Mentalization-based treatment for individuals convicted of a sex offense: a proof of principle study

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Abstract

Purpose – *While cognitive-behavioral therapy is the standard treatment for individuals who committed a sex offense, individual outcomes vary. Mentalization-based treatment (MBT), aimed at strengthening participants' capacity to mentalize, may prove a useful alternative. This study aimed to evaluate the feasibility, acceptability and preliminary effectiveness of MBT in persons sentenced to clinical treatment after perpetrating a sex offense.*

Design/methodology/approach – *A proof of principle design was used, combining quantitative and qualitative methods. Study 1 (*n *= 21) assessed changes in self-reported emotion recognition, empathy and interpersonal reactivity over 12 months of MBT. Additionally, changes in practitioner-rated recidivism risk were evaluated. Study 2 evaluated MBT among 21 patients and 11 staff members through semi-structured interviews analyzed using Colaizzi's phenomenological approach.*

Findings – *Quantitative results using self-report measures showed no significant improvements over time. However, practitioner-rated recidivism risk decreased significantly (*p *< 0.05). Qualitative findings indicated that MBT was generally well-accepted, with patients and staff reporting perceived benefits such as improved emotional expression, communication skills and therapeutic relationships. Challenges included mandatory participation, difficulties for individuals with autism spectrum disorder and potentially reduced feasibility with patients showing high levels of socially desirable behavior.*

Practical implications – *MBT treatment may offer a valuable and practical addition to the currently available treatment protocols for the treatment of individuals who have committed sexual offenses.*

Originality/value – *To the best of the authors' knowledge, this is the first study to systematically examine MBT in a sex-offender population. Findings suggest that MBT is feasible and acceptable in forensic settings treating sex offenders and although no significant changes were perceived via self-reported measures, may reduce recidivism risk as assessed by practitioners.*

Keywords *Mentalization-based treatment, Sex offender, Feasibility study, Recidivism risk, Emotion recognition, Empathy, Interpersonal reactivity, Staff experience, Patient experience, Therapeutic outcomes*

Paper type *Research paper*

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1. Introduction

Sexual violence is relatively common. A recent meta-analysis reports a global lifetime prevalence of experiencing sexual harassment before the age of 18 of 11%, with 6% of the sample reporting forced sexual intercourse (Piolanti *et al.*, 2025). Furthermore, estimates in adult women suggest that up to 29% are exposed to sexual violence in their lifetime (Li *et al.*, 2023). Being a victim of sexual violence has been associated with serious and long term negative psychosocial outcomes. Illustrative of this, an umbrella review on childhood sexual abuse victims identified an increased risk of post-traumatic stress disorder, schizophrenia and problems with substance use (Hailes *et al.*, 2019). Especially given the high costs of this type of crime for the victims, preventing perpetrators from reoffending is paramount.

When left untreated, 17.5% of perpetrators of a sexual offense are reported to recommit a sexual crime (Schmucker and Lösel, 2008). To reduce the risk of recidivism, psychiatric treatment is often recommended or even mandated to individuals convicted of a serious sexual offense. Several countries, including The Netherlands, have legal frameworks that allow for compulsory mental health treatment for those convicted of a sex offense. Although well controlled studies are scarce, available evidence suggests that recidivism rates are lower in those offenders who attended treatment, compared to those who only resided at a forensic institute (Olver *et al.*, 2020; Schmucker and Lösel, 2008; Koehler and Lösel, 2025; Olver and Stockdale, 2025). The vast majority of sex offender treatment programs scientifically studied has a large cognitive-behavioral therapy (CBT) component, often supplemented with a specific relapse prevention program (Dennis *et al.*, 2012). In general, these CBT-based programs seem effective in reducing relapse into sex-offending behaviors (Mpofu *et al.*, 2018; Rocha and Valenca, 2023; Koehler and Lösel, 2025; Oliver and Stockdale. 2025). Therefore, CBT-based sex offender treatment programs should be considered evidence based. Although its overall effectivity – with an approximate 30% decrease in sexual reoffending (Olver and Stockdale, 2025), not all offenders respond equally well to this type of intervention. Reported rates of achieving clinically relevant improvement range widely – from 15% to 90%, depending on the population, program design and delivery methods (Mandeville-Norden *et al.*, 2008; Gannon *et al.*, 2019) – highlighting the need for alternative treatment strategies.

A different treatment approach to be considered for persons convicted of a sex offense is mentalization-based treatment (MBT), a treatment modality originally developed for individuals diagnosed with a borderline personality disorder (Bateman and Fonagy, 2004). Grounded in attachment theory, MBT is aimed at strengthening participants' capacity to mentalize and has been empirically validated as an effective treatment for a variety of cluster-B personality disorders. Mentalizing is a process in which an individual makes sense of the mental state of themselves and others, including thoughts, feelings, perceptions, beliefs and intentions. Proper mentalization is essential for understanding and regulating behavior, and for forming and maintaining healthy interpersonal relationships. In recent years, MBT has been administered and evaluated in various clinical populations and has shown promising outcomes for individuals with pathological narcissism (Drozek and Unruh, 2020), antisocial personality disorder (Fonagy *et al.*, 2025) and adults with autism spectrum disorder (ASD) (Krämer *et al.*, 2021). In individuals with co-occurring borderline personality disorder and antisocial personality disorder, MBT reduced anger, paranoia and self-harm, and improved overall psychiatric symptoms, mood and social functioning, compared with a similarly structured protocol without a mentalizing focus (Bateman *et al.*, 2016). Furthermore, promising outcomes within the population of forensic patients with personality disorders have been reported as well (Fonagy *et al.*, 2025).

To date, no specific studies have been published on the feasibility and effectiveness of MBT for forensic patients who are sentenced for sexual offenses. Although they have committed different types of offenses and may display isolated symptoms, their underlying personality structure tends to share similarities in terms of its vulnerability. Sexual offending may stem from inadequate mentalizing. Empirical studies demonstrated an association between sexual compulsive behavior and insecure attachment (Benfield, 2018). Moreover, there is some evidence that sexual offenders tend to exhibit deficits in their mentalizing ability. For example, men who were convicted of a sexual offense performed worse in a series of Theory of Mind tasks compared to non-offenders (Castellino *et al.*, 2011). Furthermore, these patients have demonstrated lower capacities for empathy (Morrow, 2020; Gery *et al.*, 2009), emotion recognition and regulation (Gery *et al.*, 2009; Gillespie *et al.*, 2018). These emotional regulation deficits are considered important dynamic risk factors for sexual reoffending (Seto *et al.*, 2023). In addition, diagnoses associated with impaired mentalization, such as (type B) personality disorders and ASD, are not uncommon among sex offenders.

Given these characteristics of those who commit sex offenses and the overlap of these characteristics with dynamic recidivism risk factors, MBT may offer a promising therapeutic alternative for this population. Yet, to date MBT for individuals convicted of a sex offense has not been systematically studied. This proof of principle study aimed to provide an initial indication of the potential effects of MBT and the experiences with MBT of individuals sentenced for a sexual offense. The first study uses an uncontrolled longitudinal design to assess changes in self-rated emotion recognition, empathy and interpersonal relationship skills and clinician-based recidivism risk following MBT. The second study explores subjective experiences of both patients and practitioners engaged in MBT, providing qualitative insights into its acceptability and perceived impact.

2. Methods

2.1 Study 1: Quantitative quasi-experimental pilot study to the effects of MBT

2.1.1 Study design. The Forensic Psychiatric Hospital Assen (GGZ Drenthe) has two units where individuals convicted of sexual offenses are treated. Unit A houses patients who tolerate a high treatment intensity. Personality disorder diagnoses are common among patients of this unit. Unit B houses patients who are less tolerant to high treatment intensity and many of these patients have ASD. All patients, of both unit A and B, were treated with the MBT program from 3 months of admission onwards. Between January 2017 and December 2021 during the first 3 months of their stay, patients were invited to participate in this study. They received oral and written information about the study. After informed consent was obtained, participants were asked to complete four questionnaires before the start of MBT and every 6 months thereafter (primary outcome measures). For each participant, the Static and Stable-2007 scores, filled out yearly by the patient's practitioner, were retrieved from record. The study was positively evaluated by the local ethics committee (Isala 12.0779) and follows the guidelines of the declaration of Helsinki.

2.1.2 Population. In total 46 patients signed informed consent and completed at least the first measurement (T0). The mean age of participants was 41 ± 12 years (range 23–68 years) and the sample consisted only of males. The second measurement (T1), at 6 months, was completed by 36 patients, and 21 patients completed the measurement at one year (T2). Dropouts were due to patients leaving the hospital to go to another forensic/penitentiary facility or home ($n = 16$), and to patients being unwilling to continue study participation ($n = 9$). No patients dropped out of the MBT treatment specifically as MBT was mandatory on both wards. Table 1 shows the DSM-5 diagnoses and the types of crimes committed by the study sample. The most common diagnosis was a non-exclusive Pedophilic Disorder. Most often patients were convicted for possession and production of child sexual exploitation images and/or committing indecent acts with a person between 12 and 16. There were no significant differences between the study dropouts and the other participants in demographic parameters (diagnosis, type of crime or age) or scores on baseline questionnaires. All analyses were performed on the data of the participants who completed all three measurements ($n = 21$). As a secondary outcome, the score on a risk assessment tool for sexual recidivism was used at baseline and one-year time point. At baseline, the average Static score was 5.6 ± 2.0, and the average Stable score was 13.1 ± 2.9, indicative of high recidivism risk (Hanson *et al.*, 2015).

2.1.3 Mentalization based treatment. MBT was first implemented in the FPH in 2016. The protocoled treatment program consisted of two 60-min group sessions (4–6 participants) a week facilitated by two MBT clinicians, i.e. a trained psychotherapist and a co-therapist, and a 50-min weekly individual session with an MBT-trained psychotherapist. Participants received MBT treatment for the full duration of their stay in the FPH. Participants were free to bring in a variety of content to group sessions and were stimulated to explore different perspectives while doing so. Throughout the sessions, emphasis was placed on

Table 1 Participant characteristics. The percentage of participants with a certain diagnostic or crime characteristic is presented for study 1 (quantitative) and study 2 (qualitative)

Characteristic	*Study 1 (n = 21)*	*Study 2 (n = 21)*
DSM-V diagnosis #		
Pedophilic disorders-non-exclusive	38.1	33.3
Pedophilic disorders-exclusive	4.8	14.3
Paraphilic disorders (other)	28.6	57.1
Attention-Deficit/hyperactivity disorder	4.8	28.6
Autism spectrum disorders *	9.5	42.8
Substance-Related and addictive disorders	19.0	28.6
Cluster A Personality Disorders	4.8	0,0
Cluster B personality disorders	14.3	19.0
Cluster C personality disorders	14.3	4.8
Personality disorder not otherwise specified	19.0	14.3
Type of crime committed #		
Committing indecent acts with a person under 12	19.0	47.6
Committing indecent acts with a person between 12–16	42.9	38.1
Grooming/ preparatory acts with intent to commit indecent acts	14.3	14.3
Possession and production of child pornography	47.6	76.2
Rape	9.5	4.8
Sexual assault	4.8	0.0
Violent crime with a sexual component	0.0	4.8
Violation of public decency /indecent exposure	9.5	9.5

Note(s): # A participant could have multiple diagnoses and have committed crimes in multiple categories, so the total percentage does not add up to 100%. * Significant difference between study 1 and study 2 $p < 0.05$

participants' capacity for mentalization, specifically regarding the dynamics between self and others within the group, as well as in relation to the therapists. During individual MBT sessions, more personal themes were addressed, like difficulties in managing their relationships. Prior to treatment, participants participated in a nine-week psychoeducation group focused on the theory of personality disorders and MBT. In addition to the protocoled sessions, the multidisciplinary staff were all educated in the basics of MBT to facilitate the progress made during the (group) sessions.

2.1.4 Primary outcome measures. 2.1.4.1 Levels of emotional awareness scale (LEAS). The LEAS (Lane *et al.*, 1990) presents ten scenes involving two persons described in two to four sentences. The scenes are constructed to elicit four types of emotions: anger, fear, sadness and happiness. After reading the scene description the participant is asked to answer the questions: how would you feel in this situation? And how would the other person feel? The responses were scored (0–4) for each scene separately. The total score comprised the sum of the self and other scores. The questionnaire has good interrater reliability, r(20) = 0.84 and internal consistency, Cronbach's alpha = 0.81 (Lane *et al.*, 1990). Although norm scores were not published, the normal range for adult men is suggested to lie between 22.5 and 37.5 (Lane and Smith, 2021).

2.1.4.2 Reading the mind in the eyes test (RME). The RME was developed to assess theory of mind abilities (Baron-Cohen *et al.*, 1997, 2001). It consists of 36 black and white photos of eyes with four mental state descriptors (of similar valence). Participants are instructed to select the word that describes what the person in the picture is thinking or feeling. For each correctly selected word one point is scored, resulting in a maximum score of 36. In a validation study, mean scores for a general population sample (26 ± 4.2) and a group with ASD (21.9 ± 6.6) were reported (Baron–Cohen *et al.*, 2001). In the original validation studies,

no psychometric parameters (internal consistency or test-retest consistency) were provided. In the current sample, a Cronbach's alpha of 0.67 was observed.

2.1.4.3 Empathy quotient (EQ). A Dutch version of the EQ-28 was used (Groen *et al.*, 2015). The questionnaire presents 42 statements about the participant (28 testing items + 14 filler items), and the participant is asked to indicate to what extent they agree with the statement on a four-point Likert scale (strongly agree-strongly disagree). The questionnaire distinguishes three subscales, "Cognitive Empathy" (CE; 11 items, range 0–22), "Emotional Empathy" (EE; 11 items, range 0–22) and "Social Skills" (SS, 6 items, range 0–12). The internal consistency of the questionnaire was evaluated as good to moderate (Cronbach's alpha: 0.89–0.57). The test-retest reliability of the questionnaire was good ($r(58) = 0.74$). Norm scores for Dutch males are as follows: very low: <6, low: 6–16, low/average: 17–24, average: 25–34, average/high: 35–41, high 42–48 and very high > 48 (Groen *et al.*, 2015).

2.1.4.4 Interpersonal reactivity index (IRI). The IRI was developed to measure dispositional empathy (Davis, 1983). In this study a well validated Dutch translation of the IRI was used (De Corte *et al.*, 2007). Participants are asked to rate 28 statements on a five-point Likert scale ranging from "Does not describe me well" to "Describes me very well." The measure consists of a total IRI score (range 0–112), and four subscale scores (7 items each (range 0–28)): Perspective Taking (PT), Fantasy (FS), Empathic Concern (EC) and Personal Distress (PD). The internal consistency for all four subscales is satisfactory (Cronbach's alpha PT = 0.73, FS = 0.83, EC = 0.73, PD = 0.77). Norm scores are not available for a Dutch-speaking population, but average scores of the validation population ($n = 651$) on the subscales were as follows: PT = 17.29 ± 4.30, FS = 16.48 ± 3.91, EC = 18.05 ± 4.23 and PD = 11.92 ± 4.87 (De Corte *et al.*, 2007).

2.1.5 Secondary measures. 2.1.5.1 Stable. The Stable (Hanson *et al.*, 2015) assesses dynamic recidivism risk factors of adult males convicted of a sexual offense against a child or nonconsenting adult. The Stable was filled out yearly by a psychologist of the unit. A total score was calculated by adding up the 13 items scores, whereby a higher score indicates higher recidivism risk. The hazard ratio suggests that for every unit increase on STABLE-2007, there is a 12% increase in the likelihood of sexual recidivism (Brankley *et al.*, 2021).

2.1.6 Other parameters. 2.1.6.1 Static. The Static-99R (Hanson and Thornton, 2000) was used to determine the historical risk to recidivism into a sexual offense at the start of the study. A sum score is calculated by adding up the scores of the 10 items, higher scores indicating a higher recidivism risk. For detailed information on the nature and scoring of the items, see the Static-99R coding manual (Harris *et al.*, 2003).

2.1.7 Data analysis. Data were analyzed using Microsoft Excel and IBM SPSS software (IMB SPSS 29.0). Means and standard deviations were calculated for the total sample. A one-sample t-test was used to assess whether baseline scores differed significantly from norm scores published in literature. Differences in demographic parameters between the included and the dropout group were assessed with an independent t-test (age) or chi-square test (diagnosis; type of crime). Differences over time (baseline vs 6 months vs 1 year) were assessed with repeated measures (RM)-ANOVA with the outcome variable as the within-subject variable and age as covariate. For each outcome parameter, a separate RM-ANOVA analysis was performed. For the secondary outcome variable, the Stable, a RM-ANOVA using the baseline and 1 year time points was done. A Holm-Bonferroni correction was applied to control for the family-wise error rate (multiple testing). For all statistical analyses, a confidence interval of 95% was used.

2.2 Study 2: Qualitative study of experiences with MBT

2.2.1 Study design. Both patients and staff-members of the sex-offender units of the FPH were recruited to participate between October 2024 and May 2025. After agreeing to

participate by signing informed consent, participants were interviewed by the research team about their experiences with MBT. Interviews were *verbatim* transcribed and analyzed according to Colaizzi's phenomenological approach (Colaizzi, 1978). For each participant, the Static and Stable scores, filled out yearly by the patient's practitioner, were retrieved from record. The study received an exception of Dutch medical research with human subjects law (UMCG METc 2024 / 493) and follows the guidelines of the declaration of Helsinki.

2.2.2 Population. Staff-members: Eleven staff-members (4 females) aged between 24 and 63 years were recruited. Five participants worked as psychiatric nurse, one as general nurse and five were psychologists. Three participants did not receive specific MBT training. Three others were trained as MBT therapists, of whom two were full MBT therapists. The remaining five participants completed the basic MBT training. In addition, four participants received add-on training on specific topics (e.g. trauma, narcissism). On average, participants had 11.91 ± 6.84 years of experience in mental health care, 8.35 ± 6.11 years in forensic care and 5.17 ± 4.98 in working with MBT.

Patients: Patients receiving MBT were invited to participate in the study. They received oral and written information of the study and were asked to fill out informed consent. Twenty-one patients were recruited, 10 from unit A and 11 from unit B (87.5% of the total population). The mean age of participants was $38 \pm$ nine years (range 22–55 years). The demographic parameters are displayed in Table 1 (for both study 1 and 2). In this sample, the average baseline Static score was 5.4 ± 2.3 and the average Stable score11.9 ± 2.8. There were no significant differences in age, type of crime, Static or Stable scores between study 1 and study 2. However, the sample of study 2 contained a significant higher proportion of individuals with ASD, 2 in study 1 vs 9 in study 2 ($x^2(1) = 6.035$, $p < 0.05$).

2.2.3 Interviews. The semi-structured interviews were performed by independent researchers (KA or HV). The interviews were tape-recorded. The interview guideline outlined three main topics: experiences with MBT in general, implementation of MBT and future perspectives for MBT. The average duration of the interviews was 42 min (range 18–59 min) for staff and 37 min (range 17–60 min) for patients.

2.2.4 Interviewers. At the time of the interview both interviewers were in the final year of the Clinical Forensic Psychology and Victimology master's degree at the University of Groningen. The interviewers were not associated with the FPH prior to this study and were not involved in the development or implementation of MBT.

2.2.5 Data analysis. The data analysis followed the seven steps of Colaizzi: familiarization, identification of significant statements, formulation of meanings, clustering themes, development of an exhaustive description, production of the fundamental structure and verification of the fundamental structure. Specifically, the interviews were manually transcribed (GA, GB, HV, LH and KA). The researchers read transcripts to familiarize themselves with the data. The first six transcripts (three staff and three patient) were coded by at least two persons (GA, GB and LH) using Atlas.ti Mac/Windows 23.1.1 software [Atlas.ti GmbH, Madrid Spain]. The remaining transcripts were coded by one person (GA, GB or LH). Coding was both inductive and deductive. Coding was performed with three predetermined questions in mind:

Q1. What was the overall experience with MBT?

Q2. Which effects of MBT were experienced or perceived? and

Q3. Which obstacles and facilitators for MBT were identified?

Codes were first categorized to form a codebook (GA, GB and LH) and subsequently overarching themes within the codebook were identified. These potential themes were formulated in consensus by BS, GB, HS and ML. Hereafter the themes were discussed and reviewed by all authors. Quotes from the interviews displayed in this paper were translated, as literal as possible, from Dutch to English by GB. Square brackets are used to indicate omitted text (e.g. text identifiable to a person). Braces are used to clarify text.

3. Results

3.1 Study 1: Quantitative quasi-experimental pilot study to the effects of MBT

The baseline RME scores (theory of mind) were significantly lower than the scores reported in the general population ($t(20) = -4.30$ $p < 0.05$) (Baron–Cohen *et al.*, 2001). Three participants (14%) scored more than 2 standard deviations below the norm scores, indicative of a clear impairment on the task. A further 5 participants (24%) scored one standard deviation below the norm, suggesting these participants had difficulties with the task (Elsegood and Duff, 2010). The baseline EQ-28 (empathy) scores were significantly lower than the scores reported in Dutch men in the general population ($t(20) = -12.147$ $p < 0.05$) (Groen *et al.*, 2015). Fifteen participants (71%) would be categorized as having a low or very low empathy score. The baseline LEAS (emotional awareness) and IRI (interpersonal reactivity) scores did not differ from the published norm scores (Lane and Smith, 2021; De Corte *et al.*, 2007). Four participants scored below the normal range emotional awareness. For the interpersonal reactivity, 6, 7, 2 and 5 participants scored two standard deviations below the norm for perspective taking, fantasy, empathic concern and personal distress respectively.

As shown in Table 2, neither total scores nor, when applicable, subscale scores on the LEAS, RME, EQ or IRI changed significantly between the baseline, six months or a year of MBT. The percentage of participants that scored below the norm score at baseline did not significantly change between the 3 measurements for any of the outcome parameters.

The secondary outcome variable, the recidivism risk score, the Stable, was significantly decreased after 1 year of MBT; baseline score 13.1 ± 2.9 vs one year later score 10.8 ± 3.5 ($F(1.20) = 7.531$, $p < 0.05$). Descriptively the largest changes were observed for the items: impulsivity, poor problem-solving skills and sex preoccupation.

3.2 Study 2: Qualitative study of experiences with MBT

During the initial coding session (3 transcripts) 56 codes (including 7 background codes) were formed from the patient transcripts. After the remaining (18) of the transcripts were coded, 15 codes were added. During the consensus meeting, 11 codes were deemed irrelevant to the research question and excluded from the codebook and 18 codes with

Table 2 Scores on LEAS, RME, EQ and IRI questionnaires at baseline (t0), after 6 months (T0.5) and 12 months (T1) of MBT

Measure	*T0*	*T1*	*T2*	*Statistic parameters*	*Partial eta square*
LEAS total score	29.05 ± 5.64	31.60 ± 4.05	30.81 ± 4.61	$F(2,40) = 0.492$ $p = 0.616$	0.027
LEAS self	26.33 ± 5.59	28.48 ± 5.23	27.52 ± 5.36	$p = 0.103$	0.103
LEAS other	24.52 ± 6.95	24.80 ± 6.59	25.47 ± 7.06	$p = 0.674$	0.020
RME total score	22.57 ± 3.87	21.81 ± 4.96	22.62 ± 5.37	$F(2,40) = 1.652$ $p = 0.205$	0.080
EQ total score	13.10 ± 8.26	13.29 ± 4.62	11.28 ± 8.64	$F(2,40) = 0.0845$ $p = 0.443$	0.041
EQ cognitive empathy	5.81 ± 4.45	6.38 ± 3.02	4.33 ± 4.04	$p = 0.059$	0.166
EQ emotional empathy	4.10 ± 2.81	3.29 ± 1.74	3.86 ± 3.48	$p = 0.568$	0.028
EQ social skills	3.19 ± 2.52	3.62 ± 1.69	3.10 ± 2.55	$p = 0.588$	0.026
IRI total score	56.70 ± 12.9	53.84 ± 9.32	52.99 ± 14.95	$F(2,40) = 0.678$ $p = 0.514$	0.036
IRI perspective taking	13.33 ± 6.75	13.64 ± 5.18	13.67 ± 6.02	$p = 0.624$	0.037
IRI fantasy	12.04 ± 6.41	10.97 ± 5.59	10.43 ± 5.49	$p = 0.485$	0.051
IRI empathic concern	19.00 ± 4.59	17.75 ± 3.46	17.48 ± 5.11	$p = 0.199$	0.099
IRI personal distress	12.29 ± 5.59	11.47 ± 5.03	11.41 ± 5.53	$p = 0.514$	0.043

overlapping content were merged into 8 overarching codes, resulting into 43 unique patient codes (12 for question one, 12 for question two and 19 for question three). The initial coding session of the staff interviews ($n = 3$) resulted in 61 codes (including 5 background quotes). Coding of residual transcripts ($n = 8$) led to 7 additional quotes. During consensus, 13 codes were excluded, and 20 codes were merged to 6 overarching codes, resulting in 36 unique staff codes (9 for question one, 9 for question two and 18 for question three). Descriptions of all codes and subcodes are provided in supplemental tables 1–3.

3.2.1 Question 1: What are the experiences with MBT? Since the experiences of patients and staff differ by nature, themes were identified for patients and staff separately. For patients, three overarching themes were recognized: *Patients' general experiences:* a demanding therapy (4 codes), *Patients' positive experiences:* connection (5 codes), and *Patients' negative experiences:* talking not solving (2 codes). In the staff member interviews, three overarching themes were unveiled: *Staff experiences related to themselves:* reciprocity (2 codes), *Staff experiences related to patients/treatment in general:* good vibes (4 codes) and *Staff experienced challenges with MBT:* balancing act (3 codes) (see Figure 1).

3.2.1.1 Patients' general experiences: a demanding therapy. Several patients indicated that they considered MBT as intense and experienced considerable tension prior to and during treatment. Patient 2 described it as: "This is a kind of pressure cooker. I think it's fine, it is just the way things are going. And yes, everyone knows it's intense." Additionally, some participants felt the treatment was confusing and were not sure what was expected from them. Patient 18 worded it as: "Because I notice right now that, like I said, it's a big grey area – one vague mess, so to speak." Finally, participants indicated that there is considerable variation in their experience between MBT sessions. As patient 21 said: "And just occasionally I did think, yeah, that was actually a really good session – and maybe also occasionally I felt like, well, this one was a bit less useful for me."

3.2.1.2 Patients' positive experiences: connection. The majority, 19 out of the 21 patients, spoke positively about MBT. A frequently mentioned experience was that during MBT they felt seen and felt (in contrast to past experiences) that they were treated as normal human beings. Patient 4 said: "For the first time in my life I feel understood." And patient 7 mentioned: "that took some getting used to, [. . .] that they stand beside you. They really just have sympathy for you." In addition, they expressed that they appreciated the manner of communication that is taught during MBT. Patient 1 mentioned: "To be honest, I actually like communicating this way. It still sometimes feels a bit unnatural." "Strangely enough, it makes conversations easier." participants also indicated that the atmosphere in the MBT-group is pleasant and that they recognize themselves in other group members, which is considered helpful. "Sometimes it hits really hard, sometimes not so much, and sometimes someone else's input is more helpful. And then suddenly you feel a huge sense of recognition and get a lot out of it" (patient 2).

3.2.1.3 Patients' negative experiences: talking not solving. There were some negative experiences that were mentioned by multiple participants. Patients expressed that they found it difficult that when they introduce a problem/issue to discuss in the MBT-group, they will not leave with the solution to that problem at the end of the session, as that is not the purpose of the session. Participant 15 said: "When we talk about an issue, then it is just talking, we are not looking for a solution." A small group of participants viewed MBT as not at all helpful (n = 2). Patient 16 expressed: "I feel like, as far as I'm concerned, it's a waste of my time to participate in that. Then give me, in that hour we spend on it, another form of therapy that I might actually benefit from."

3.2.1.4 Staff experiences related to themselves: reciprocity. Staff members reported to feel that being involved in MBT as a practitioner had increased their insight into their own behavioral patterns regarding the patients. Furthermore, some staff members indicated that MBT has increased their compassion for and interest in their patients. Staff member 3

Figure 1 Overview of themes identified regarding the question: "What are the experiences with MBT?" Dark grey background indicates themes, and white indicates codes

Source: Authors own creation

worded it as follows: "Well, especially the genuine curiosity. That you become so genuinely curious about what makes a patient act the way they do? So, it also gets us thinking. But what I especially like is the structure of how you organize your treatment, like throughout the whole week, so to speak, and indeed that team-oriented approach, where you say to each other, 'Hey, I'm also paying attention to your mentalizing capacity and to us as a team.' I really find that a very pleasant way to work. Also for myself, because of course I can also lose my mentalizing capacity."

3.2.1.5 Staff experiences related to patients/treatment in general: good vibes. With regards to the treatment itself, staff members mentioned that they experienced a positive influence of MBT on the group dynamics within the unit. Furthermore, they felt that the treatment helped them to connect with patients. Staff member 4 stated: "The part about forming a therapeutic relationship and everything that's important in that process – well, I think MBT adds a lot to that." Some staff members commented that they appreciated that MBT is applicable outside of the actual therapy session: "So I see many elements of what I do with

the group reflected back on the ward, and I can also continue those in individual conversations with my mentees" (staff 2). Finally, the structure that MBT provides was appreciated by staff. Staff member 6 said about this: "So in that sense, it also provides a kind of guidance – once you've somewhat analyzed how people reason or think about themselves, it also gives an indication of where to focus your attention."

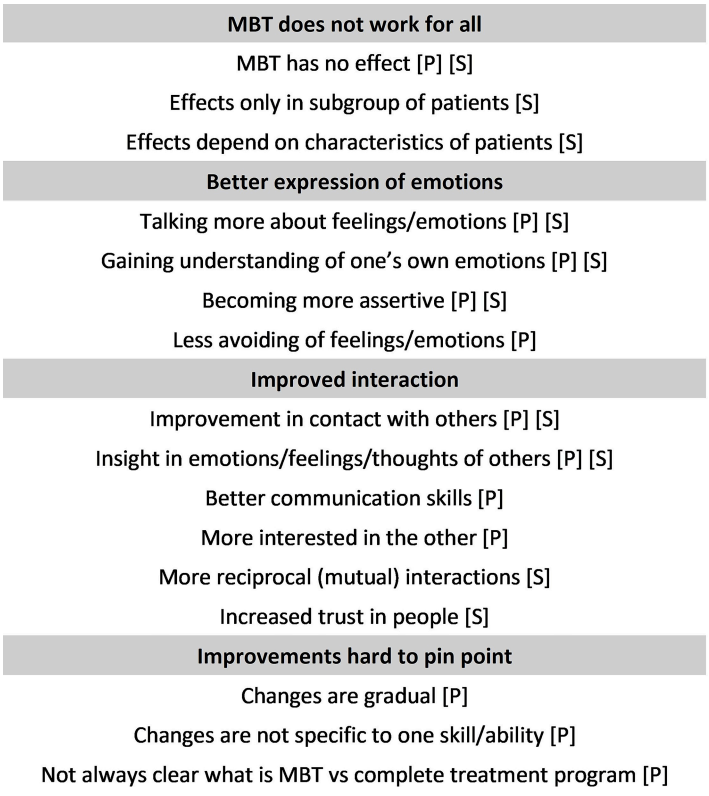
3.2.1.6 Staff experienced challenges with MBT: balancing act. The challenges that staff members experienced were related to balancing being strict and setting clear boundaries fitting for a forensic setting and using a true mentalizing attitude. Staff member 9 said the following regarding this balance: "So we now ask that question much more from a place of curiosity and not knowing – and that's MBT. I feel, and I advocate for both sides [...] especially the other side, the 'management' side, because I think we're going too far in the 'care' side, so I offer a counterbalance. But, to counterbalance an excessive focus on care, I also present – on behalf of my professional group, sociotherapy – that clear boundaries are set to keep the ward livable." Several staff members also mention that it is challenging to maintain the "MBT" attitude 24/7. Staff member 7 comments: "Sometimes it's okay for it not to be MBT for a moment, but just to make it fun or pleasant or provide a way to blow off some steam." A final challenge experienced by some staff members concerns an experienced effect of MBT on the group dynamic, where patients take over the role of a therapist with peers on the unit. Which is considered a negative development by staff members.

3.2.2 Question 2: What effects of MBT do patients/staff experience/perceive? Since there was considerable overlap between the effects of MBT experienced by patients and perceived by staff members, four overlapping themes for both groups were defined: 1) *MBT does not work for all* (3 codes), 2) *Better expression of emotions* (4 codes), 3) *Improved interaction* (6 codes), and 4) *Improvements hard to pin point* (3 codes) (see Figure 2).

3.2.2.1 MBT does not work for all. Some patients and staff members indicated that in their experience/perception MBT had no effects on their wellbeing or recidivism risk. Patient 8 for example said: "Well, when I think about it, I can't really pinpoint a specific aspect that I feel I truly got from MBT. Whereas with other therapies, I could give more examples or point to things more clearly," and staff member 1 remarked: "Sometimes we spend almost an hour with him, because he builds up all this frustration and ends up in all kinds of conflicts. Then I think, well, gosh, it's not really internalized, is it?" In addition, staff members mentioned that they felt that MBT is only effective for a subgroup of patients. They indicated that they believed that effectiveness depends on the specific characteristics of the patients and may even be harmful for some. Staff member 11 noted: "For some people, at a certain point you really have to make the judgment call that this therapy just doesn't suit them." Staff member 9 stated: "There will be some contraindications, like with classic narcissists, where MBT actually makes them more clever in how to manipulate people and engage in certain forms of manipulation."

3.2.2.2 Better expression of emotions. Both groups indicated that MBT led to an increased understanding of their own emotions and resulted in speaking about emotions more (freely). Patient 12 said: "Mainly it's about learning to recognize and regulate emotions – or rather, mainly recognizing them and talking about them. In that, PMT (psychomotor therapy) played a big role, and I think MBT contributed more to the talking about it and making it discussable." Patient 17 stated: "I've learned that I can look at myself from the inside and also learn a bit about behavior – about how I actually feel." And staff member 11 said: "For example, with anger – when people, especially in the beginning, storm out of the room super angry and upset, and then after, say, a year of treatment, that same patient can stay seated and say, 'Oh damn, I feel so angry about this' – fantastic!" In addition, patients indicated that MBT aided assertiveness. Patient 7 commented: "It's good practice for others to stop walking all over you [...]" And finally, some patients identified that after MBT they engaged less in denial and avoidance of feelings: "There was also a lot of avoidance,

Figure 2 Overview of themes identified regarding the question: "What effects of MBT do patients/staff experience/perceive?" Dark grey background indicates themes, and white indicates codes



Source: Authors own creation

especially in the beginning – I just wanted to stay away from everything. That's something I experience less now, so I can approach feelings more directly" (patient 6).

3.2.2.3 Improved interaction. Staff and patients recognized that MBT positively affected social interaction. MBT was indicated to improve insight into the internal state (emotions, feelings, thoughts) of the other. Patient 20 remarked: "That really does have to do with MBT, I think – that it comes from there, the ability to put yourself in someone else's shoes," and patient 18 said: "It has, for example, led to situations where I understand others a bit better." Regarding this staff member 6 mentioned: "It also leads to a kind of insight into how victims must have felt." Furthermore, patients experienced that they felt more interested in the people around them.

Both staff and patients had the idea that MBT improved communication skills and (thereby) better social interactions. Participants said the following: "I do find it helpful. I notice that I really benefit from it, also in how I interact with others" (patient 10). "In the end, it did help me – to become a bit stronger in communication" (patient 12), and "Yes, so that gradually develops and it really helps – especially when I hear from them, or they say, 'I just experience more connection with others'" (staff 7). In line with this, staff members mentioned that they felt that interactions with patients became more reciprocal. And that they perceived that during treatment patients obtained more trust in people in general, as worded by staff member 11: "So they start to regain a bit of trust in humanity. That's what I find especially beautiful about it."

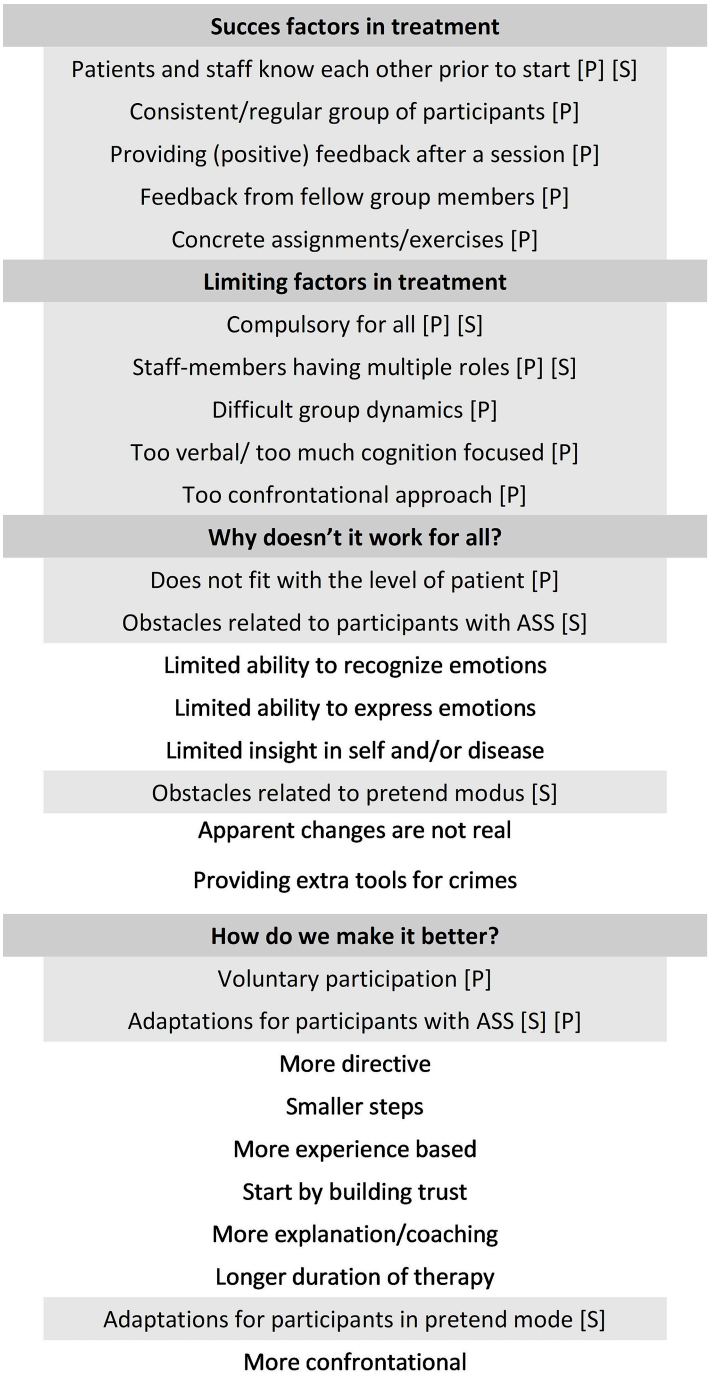
3.2.2.4 Improvements hard to pin point. In addition to these specific effects (or lack thereof), there were also some more general considerations made by patients. For example, they noted that the changes came gradually and that they were thus unable to pinpoint when and what exactly improved. And in addition, since MBT was given in addition to other treatment modalities, such as psychomotor therapy, or systemic therapy, patients could not always tell which changes were specifically due to MBT.

3.2.3 Question 3: What are obstacles and facilitators for MBT? There was also overlap between patients and staff in the themes related to the third question and thus overarching themes for both groups were defined. Four themes emerged: 1) *Succes factors in treatment* (4 codes), 2) *Limiting factors in treatment* (5 codes), 3) *Why doesn't it work for all?* (3 subthemes, 5 codes) and 4) *How do we make it better?* (3 subthemes, 7 codes) (see Figure 3).

3.2.3.1 Succes factors in treatment. There were several factors identified that will aid the acceptability and effectiveness of MBT. Both staff and patients noted that patients and staff knowing each other and having formed a (trusting) relationship is helpful. And in addition to this, patients also mentioned that having known (and consistent) group members is helpful. As worded by patient 9: "Well, I actually go there with a really good feeling. My coach gives the MBT sessions – that's coach [name]. Yes, that's my coach on the ward. I have a good connection with them. And [name of psychologist], that's one of my psychologists, and I trust them completely as well," and by staff member 4: "I happen to see these people individually as well, so I actually see them quite a lot – and I do believe that's important. I also believe it's important not just for getting to know them, but also for building some kind of relationship." Furthermore, providing positive feedback after a session was considered a valuable facilitator. In the words of patient 17: "Understanding, a listening ear, targeted questions, a little compliment after the MBT session, a pat on the back here and there – yes, absolutely, that helps me enormously." Finally, patients mentioned that providing concrete assignments they could work on outside of sessions aided their progress.

3.2.3.2 Limiting factors in treatment. Several factors were identified as barriers to effective implementation of MBT. First, both staff and patients discussed that the mandatory nature of MBT in a forensic setting resulted in those with no motivation for MBT being included in the MBT group therapy, which does not aid the climate within the group. Patient 13 said: "But if someone keeps feeling resistance or really doesn't want it, then yes, that's unfortunate. It doesn't completely demotivate me to continue with MBT, but it does make it unpleasant," and staff member 1 stated: "And of course, the tricky part is that they're also in treatment with us involuntarily, right? So sometimes you say, 'You might not see this as a problem, but I do. So go ahead and join the group, and we'll see how far we get.' But then, how much commitment does someone really have to that treatment? I mean, how committed can you be to a treatment you're forced to follow." The group dynamic in general was also mentioned as a potential barrier when the group is not well matched or balanced. Patient 8 for example experienced the following: "Well, when I first came to (Unit A), there was more of a dynamic of taking action. Almost to the point of bullying, really. And I wonder, what's that about? Is it something to do with the group dynamics at the time, that mentality of being tough and strict? Just mean, really." Furthermore, for some, staff members having multiple roles, for example as a MBT supervisor and as a ward nurse or coach, lead to difficulties. "Well, that's because outside of MBT I have a different kind of connection, since I have individual conversations, and then I feel like I'm seeing a completely different person. And that [. . .] can be difficult. Because I experience him differently in MBT, where he responds to me in a different way again" (patient 11). In addition, some patients, especially those characterized by a lower IQ or with ASD indicated that they found MBT too verbal or too much reliant on cognitive tasks. In their words: "It was also a more difficult therapy for me because I have a delay in [. . .] how should I put it [. . .] processing and memory storage" (patient 7). "And then I would panic, also during MBT or in many talk groups, because I just

Figure 3 Overview of themes identified regarding the question: "What are obstacles and facilitators for MBT?" Dark grey background indicates themes, light grey background indicates subthemes and white indicates codes



Source: Authors own creation

[. . .] it just didn't register anymore" (patient 8). Finally, one patient experienced the MBT approach as too confrontational, as he has difficulty handling criticism.

3.2.3.3 Why doesn't it work for all? From both patient and staff interviews, some obstacles emerged that are related to the fit of the patient population to MBT. However, what was said about this differed between patients and staff. Patients' remarks were mostly related to the difficulty of the treatment, where some patients indicated that they felt they did not need the therapy, while others felt the therapy was too demanding for them. Patient 18 said about this: "A single line is drawn, and then you'd think, that's fair, but it's not entirely fair, because for some people it is too hard, right? Look, they create certain expectations. Everyone is expected to meet them, but if someone like me isn't able to meet all those expectations, even though I really want to, then it leads to a lot of struggle and friction. Because it doesn't align with what I need, what I find comfortable, what I'm even used to. And then suddenly, a lot is expected of me." Staff members, on the other hand, mostly identified specific patient groups for whom MBT might be less suitable. Specifically, they discussed how for patients with ASD, the entrance level of functioning with regards to emotion recognition, ability to express emotions, and insight into their disease might be too low for MBT to be beneficial. Staff member 10 stated: "With autism, we also know it's difficult for them to sense how someone else is feeling, and that's exactly what MBT is very much about. So yes, the question is also whether I might actually be expecting too much from what could be possible within that group." And staff member 2 mentioned: "Yes, with unit B (unit with patient with ASD), you really have to ask yourself: how far can we go in teaching patients, right? How much? At unit A, we really emphasize feeling, deeply experiencing, living through things, and the emotional experience. But can you ask that of a patient from unit B? And to what extent?" In addition to seeing barriers for MBT with patients characterized by ASD, staff members also indicated that patients that use a "pretend mode" are challenging for MBT. With these patients, staff members doubt whether observed changes are real, and they express a worry that MBT might even be harmful in this group, as the skills taught during MBT might become a tool for criminal behavior. Staff members said the following about this: "That's very characteristic of this group of people. They've often had treatments, sometimes in multi-day group settings, and for example, during breaks, they'd be on their phones chatting with minors or something like that – while they were actively participating in the treatment and behaving properly" (staff 3).

3.2.3.4 How do we make it better? During the interview some suggestions were made how to improve MBT for a sexual offender population. The suggested adaptations were in line with the identified barriers discussed above. First, removing the obligation for all patients to follow MBT was proposed by patients and staff. With regards to the observed limitations of patients with ASD, several adaptations were suggested. They suggested to be more directive, take smaller steps, take more time and provide more coaching during the week for this population. Furthermore, it was suggested to include more content that is more experience based, to lower the cognitive load of the therapy. Here are some quotes related to this: "Small steps, and especially explaining a lot – also being careful not to give an example that becomes the way to do it, which then turns into their new strategy" (staff 2), "I think this patient group simply needs more time to internalize what you teach them, and that we should really take that into account" (staff 1). "That he, for example, says during a conversation," "Hey, what we're running into now might be a good topic for an MBT session,' and that you also get some coaching in that" (patient 6), and "So they might want to work a bit more experientially [. . .] maybe use more role-playing. Or more, more of just asking people about their experiences, simply looking together at how you do things" (staff 6).

Finally, for those patients using pretend mode, staff members suggested to be more confrontational than is typical for MBT: "That doesn't mean I'm endlessly just mentalizing here or that I immediately challenge someone cognitively when they're in pretend mode, or confront them harshly. That's woven into my way of working – which I think is often what this

population needs – but it's always from a place of connection" (staff 9), and "The moment you talk about pretend mode, you're essentially also talking about confrontation" (staff 6).

4. Discussion

The aim of this study was to evaluate the applicability of mentalization-based therapy (MBT) for a heterogeneous group of individuals convicted of sexual offenses. A quantitative assessment of MBT's impact on self-reported emotion recognition, empathy and interpersonal reactivity revealed no statistically significant improvements after one year of MBT. However, practitioner-rated risk assessment indicated a significant reduction in sexual recidivism risk. Observationally the largest improvements were noted on the items: impulsivity, poor problem-solving skills and sex preoccupation. The qualitative findings offered detailed insight into how MBT was received by both patients and staff. Both patients and practitioners generally reported positive experiences with MBT. Interview data highlighted several areas in which patients perceived growth resulting from MBT, including enhanced understanding of others and improved communication skills.

The absence of significant changes in self-report questionnaire scores following MBT suggests that the treatment may not have yielded the expected therapeutic effects. This finding contrasts with previous publications on MBT's effectiveness in other populations, which have generally reported post-treatment improvements. One may wonder whether the duration of the treatment, 12 months in our study, may have played a role in this since in many of the studies the MBT treatment was assessed after an 18-month period (Volkert *et al.*, 2019). However, in line with our clinician-rated outcomes, Fonagy and colleagues (2025) reported significantly reduced staff-rated (OAS-M) aggression in individuals with an anti-social personality disorder after 12 months of MBT (Fonagy *et al.*, 2025), suggesting that, for different outcome-measures, robust improvements can occur within a year of MBT. Furthermore, other sex offender treatment programs were shown effective already after 100–200 h of treatment (Koehler and Lösel, 2025).

Notably, in the current study the only outcome measure that was not reliant on self-report, the risk assessment, did suggest an improvement after MBT. There have been longstanding discussions surrounding the use of self-report instruments in offender populations. A study in adolescent sex offenders, showed no correlation between self-reported and staff-rated IRI scores (Tidefors *et al.*, 2012). Concerns have been raised that socially desirable reporting and limited problem-insight may compromise the validity of the self-report questionnaires (e.g. Gendreau *et al.*, 1973; McGrath *et al.*, 1998; Kroner *et al.*, 2006). This study confirms that there are discrepancies between self-report and practitioner ratings in forensic settings and identifies the need to design and test assessment instruments within this context, instead of generalizing findings obtained in regular mental health-care samples. Moreover, there is a higher agreement between self-rated and observer-rated assessments, when the outcome pertains to an observable behavior, such as aggression (Tidefors *et al.*, 2012). Given that mentalization-related outcomes typically involve internal processes that are not directly observable, the use of self-rate questionnaires may have limited the valency of this study.

Future research should therefore consider incorporating (more) observer-rated outcome measures to enhance the validity and robustness of assessments. In addition to the self-report issue, for two outcome measures, interpersonal reactivity and emotional awareness, the participants in the current study scored well within the normative range at baseline (De Corte *et al.*, 2007; Lane and Smith, 2021). This may have led to a ceiling effect: when there is no deficit, it is not expected that treatment will lead to improvement. It is worth noting that some of the outcome measures, such as theory of mind and emotional awareness-self, showed medium to large effect sizes. This suggests

potentially clinically relevant differences that may not have reached statistical significance due to the small sample size.

In the current study, outcome measures were chosen to reflect the specific issues forensic psychiatric patients struggle with, e.g. emotion recognition and empathy. Many of the previous studies reporting significance have used more generalized outcome measures such as the global severity index, the Severity Indices of Personality Problems or the global assessment of functioning scale (Bales *et al.*, 2015; Kvarstein *et al.*, 2019; Laurenssen *et al.*, 2018). Moreover, unlike previous studies, the present sample included individuals with a broad range of psychiatric diagnoses. As a result, a wider variation in symptoms that may improve with MBT could be expected, which in turn may reduce the likelihood of detecting differences on specific outcome measures. Additionally, the most frequently reported effects of MBT in the qualitative study were enhanced emotional expression and improved communication skills. These constructs were not directly assessed by the self-report questionnaires used in the present study. As a result, it is possible that certain treatment effects went unrecorded.

These limitations of self-report questionnaires may underscore the importance of incorporating qualitative assessments into treatment program evaluations, since the potential benefits of a treatment may not be fully captured through a purely quantitative approach. As previously mentioned, most patients and staff members interviewed spoke positively about their experiences with MBT. Patients reported feeling seen and supported, noting improvements in emotional expression and self-esteem. Given that feelings of social rejection are recognized as risk factors for sexual reoffending (Hanson, 2000), these perceived changes appear relevant to the recovery process.

Both staff and patients indicated that MBT contributed to enhanced social interactions. While poor social skills are not directly predictive of recidivism, the development of such skills may have an indirect effect – potentially improving patients' ability to form stable (intimate) relationships or maintain employment (Hanson and Morton-Bourgon, 2019). Additionally, patients reported gaining greater insight and a more genuine interest in others, which may represent an initial step toward developing empathy (Marshall *et al.*, 1995).

Despite the overall positive feedback, some concerns were raised regarding the suitability of MBT for certain subgroups. Specifically, in the qualitative study, participants with ASD (or autistic traits) expressed, along with some staff members, that the standard MBT protocol might be too reliant on verbal communication. Additionally, they expressed a need for more concrete outcomes to the issues brought into the group sessions. Staff members questioned whether a minimal capacity for emotion recognition and expression – potentially lacking in individuals with ASD – is necessary for MBT to be effective. Contrary to this concern, in individuals with ASD,MBT has previously been shown to be both feasible and effective as measured with the MASC test specifically developed for persons with ASD (Krämer *et al.*, 2021). However, it is important to note that this study exclusively included individuals with Asperger syndrome, a subtype of ASD characterized by the absence of language or cognitive impairments (Asperger, 1944; Myles and Simpson, 2002). Therefore, it remains possible that the effectiveness of MBT may be reduced in individuals with ASD who do experience language or cognitive impairments. For this group, there might be a need for a strong emphasis on individual help with translating and generalizing therapy results to everyday life.

Another subgroup of patients that caused concern among staff members, are those behaving in a socially desired manner, often described as playing pretend. As described by Bateman and Fonagy (2006), these individuals may appear to engage in genuine mentalizing – for example, by articulating others' perspectives – but one might find that they cannot resonate with the feelings underlying these mentalizing efforts, as if something is

being avoided and kept hidden. The issue of forensic psychiatric patients displaying this socially desirable (not genuine) behavior during therapy is, however, not specific to MBT. In fact, MBT may be better suited to disrupt this pattern, as it is less regimented and does not prescribe clearly defined expected behaviors. This may make it more challenging for patients to consistently present themselves in a socially desirable manner. The fact that the worry is present among staff does suggest that more education on how to deal with this type of patients might be prudent.

There are some limitations to this study to note. First, the quantitative and qualitative studies were performed at different time points. This resulted in some shifts in the patient population, mainly with a larger proportion of patients with ASD included in the qualitative study. Furthermore, in the current study actual recidivism after MBT-treatment was not measured, and the study lacked an untreated or treatment as usual control group. Therefore, any results regarding the efficacy of MBT should be interpreted cautiously. Finally, given the small sample size the generalizability of the current study is limited.

In summary, this proof-of-principle study demonstrates that MBT seems a demanding, but feasible and well-accepted approach among (this sample of) individuals sentenced for a sex offense. However, its effectiveness in reducing recidivism risk and its broad applicability needs more evaluation in a larger sample. And the feasibility for specific subgroups, such as individuals with developmental delays, warrants further investigation.

Implications for forensic practice:

- Implementing MBT for the treatment of sex offenders is feasible within a forensic psychiatric hospital or comparable forensic settings.
- The majority of patients have positive experiences with MBT and perceive improvements in their emotion recognition and social skills.
- Further research is needed to objectively assess the effectiveness of MBT for sex offenders.
- The standard MBT protocol might require some adaptations to better fit specific subgroups of sex offenders.

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Supplementary material

The supplementary material for this article can be found online.

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