

The SOC-13 questionnaire was used to measure salutogenesis for both the youths and adults. The SOC-13 is an abbreviated version of the original 29-item scale (SOC-29) and comprises 13 items on a seven-level Likert scale (Antonovsky, 1987). The instrument is useful for respondents from 13 years of age. The score shows the value of three factors (comprehension, manageability, and meaningfulness) and a total value for SOC. Meaningfulness (Me) means a sense of meaning regarding what occurs, which makes problems easier to master. Meaningfulness is the emotional and motivational aspect of SOC, which increases when the individual is actively involved in social situations. Comprehensibility (C) is about our ability to understand our situation and, to some extent, be able to predict what might happen. It is the cognitive aspect of SOC and is developed through predictable social interaction that makes the individual aware of the connections in social relationships. Manageability (Ma) is about having the right resources available to solve our problems. Manageability is dependent on comprehensibility, in that the individual needs to understand an event in order to act adequately. Contrary to the pathological coping strategies of criminal thinking, Antonovsky (1987) describes the salutogenic perspective as an approach to life that leads to functional coping strategies. The individual total SOC scores and factor scores were used in the statistical analyses. The lowest total SOC value was 13, and the highest was 91. The Swedish translation of the SOC-13 has shown good internal consistency, close to the high internal consistency of the Swedish translation of the SOC-29. Cronbach's α was .89 for the SOC-13 and .93 for the SOC-29 (Olsson et al., 2009).

Data analysis

A two-way mixed ANOVA ("split plot") was used to analyze changes in criminal thinking patterns (PICTS) and SOC, respectively, with a post hoc analysis using the Tukey HSD test for the youths and the Bonferroni test for the adults. The SPSS syntax for mediation was used to analyze whether increases in SOC and SOC factors mediated a decrease in criminal thinking (see results for more details). All statistical analyses were performed with the alpha level set to .05. Based on our earlier findings we made one-sided hypotheses. The change score correlations were calculated for PITC and SOC. The correlations were defined as $r > 0.50$ strong, $0.50 > r > 0.30$ moderate, and $r < 0.30$ weak (Kraemer et al., 2003). Effect sizes (ESs) were reported using Cohen's d. The corrected between-group ES was calculated by dividing the mean difference in the change between the intervention and control groups by the pooled standard deviation of the pre-measurement. To interpret Cohen's between-group d, an ES of 0.20 was considered small, equal to or above 0.50 moderate, and equal to or above 0.80 large (Cohen, 1988).

RESULTS

Changes in criminal thinking

We observed significant interaction effects among both the youth and adult offenders regarding most of the criminal thinking patterns (PICTS, Table 2), suggesting that criminal thinking decreased significantly more in the treatment groups compared to the control conditions. Only sentimentality (PICTS) and superoptimism (PICTS) among the youth offenders showed no significant difference compared to the control groups. The between-group ESs showed large differences ($d > 0.80$) between the treatment and control groups among both the youth and adult participants.

Please insert Table 2 about here

Changes in the sense of coherence

Among both the youths and adults, there was a significant interaction effect regarding total SOC and the factors of meaningfulness and manageability. This suggests that SOC increased significantly more in the treatment groups compared to the control conditions, except in relation to comprehensibility. The between-group ESs showed moderate differences ($d > 0.50$) between the treatment and control groups among the youth participants regarding total SOC, large differences ($d > 0.80$) regarding meaningfulness, and small differences ($d < 0.20$) regarding manageability. The between-group ESs showed large differences ($d > 0.80$) between the treatment and control groups among the adult participants regarding total SOC and manageability and close to a large difference in terms of meaningfulness.

Please insert Table 3 about here

Mediation effects

We first performed correlations between changes in criminal thinking (PICTS) and changes in the potential mediator (SOC). A Pearson correlation analysis showed no significant correlations between the change scores for SOC, including SOC factors, and between the change scores for PICTS, including PICTS sub-scales, for the youth treatment group. Thus, changes in PICTS were not significantly associated with changes in SOC. However, for the adult treatment group, there was significant change–score correlations among all the sub-scales of PICTS, except superoptimism and the SOC total score. Further, among the adults, the changes in the PICTS total score correlated significantly with changes in the SOC sub-scales of comprehensibility and manageability. Also, changes in the SOC sub-scales of comprehensibility (C) and manageability (Ma) correlated highly ($r > 0.50$) or moderately ($0.50 > r > 0.30$) with changes in most of the PITCS sub-scales. Thus, larger increases in SOC were associated with larger decreases in criminal thinking (see Table 4).

Please insert Table 4 about here

An SPSS mediation analysis shown that, for the youth participants, the decrease in PICTS (total) was not mediated by an increase in SOC or any of the sub-factors. However, for the adults (Table 5), a decrease in PICTS was mediated by an increase in the SOC total scores (with a 31.50% mediator effect); more precisely, an increase in the SOC sub-factor manageability mediated a decrease in PICTS (with a 32.18% mediator effect). No other mediators were found.

Please insert Table 5 about here

DISCUSSION

Various treatment programs for offenders have recently been developed in the field of positive criminology (Ronel & Elisha, 2011). This perspective broadens traditional criminology, which is primarily aimed at understanding the risk factors and processes leading to criminal behavior by focusing on protective health and well-being factors, such as salutogenics (Ronel & Elisha, 2011). Examples of programs that combine this risk and protective focus are the following Swedish cognitive programs: A New Direction for young people who are at risk of developing a criminal lifestyle and New Challenges for adult men with a criminal lifestyle (Bergström, 2012). These programs have been shown to decrease criminal thinking and increase SOC as a salutogenic factor (Lindblom et al., 2017, 2018). The current study further investigated whether treatment through the programs (A new Direction and New Challenges) also impacted sub-factors of criminal thinking and SOC. Further, the study examined whether an increase in SOC mediated a decrease in criminal thinking.

The results showed that the cognitive programs produced positive changes in total criminal thinking and all the sub-scales except sentimentality and superoptimism among the youth. We also observed positive changes in total criminal thinking and all the sub-scales among the adult participants. Several studies have sought to identify which sub-scales of criminal thinking (PICTS scales) are predictors of future behavior. However, the results have varied by population. For example, among male offenders in North America, only the cut-off scale showed a relationship with future reoffending, which was of marginal significance (Walters, 1997). In contrast, Walters and Elliott (1999) found a moderate relationship between the sentimentality scale and reoffending among female offenders but not among male offenders. Using a sample of English male prisoners, Palmer and Hollin (2004b) reported a moderate relationship between the superoptimism scale and reconviction. The results of our study showed that, during the treatment, this scale did not decrease among the youths, suggesting that unrealistic thinking persisted, thereby posing a risk of future reoffending.

Nevertheless, previous studies have shown that it is primarily the total PICT scale that predicts recidivism (Walters & Lowenkamp, 2016). Regarding SOC, there were a significantly change in total SOC, meaningfulness and manageability for both youths and adults in the treatment groups compared to the controls. For the adults, however, the intervention had a significant greater impact on these factors compared to the control group. The between-group ESs showed large differences ($d > 0.80$) between the treatment and control group regarding total SOC and manageability. Thus, the treatment programs did have a significant impact on all aspects of SOC except comprehensibility among both youths and adults.

Regarding the results related to the second research question of whether changes in criminal thinking were mediated by changes in SOC, we first observed that changes in criminal thinking were associated with changes in SOC among both young and adult offenders. For the youths no mediations effect was found. But for the adults, the decrease in the total score for criminal thinking was mediated by the increase in the total SOC score. In particular, the increase in the manageability factor mediated the decrease in the total score for criminal thinking. There could be several reasons why changes in adults criminal thinking were mediated by changes in SOC while no mediation effect was observed for the youth. One could be the small sample size, especially among the youth group. Second, the treatment for adults involved more hours compared to the youth treatment (100 hours vs. 20 hours). This difference could indicate that although the treatment of younger offenders had a positive impact on criminal thinking, it did not significantly increase their SOC (the protective health and well-being factor), raising the possibility that more intensive training might be needed. Furthermore, it is possible that different mechanisms could explain changes in criminal thinking among younger and older criminals. According to Konaszewski and Niesiobędzka (2021), a high SOC among juveniles could lead to maladaptive coping by turning to substitute activities. Thus, ego-resiliency may increase criminal activity among juveniles instead of being a protective factor. Nevertheless, low SOC values have been shown to correlate with high levels of crime among juveniles (Ristkari et al., 2009). In clinical work, this could suggest that the aim of preventive and clinical interventions should be to increase SOC if it is low but not if it is within the normal range. Another factor is whether the items measuring the manageability factor in the SOC scale have different levels of significance for the youths and adults. This factor is supposed to measure the individual's experience of having the resources and strategies to deal with different situations and events in a constructive way. However, this could have a different meaning for youths and adults. Youths are dependent on support and guidance from adults, while adults have experiences that can contribute to greater coping skills. This difference could be reflected in the results.

Another possible reason for the difference in the mediation effect between the youth and adult participants could be the difference in treatment programs. Unlike the youth program, the adult program comprised skills training, thereby

raising the question of whether the youth program would have yielded a greater effect if skills training sessions had been incorporated. Another question is whether the combined twelve-step treatment affected the manageability factor among the adults. According to Antonovsky (1987), manageability is about having the right resources available to solve our problems. For our target group, manageability can be obtained by having the basic needs met in a prosocial way to be able to function in society, as suggested by the Good lives model (GLM; Ward & Brown, 2004). The GLM is grounded in the ethical concept of human dignity and universal human rights and places a strong emphasis on human agency. Thus, it is concerned with individuals' ability to formulate goals and plans and to act freely in implementing them. To do this, however, you have to know how, including knowhow related to practical everyday things such as how to act among other people; how to make non-criminal friends; how to get help with debt relief; how to plan your finances and follow the planning; how to get a mobile bank ID; how to apply for and complete an education or get and keep a job and declare your income; how to apply for housing; how to take care of your home by paying the rent, cooking, cleaning, washing, and installing Wi-Fi; finding out what you like doing in your leisure time; and how to take care of your mental and physical health. Since the adult group also received a twelve-step treatment, unlike the youth group, the question is whether these skills were learned by socializing in the twelve-step groups with people in the same life situation who have come further in terms of being part of society. Further research is needed to examine this question as well as the process factors that mediated positive effects in the youth program.

Summary

In summary, the treatments, which were based on the cognitive theory of criminality, decreased criminal thinking among both the youth and adult participants with a history of committing criminal acts. Furthermore, the treatment significantly increased total SOC and the sub-factors of meaningfulness and manageability among both youths and adults. Though, among the older participants, the treatment had a greater impact on both total SOC and especially the sub-scales of manageability. The mediation analysis showed that, for the adults, the total score for SOC and especially the sub-scale of manageability mediated the decrease in criminal thinking. Thus, manageability seemed to be an important factor leading to change in criminal thinking in the adult group. However, in the youth group, we were unable to identify mediators for the decrease in criminal thinking.

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APPENDIX 1 Description of the youth program A New Direction.

Program sessions	Session content	Criminogenic factors* addressed in the session	Psychological tools taught in the session
1) How's it going?	-Information about the program -The youth's description of his crimes and the perception of crime in the family	-Awareness of the youth's criminality and the family members' view of the youth's criminality	-Psychoeducation -Communication
2) Change and to change	-The result of the URICA test	-Awareness of degree of motivation -Antisocial cognitions -Antisocial personality pattern	-Psychoeducation
3) What do I want for my life?	-Pros and cons of crime -Goal formulations	-Motivation -Antisocial cognitions -Antisocial personality pattern	-Pros and cons analysis -Valued direction
4) The family as a group**	-Different perceptions in the family -Communication exercises	-Communication -Awareness and motivation of the parents -Parenting function	-Observe and describe feelings -Communication
6) The criminal career	-Information about the criminal development process	-Awareness -Antisocial cognitions -Antisocial personality pattern	-Psychoeducation
13-15) Criminal thinking patterns	-Information about criminal thinking patterns - Consequences of thought and behavioral patterns -Alternative thoughts and their influence on behavior	-Awareness -Problem-solving -Antisocial cognitions -Norm-breaking behavior	-Psychoeducation -Identification of thinking patterns -Behavior analysis
16) To set goals	-Goal prioritization -How crime hinders goal fulfillment	-Awareness -Motivation -Problem-solving	-Valued direction
23) What makes someone continue to commit crimes?	-Motives, own choices and responsibilities and how this affects the problem behavior	-Awareness -Antisocial personality pattern	-Psychoeducation -Identification of motives
26) Who suffers from crime? A) Victims of crime	-Consequences of crime for the victim, victim's family and friends and society -The victim's feelings	-Awareness -Antisocial cognition -Antisocial personality pattern	-Psychoeducation -Analysis of consequences -Observe and describe feelings
27) Consequences of crime B) Your own consequences	-Consequences of crime for the program participant -The participant's feelings	-Awareness -Antisocial personality pattern	-Psychoeducation -Analysis of consequences -Observe and describe feelings
28) Who suffers from crime – the relatives	-Consequences of crime for relatives -Relatives' feelings	-Awareness -Antisocial personality pattern	-Analysis of consequences -Observe and describe feelings
30) Leaving crime – Ending of the program	-Risk factors for recidivism -Maintenance plan	-Antisocial cognitions -Antisocial personality pattern -Norm-breaking behavior	-Maintenance plan: summary of risk situations and what tools the participant can use in these situations

* Crimogenic factors are the conditions in or around the individual that research has shown to be changeable and are considered central in the treatment focus in order to reduce recidivism (Andershed & Andershed, 2005). For youths, these factors are awareness and motivation, antisocial personality pattern, antisocial cognitions, rule-breaking behavior, linguistic ability and communication, problem-solving, parents' awareness and motivation, parental function, antisocial associates/peer influence, school affiliation, depression or self-harming behavior, and alcohol and drug use.
** The session is implemented if the parents participate in the program.

APPENDIX 2 Description of the adult program New Challenges.

Program sessions	Session content	Criminogenic factors* addressed in the sessions	Psychological tools taught in the sessions
2) Change and to change	-The result of the URICA test	-Antisocial cognitions -Antisocial personality pattern	-Psychoeducation
3-4) What do I want for my life?	-Pros and cons of crime -Goal formulations	-Antisocial cognitions -Antisocial personality pattern	-Pros and cons analysis -Valued direction
5 The criminal career	-Information about the criminal development process	-Antisocial cognitions -Antisocial personality pattern	-Psychoeducation
10) To stop taking drugs and commit crimes II	-Risk situations for crime and drug use	-Substance abuse -Antisocial cognitions -Antisocial personality pattern	-Behavioral analysis
11) Motives	-Information about motives -Identification of the client's own motives	-Antisocial personality pattern	-Psychoeducation -Identification of motives
13) Who are you?	-The client's view of himself, others, and society.	-Antisocial cognitions -Antisocial personality pattern	-Identification of amplifiers and extinguishers of criminal behavior
16) Thoughts, feelings, and behaviors	-The relationship between thoughts, feelings, and actions	-Antisocial cognitions -Antisocial personality pattern	-Psychoeducation -Functional analysis
17-18) Criminal thinking patterns	-Information about criminal thinking patterns and questions regarding recognition of criminal thinking patterns	-Antisocial cognitions	-Psychoeducation -Identification of thinking patterns
19) Thinking patterns – Test and exercise	-Test results and discussion about recognition of criminal thinking patterns	-Antisocial cognitions	-Identification of thinking patterns
23) Hope and faith	-The participant's prosocial values -Amplifiers and extinguishers of the problem behavior	-Antisocial cognitions -Antisocial personality pattern -Antisocial associates -Family and/or marital -School and/or work -Substance abuse	-Valued direction -Observe and describe emotions -Identification of prosocial values -Identification of amplifiers and extinguishers of the problem behavior
24) Goals and meaning – My values	-Differences between prosocial and antisocial values	-Antisocial cognitions	-Psychoeducation -Identification of antisocial values
25) Tactics to avoid responsibility	-Information about problem behavior -Identification and pros and cons of the participant's problem behaviors	-Antisocial personality pattern	-Psychoeducation -Identification of problem behavior -Pros and cons analysis
29) Criminal thinking patterns III	-Identification of previous and current criminal thinking patterns	-Antisocial cognitions	-Mapping of progress by identifying previous and current cognitions
32) Who suffers from crime?	-Consequences of crime for the participants, family and friends, victims, victims' family and friends, and society -Guilt as a sign of salubrity	-Antisocial cognitions -Antisocial personality pattern	-Psychoeducation -Analysis of consequences
50) Leaving crime – Ending of the program	-Risk factors for recidivism -Maintenance plan	-Antisocial cognitions -Antisocial personality pattern -Antisocial behavior	- Maintenance plan: summary of risk situations and what tools the participant can use in these situations

* For adults, following criminogenic risk factors is important to change in order to reduce recidivism: substance use, antisocial cognition, antisocial associates, criminal and/or non-caring and non-monitoring of family and marital relations, low employment performance and satisfaction, and low involvement and satisfaction in leisure and

recreational activities (Andrews, Bonta & Wormith, 2006; Bonta & Andrews, 2016). Reduced association with criminal family members also improves work performance and decreases alcohol use, leading to a greater reduction in offending (Wooditch et al., 2014).

TABLE 1 Descriptive data of the therapy and study participants, *N = 74.*

Age group	Group	Men/ Women	Age *(Md)*	Therapy wees *(Md)*	Number of individual therapy hours *(Md)*	Number of group therapy hours *(Md)*	Total number of therapy hours *(Md)*	Participants with current 12-step treatment	Participants with convicted before treatment	Total number of participants
Young	Treat-ment	15/2	17.8	18.0	20.0	-	20.0	-	11	17
	Control	13/1	18.0	18.0	-	-		-	6	14
Adult	Treatment	32/0	31.0	6.0	20.0	80.0	100.0	31	32	32
	Control	11/0	28.0	7.0	-	-		5	11	11

TABLE 2 Criminal thinking patterns (PICTS) with total and sub-scale scores (mean values and standard deviations) for youth and adults before and after the intervention.

Measure	Age group	Group	Pre m (sd)	Post m (sd)	F (df=1,29)[y] (df=1,41)[a] p – value	Effect size (d)
PICTS Total [1]	Young	Treatment	63.47 (8.40)	49.64 (9.58)	16.08 <.001***	1.69
		Control	66.36 (9.00)	67.21 (11.36)		
	Adults	Treatment	78.56 (7.55)	54.97 (11.44)	16.69 <.001***	2.48
		Control	71.46 (7.89)	67.00 (13.81)		
PICTS Mollification	Young	Treatment	61.06 (9.33)	47.00 (7.89)	16.83 <.001***	1.43
		Control	62.64 (10.68)	62.93 (9.47)		
	Adults	Treatment	77.97 (7.81)	56.94 (10.90)	15.14 <.001***	2.34
		Control	67.18 (8.72)	65.45 (16.38)		
PICTS Cut-off	Young	Treatment	62.94 (8.55)	49.41 (8.91)	17.27 <.001***	1.62
		Control	64.79 (9.69)	66.00 (7.53)		
	Adults	Treatment	71.75 (7.48)	53.56 (9.82)	14.63 <.001***	1.57
		Control	64.73 (11.11)	61.09 (15.42)		
PICTS Entitlement	Young	Treatment	62.91 (9.02)	42.12 (5.83)	18.60 <.001***	2.56
		Control	56.79 (9.99)	60.29 (14.16)		
	Adults	Treatment	77.00 (10.15)	54.75 (11.20)	18.05 <.001***	1.71
		Control	63.82 (11.05)	59.73 (12.71)		
PICTS Power orientation	Young	Treatment	58.94 (12.25)	46.41 (6.62)	12.74 .001**	1.37
		Control	64.50 (9.76)	67.07 (11.77)		
	Adults	Treatment	75.59 (15.26)	56.88 (13.24)	8.83 .003**	1.11
		Control	72.09 (11.46)	68.27 (15.63)		
PICTS Sentimentality	Young	Treatment	55.47 (9.25)	51.83 (4.80)	1.71 .202	0.50
		Control	52.93 (10.34)	54.14 (10.72)		
	Adults	Treatment	60.78 (8.45)	46.91 (10.94)	7.64 .005**	1.18
		Control	57.36 (9.91)	54.36 (9.92)		
PICTS Super optimism	Young	Treatment	59.24 (7.21)	54.53 (10.90)	1.20 .141	0.50
		Control	58.36 (12.25)	58.50 (13.36)		
	Adults	Treatment	71.63 (12.91)	56.34 (11.15)	3.94 .027**	0.87
		Control	71.36 (7.88)	65.09 (9.79)		
PICTS Cognitive indolence	Young	Treatment	61.76 (7.71)	50.65 (9.87)	10.99 .001**	1.56
		Control	63.57 (6.89)	63.86 (8.72)		
	Adults	Treatment	68.88 (7.53)	50.06 (8.97)	16.60 <.001***	1.85
		Control	62.91 (8.12)	58.55 (11.03)		
PICTS Discontinuity	Young	Treatment	61.65 (7.72)	50.71 (11.44)	9.42 .003**	1.15
		Control	63.79 (10.97)	63.57 (9.39)		
	Adults	Treatment	66.63 (9.55)	52.50 (9.23)	13.02 .001**	1.35
		Control	68.18 (11.08)	68.00 (14.83)		

F- and p-values and between-group effect sizes at post-intervention are also reported.
[1] Pre- and post- and *F* and *p* values for PICTS Total have been reported in Lindblom et al. (2017, 2018).
** $p < .01$, *** $p < .001$

TABLE 3 Sense of coherence, with before and after total scores and factor scores for each group.

Measure	**Age group**	**Group**	**Pre** m (sd)	**Post** m (sd)	**F** (df=1,29)[y] (df=1,41)[a] **p – value**	**Effect size** (d)
SOC Total 2	Young	Treatment	54.53 (12.68)	61.82 (10.10)	3.37 .039*	0.70
		Control	47.50 (10.57)	46.71 (6.83)		
	Adults	Treatment	43.48 (8.71)	55.71 (10.08)	6.13 .019*	1.26
		Control	50.09 (9.20)	51.00 (15.08)		
SOC Meaningfulness	Young	Treatment	17.53 (4.35)	21.00 (5.07)	4.08 .027*	0.82
		Control	15.86 (3.98)	15.93 (2.46)		
	Adults	Treatment	15.71 (4.29)	18.42 (3.36)	4.81 .017*	0.77
		Control	17.82 (2.99)	17.73 (4.67)		
SOC Comprehensibility	Young	Treatment	20.53 (6.47)	21.65 (5.06)	.332 .285	0.14
		Control	18.21 (4.63)	18.57 (4.54)		
	Adults	Treatment	15.83 (4.40)	20.61 (4.48)	.714 .202	0.42
		Control	17.46 (5.87)	20.09 (7.80)		
SOC Manageability	Young	Treatment	18.00 (9.25)	18.12 (3.64)	5.44 .014*	0.18
		Control	13.21 (3.47)	12.21 (3.36)		
	Adult	Treatment	11.94 (3.91)	16.68 (3.92)	7.31 .005*	1.83
		Control	14.82 (2.86)	14.09 (5.50)		

F- and p-values and between-group effect sizes at post-measurement are also reported (comparison of difference of pre- and post-measurements between the treatment and control).
[2] Pre- and post- and *F* and *p* values for SOC Total have been reported in Lindblom et al. (2017, 2018).
* $p < .05$.

TABLE 4 Correlations between change scores for SOC, including SOC factors, and change scores for PICTS, including PICTS sub-scales, for the treatment groups (n = 49).

Dependent variable	Group	SOC	Me	C	Ma
PICTS	Young	-0.22	-0.32	-0.11	-0.09
	Adult	-0.53**	-0.26	-0.44*	-0.51**
Mo	Young	-0.08	-0.02	-0.05	-0.06
	Adult	-0.54**	-0.22	-0.43*	-0.58**
Co	Young	-0.26	-0.38	-0.09	-0.17
	Adult	-0.54**	-0.37*	-0.43*	-0.46**
En	Young	-0.03	-0.25	0.17	-0.06
	Adult	-0.37*	-0.09	-0.29	-0.44*
Po	Young	-0.09	-0.26	-0.09	0.12
	Adult	-0.37*	-0.24	-0.17	-0.49**
Sn	Young	0.19	0.08	0.31	0.04
	Adult	-0.43*	-0.07	-045*	-0.38*
So	Young	-0.06	-0.17	-0.93	-0.00
	Adult	-0.32	-0.23	-0.16	-0.38*
Ci	Young	-0.42	-0.21	-0.45	-0.28
	Adult	-0.58**	-0.31	-0.53**	-0.48**
Ds	Young	-0.25	-0.08	-0.22	-0.24
	Adult	-0.40*	-0.24	-0.36*	-0.31

Total criminal thinking patterns (PICTS), mollification (Mo), cut-off (Co), entitlement (En), power orientation (Po), sentimentality (Sn), superoptimism (So), cognitive indolence (Ci), discontinuity (Ds).
Total sense of coherence (SOC), meaningfulness (Me), comprehensibility (C), manageability (Ma).
* $p < .05$, ** $p < .01$

TABLE 5 Mediator analyses.

Mediator	Age group	IV to mediators (a-paths) *Estimate* *p*	Direct effects of mediators (b-paths) *Estimate* *p*	Direct effects of IV on DV (c′-paths) *Estimate* *p*	Indirect effects (a x b -paths) Bias Corrected Confidence Intervals		Mediators effect
					Upper	**Lower**	
SOC	Young	-0.6374	-0.1995	1.0534	-0.0162	0.4029	-
		.0769	.2103	.0019**			
	Adult	-0.8189	-0.4577	0.8344	0.0708	0.9441	31.50%
		.0177*	.0009**	.0057**			
Me	Young	-0.6945	-0.2140	1.0320	-0.0109	0.5204	-
		.0526	.1831	.0024**			
	Adult	-0.7364	-0.1823	1.0750	-0.0261	0.5299	-
		.0341*	.2051	.0016**			
C	Young	-0.2102	-0.1147	1.1565	-0.0453	0.2631	-
		.5691	.4534	.0006**			
	Adult	-0.4550	-0.3927	1.0306	-0.0488	0.5737	-
		.1985	.0031**	.0007**			
Ma	Young	-0.7853	-0.1567	1.0575	-0.1845	0.5785	-
		.0269*	.3431	.0027**			
	Adult	-0.8836	-0.4481	0.8134	0.1046	1.0432	32.18%
		.0100*	.0014**	.0082**			

Significant mediators are indicated by significant indirect a x b –paths (95% confidence intervals, not including zero). IV to mediators (a-paths) represent the impact of the treatment on SOC. The direct effects of mediators (b-paths) represent the extent to which the mediator (change in SOC) affects changes in PICTS. The direct effects of IV on DV (c-paths) represent the partial effect of treatment on PICTS, adjusted for the effects of the mediator.
Total sense of coherence (SOC), meaningfulness (Me), comprehensibility (C), manageability (Ma).
Total criminal thinking patterns (PICTS).
* $p < .05$, ** $p < .01$

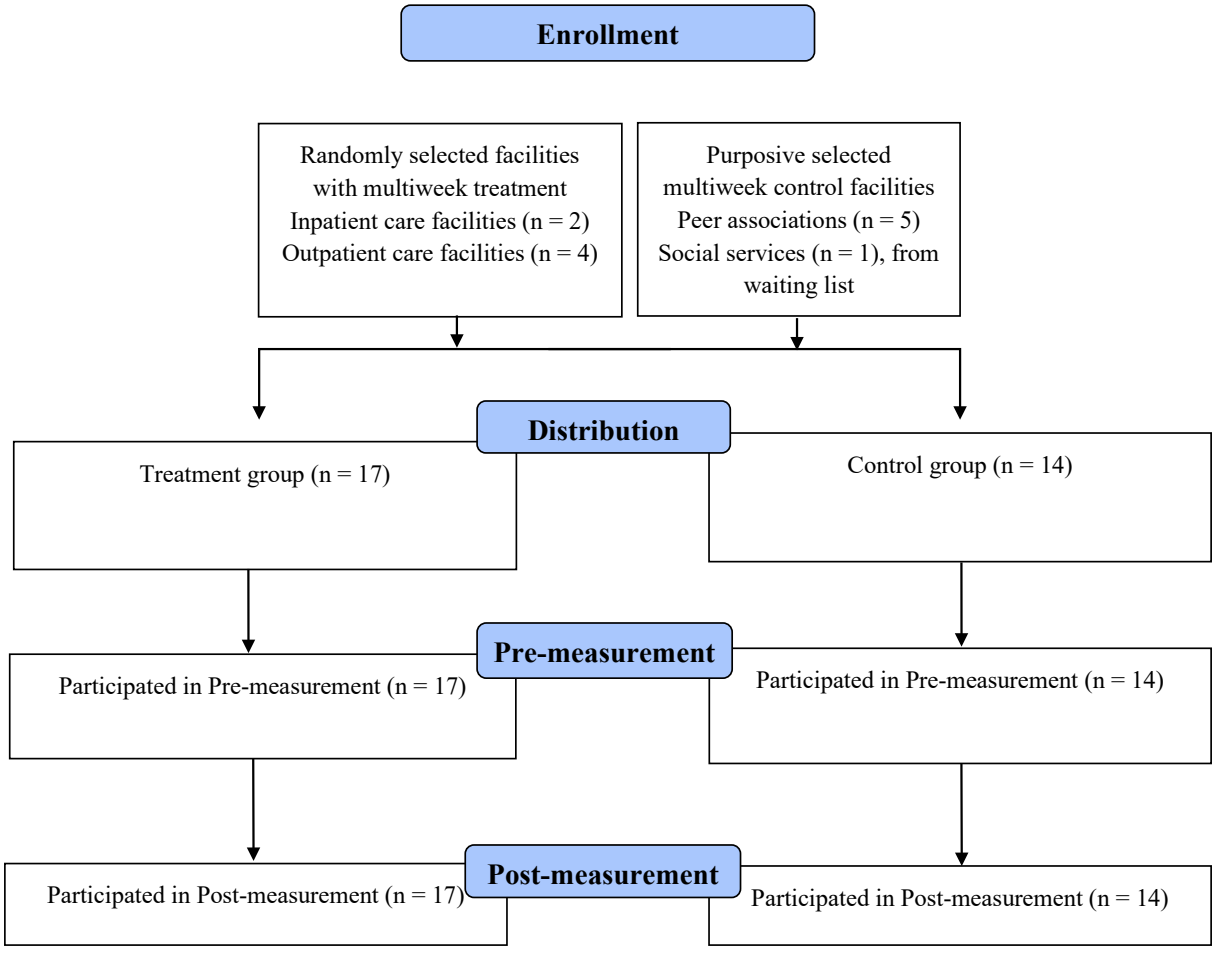

FIGURE 1 Flow chart of the recruitment of the participants in the youth study.

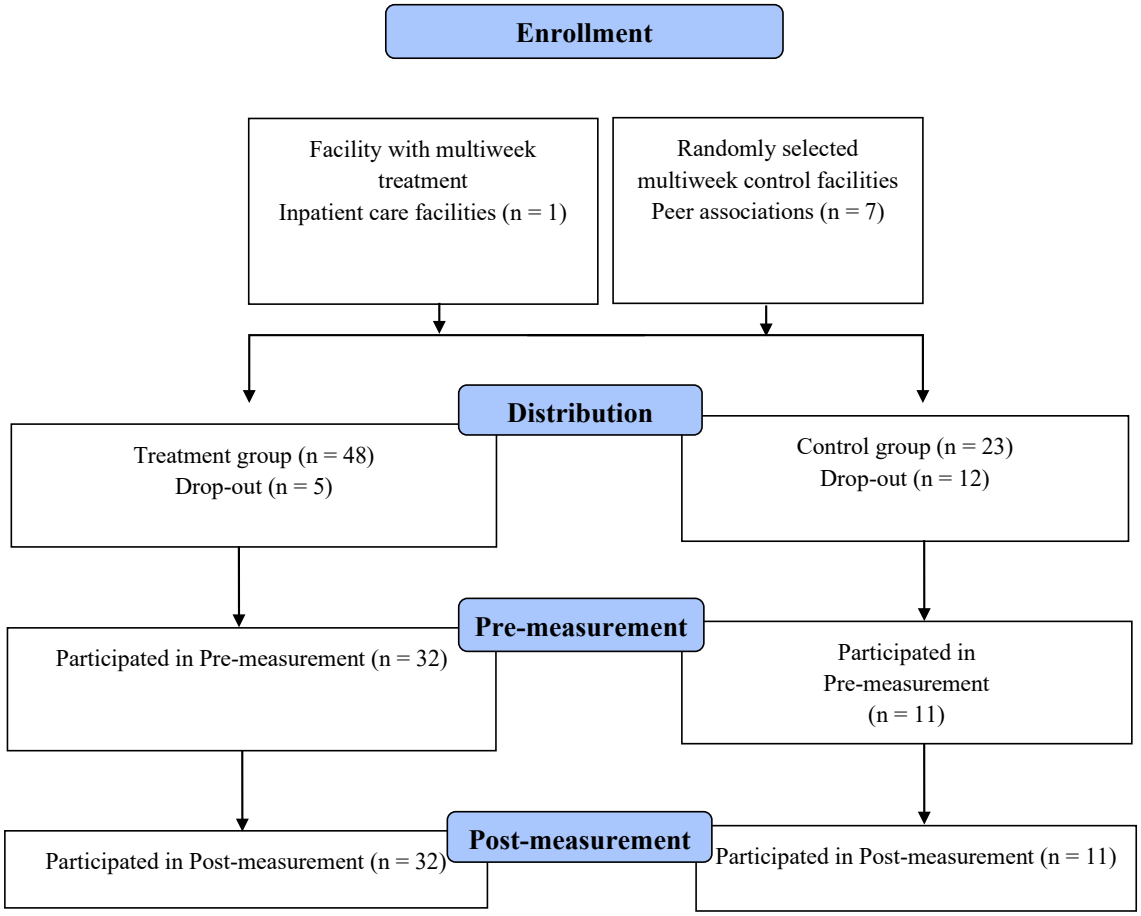

FIGURE 2 Flow chart of the recruitment of the participants in the adult study.