Manifestations of emotional memories in written and visual dream reports recurrences

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Summary. Psychotherapy often aims at updating implicit emotional memories that maintain clients' symptoms and un-wanted behaviors. Evidence suggests that rapid eye movement sleep may play a role in implicit emotional memory pro-cessing and that dreams may reflect the reactivation of memory traces during sleep. This qualitative research describes and illustrates how implicit emotional memories may be reflected in the written and visual dream reports of five art ther-apy clients during five weeks. Written dream reports (N = 80) recurrent themes have been classified into four categories (context, problem, solution, emotion) inspired by the narrative structure of implicit emotional memories as formulated in reconsolidation-informed psychotherapy. An observation grid was used to analyse visual dream reports (N = 29), and it included both symbols and formal elements of the images. The results indicate how clinicians and dreamers may benefit from analyzing recurrent themes in a dream series, beyond working with a dream at the time. Considering the exploratory nature of this research, further research is needed on the manifestations of implicit emotional memories in dream reports.

Keywords: Emotional memory, memory reactivation, psychotherapy, art therapy, recurrent dream, written dream report, visual dream report, dream images

1. Introduction

The continuity hypothesis of dreams states that dream con-tent is influenced by different aspects of waking life, like interests and emotions (Schredl, 2012). Evidence suggests that dreams may reflect the reactivation of memory traces during sleep (Wamsley & Stickgold, 2018) and that they preferentially incorporate novel, emotional, and personally meaningful aspects of our waking life (Picard-Deland et al., 2023). In addition, rapid eye movement sleep stage seems to play a role in implicit emotional memory (EM) processing (Landmann et al., 2015).

Implicit memory, despite its name, is not a memory of a past event (which is an explicit episodic memory), but rather refers to one's learned (and later reactivated) associations, anticipations, emotions, and reactions facing contextual triggers. Implicit EMs, as opposed to explicit EMs (episodic memories of past emotional events), are reactivated without the contribution of conscious will or awareness (Schachter, 1987). Implicit EMs are important in psychotherapy because they are often at the root of the symptoms or behaviors that the clients want to change (Ecker et al., 2012). For example, one of the participants (i.e., participant 6) from a previous study aimed to open herself up to a love relationship with a man who would invest himself in it and care about her, but she tended to get scared and to quickly end the relationship when a man was caring (Boudrias, 2024). Working with a

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dream during an art therapy session helped to unveil the fol-lowing implicit EM, which had been underneath her difficulty to reach her goal:

When somebody loves me and cares about me while I'm not perfect, I am guilty of receiving something I didn't earn. I will earn love only when I will be perfect. Therefore, to avoid feeling guilty, I shall stay in the posture of "the one who takes care of the other" in my relationships and not engage in a relationship with a man who really cares about me.

This example illustrates that an implicit EM comprises differ-ent components, without being restrained to one of them: a context triggering (often unconscious) beliefs and anticipa-tions, activating emotions and spontaneous reactions, often occurring outside of conscious will, and learned to prevent or resolve a perceived or anticipated problem or threat. This multifaceted quality distinguishes the concept of implicit EM from the concept of implicit beliefs, since not only the belief was learned and kept in the long-term memory, but also spontaneous emotions and reactions which are reacti-vated in the given triggering context.

Dreams are considered useful material to conduct the therapeutic EM reconsolidation (updating) process in psy-chotherapy (Boudrias, 2024; Ellis, 2020). They can also provide valuable information to therapists about the issues encountered by a client and about the therapeutic evolution, increase the client's insight and self-knowledge, and facili-tate the therapeutic process (Eudell-Simmons & Hilsenroth, 2005). However, many contemporary therapists do not initi-ate dreamwork in therapy, especially those without psycho-analytic training, and may think they lack knowledge or abil-ity to do so (Leonard & Dawson, 2018; Schredl et al., 2000). Considering this, it seems important to better understand how implicit EMs manifest in dreams, which is the focus of the current research, since dreams could contribute to clarify them, to update them, and to verify their successful update (Boudrias, 2024).

Recurrent dreams may relate to mental health disorders and distress. For example, post-traumatic nightmares often consist of a repetition of the trauma (van der Kolk et al., 1984). Similarly, people from clinical groups and people with more psychological distress also report more recurrent dreams, as compared to the control group and to people with less psychological distress (Soffer-Dudek & Shahar, 2009; Soffer-Dudek et al., 2011). However, a *recurrent dream* is defined as a whole dream that the person recalls having had before, while the current research focuses on *recurrent themes and emotions*, which can be observed in very different dreams.

Many dream content analyses are based on the number of a determined character, object or action as it is explicitly mentioned in written dream reports (WDRs), such as cats (Schredl, 2013; Schredl et al., 2021) and sports (Erlacher & Schredl, 2004). However, dream content analysis about psychologic themes is scarce, except some studies focusing on discrete emotions (e.g., sadness, anger) (Hall & Van de Castle, 1966; Sikka et al., 2018). Furthermore, dream literature rarely uses dream images (e.g., Schredl et al., 1999). Thus, this research aims at analysing the possible manifestations of implicit EMs in written dream reports and visual dream reports (VDRs).

2. Method

The purpose of this research is to describe and illustrate how implicit EMs may manifest in dreams of clients in psychotherapy. The qualitative design allows an inductive approach, drawing new hypotheses or theories from the data instead of using data to verify predetermined hypotheses, as in quantitative research (Anadón, 2006). Despite this qualitative design, some numbers (e.g., number of dreams, WDRs and VDRs) are also available in the results section. The research design was approved by the *Comité d'éthique de la recherche de l'Université du Québec en Abitibi-Témiscamingue*.

2.1. Participants

This study uses secondary data collected during previous research conducted in a psychotherapeutic context. During this previous research, each participant had eight individual dream-based art therapy sessions, including one audio-recorded pre-treatment and two audio-recorded post-treatment sessions. Implicit EMs were identified throughout the sessions and noted in an analysis table by the therapist after each session.

Most participants (N5) from the previous study consented to the use of their dreams, case story, and images for the current research. All of them were French speaking Canadian females, aged 26 to 56 (M = 45, SD = 12). One participant had a diagnosis of generalized anxiety disorder, and another one had a diagnosis of adjustment disorder with anxiety. Table 1 presents the desired change (reason for consultation) of each participant with current life examples from the transcripts of the pretreatment session.

2.2. Data

Three types of data were used in the current research: the waking life implicit EMs previously identified during the therapeutic process, the five weeks dream journal of each

Table 1. Desired change of the participants and current life examples.

P	Verbalized desired change	Related current life example
P1	Be more flexible/less rigid in her reactions facing cleanliness issues at home.	"I think I am rigid. I want everything to be straight, everything with a 90 degrees angle. I want everything to be perfect. […] If something is not straight, I need not to see it, not to look at it, because it will stay with me all day long. […] When I put the clothes on the clothesline, if I have a red shirt, I need a red clothespin and it needs to be from the smallest to the tallest." When asked about in what she could invest more if she let go of the cleaning, she answered she would give more importance to her relationship with her husband.
P3	Be more confident and less anxious facing the future and the risks of life. Reduce anticipation, control and planification to be more open, loose, and in the present.	"In therapy [her work, as a trainee], I feel like a beginner and I can easily fall into the trap of trying to plan everything I will say in advance, how I will deal with this and that if it happens during a session. It's like it is difficult to trust that I will be able to manage when it happens."
P4	Get more self-confidence and reduce the constant feeling of inferiority and impostor syndrome.	"If I feel someone doesn't see me in a positive way or if I feel less good or if this person has a bit of self-confidence, then I feel really destabilized or I will fall into 'oh my god, I am so shitty'."
P6	Open myself up to a love relationship in which the other person is invested and caring to me. Elucidate and resolve the related blockages and relational knots.	"It has been 11 years that I am single. […] I always have a tendency to be with men who don't invest themself much in the relationship, pretty cold*. […] When a man is too thoughtful, I feel like leaving him. It seems like I am very afraid of emotional dependency, from a man, to feel invaded by a man. […]" *Example from a past love relationship : With the father of my daughters, for example, he despised me in front of everybody, and when they were gone, I told him '[His name], when you say that, it hurts me' and his reaction was 'Well if you are unhappy with it, then I won't talk anymore.' And he spent 3 or 4 days not only without talking to me, but to the girls too."
P9	Increase my self-confidence and my feeling of security and trust towards people who I love and who say they love me. Reduce the related feeling of shame and self-doubt.	"My partner, with him it is quite intense. With his family too, in my head, it is like I am always alert about something painful that might happen, that they will betray me or discover that I am a fraud. It is like I am afraid that one will discover that I am not worth it, yes, that's it, so it is quite an intense emotion."

Note. P = Participant

Table 2. Word count of written dream reports.

Statistics	P1	P3	P4	P6	P9	All P
N WDRs	15	20	12	17	16	80
M WC	136.47	218.3	214.25	148	158.88	175
SD WC	53.47	93.1	166.38	64.09	161.24	38

Note. WDR = Written dream reports, P = Participant, WC = Word count

participant, and the visual dream reports they previously created during the five weekly art therapy sessions. In gestalt art therapy, not only the final art product matters, but also the whole creative process, through which play-like experiments can be conducted after an initial image is created and explored. Thus, since visual dream reports were usually transformed during the therapeutic process, only the initial image of a dream scene, dream figure, dream theme, or dream feeling was analyzed.

2.2.1 Analysis of written dream reports

All the WDRs of the 5 participants were analyzed (N = 80, M = 16, SD = 2.92), with a mean of 175 words (SD = 38) per dream (see Table 2).

To analyze the written dream reports (WDRs), a narrative thematic analysis was conducted for each dream. To conduct this analysis, the themes were first identified and classed in the narrative structure of the dream, according to the components of an EM, as inspired by coherence therapy (Ecker et al., 2012) : 1. the dream's contextual elements (which may trigger the EM) consist of dream themes which precede the occurrence of the problem or surround it, without being experienced as the problem or the solution itself; 2. the problem can be a threat or simply a challenge anticipated by or occurring to the dream ego; 3. the solution is what occurs in the dream which either solves the problem, allows one to avoid or prevent the problem, or is thought of as being a possible reaction to solve it or prevent it, whether efficient or not. It may be applied by the dream ego's itself or by another dream character. The emotions felt or anticipated to be felt by the dream ego were also noted as a fourth category, regardless of when they occurred in the narrative. When one of these themes was observed in four dreams or more (20% to 33% of the dreams of a participant), it was considered as a recurrent theme and extracted by the first researcher in a list of recurrent themes (see Table 3).

To verify the reliability of the first researcher's analysis, the second researcher (blind to the EMs of the participants)

was given the list of 36 recurrent themes (randomly ordered within the four categories) and identified the recurrent ones in each participant's dream series. Different wordings were considered on this list as a same theme, in the aim of rating the conceptual categories underneath the words, and avoiding discrepancies based on word considerations only. Each disagreement was then discussed between the two raters to find an agreement.

The frequency of the recurrent themes in the WDRs of each participant after the two researchers discussed them is presented in Appendix A. One emotion considered recurrent by one of them (i.e., joy/pleasure) has been removed, since the corresponding extracts from the WDRs also fitted in another similar, but more specific theme (i.e., shared pleasure). Only one recurrent problem (judgments) was removed from one participant (P6), since researchers agreed that the theme was not explicitly mentioned in most of the dreams of this participant, but rather implicitly inferred. The first and second researchers respectively added two and five themes (P1, P3, and P9) during discussion, realizing that they had failed to see them in one or more WDRs, where they were explicitly written. The same recurrent themes were noted by the two researchers for P4 and P6.

2.2.2 Analysis of visual dream reports

While verbal dream reports and WDRs are frequently used for dream content analysis (Schredl, 2010), visual dream report (VDRs) may bring complementary information about implicit emotional memories during psychotherapy (Boudrias, 2024). Therefore, the VDRs created in the five art therapy sessions were also analyzed. A total of 29 VDRs were analyzed since two participants created VDRs of two different scenes from the same dream during a session. An observation grid was developed to identify the symbols and the formal elements observed in each VDR. In art therapy, formal elements are visual or structural aspects of images, like lines, shapes, and colors (Malchiodi, 2006). These elements are observed by art therapists to understand how a client expresses their emotions, thoughts and experiences through art, beyond the symbolic content. They can provide information about client cognitive and emotional processes, strengths, challenges, and therapeutic evolution (Betts, 2006).

The symbols in the observation grid were inspired by Bulkeley & Hartmann's (2011) list of recurrent themes in dreams. It includes characters (number, sex, age group), animals or fantastic creatures, natural elements, objects, and visible actions. Moreover, Furth (1988) identified 20 focal points to interpret drawings. The items that have been considered relevant by the two researchers for the current

Table 3. Extract from the table of WDR recurrent themes (Participant 1).

Category	Themes	N Dreams	WDR Extracts
Recurrent contexts	Interior / exterior housework	6	WDR1: …cleaning butter dishes. WDR3: I was just cleaning, washing… A big clean-up. WDR4: I was in my vegetable garden […] to cut everything… WDR9: …to clean his garden. WDR11: There are renovations inside. WDR13: I am in charge of gardening and cooking.

Note. WDR = Written dream report

Table 4. Components of the waking life emotional memories of the participants and other related aspects: definitions.

Component of an EM	Definition
Triggering context	A context that triggers the reactivation of the EM.
Perceived problem/threat	A problem or threat that is perceived or anticipated through the reactivation of the EM.
Learned solution	A reaction or solution that is spontaneously applied or considered when the EM is reactivated.
Avoided emotion	An emotion that is activated when the EM is triggered.
Unmet need	A need that is unmet as a result of the reactivation of the EM.
Learning context	A context in which the EM has been learned (e.g., while the person was a teenager)

research were included in the observation grid. For example, we removed the ones that needed the client perspective, since this perspective was not available anymore. The items that were included are barriers, proportions, repetitions, numbers, shading, what is central, and what is missing (when compared to WDR).

The Formal Elements Art Therapy Scale (FEATS) is a standardized assessment tool used in art therapy to code drawings using 14 scales coded from 0 to 5 (Gantt & Tabone, 1998). The scales correspond to commonly observed characteristics of drawings. When applied to the drawing task *Person Picking an Apple from a Tree*, it allows art therapists to assess different aspects of the mental and emotional state of clients, but it can also be applied to other types of drawings, provided that relevant adjustments and interrater reliability assessments have been made (Gantt & Anderson, 2009). However, interrater reliability of the FEATS scales was not verified when applied to visual dream reports. Only the scales that were considered relevant to the current study without overlapping with another observation point were added in the observation grid. For example, the "problem solving" scale was not included since it applies only to the specific challenge of picking an apple. The scales that were included are color prominence, color fit, space, logic, and realism.

After the second researcher blindly coded the 29 randomly numbered VDRs using the observation grid, the VDRs were grouped by participant to allow the second researcher to extract visual recurrences for each one. Since the number of VDR per participant is very small (M = 5.8), an element was considered as recurrent if observed in at least 2 VDRs. Moreover, as it is the case in art therapy, it seems important to avoid relying on a single image to draw conclusions about the person who created it, without considering other sources of information. Therefore, we only considered the recurrences (observed in at least two or more images) that were reflected in at least one other source of information (i.e., a dream report, a verbatim extract, or a related episodic memory).

2.3. Data pooling and synthesis

Once all WDRs and VDRs analyses were completed, the two researchers compared and discussed the information provided by the analysis of the different sources of data for each participant. This allowed them to build hypotheses about how the recurrences in the two types of dream reports may relate to the participants EM. In art therapy, it is preferred that clients share their own associations between their images and experiences. In the absence of their personal associations, researchers' hypotheses are supported instead through the cultural meanings of symbols. Indeed, Lakoff & Johnson (1980) states that "abstract concepts are defined metaphorically in terms of concepts that are more concrete" (p. 198). For example, the abstract concept "more" is often associated with the concrete concept "up" in occidental cultures. Similarly, the Embodied Cognition Theory of Dreaming states that dreams "depict what is emotionally salient to the dreamer as a sensorimotor and affective experience with abstract concepts appearing in the dream as simulated embodied metaphors" (Wagener, 2023, p. 35). However, some of these metaphors may be culturally shared, while others may be more specific to each individual. Therefore, some of the connections that are hypothesized in the current research may seem more obvious, while others might be debated. Only associations that both researchers considered sufficiently evident are reported in the results.

3. Results

This section describes and illustrates different ways through which WDRs and VDRs related to the waking life EM components (triggering context, perceived problem/threat, and learned solution) and to other aspects relating to a participant waking life EM (avoided emotion, unmet need and learning context) (see Table 4).

3.1. Written dream reports

Different components of a participant waking life EM were reflected in the WDR through different categories of recurrent themes. The perceived problem or threat and its learned solution were frequently observed in various dream contexts or facing different dream contents. Both the context in which an EM has been learned (learning context), and the EM triggering context were reflected in dream recurrent themes, while recurrent emotions in dreams seemed to mirror avoided emotions or unmet needs in waking. EM components also seem to be reflected by recurrent reactions of the participant to their dreams.

Perceived problem/threat. For all the participants (*n* = 5), a perceived problem or threat component of a waking life EM was also identified as a recurrent problem in their dreams. The dreams recurrent problem occurred in different dream settings. For example, P3's recurrent perceived problem of uncertainty/ambivalence was observed in 7 of her 20 WDRs in the following contexts: own illness, taking care of a baby, a social claim, schoolwork, a relationship with a client, and an intimate relationship.

Learned solution. For all the participants (*n* = 5), their specific learned solution facing the perceived problem or threat was observed in their dreams as a recurrent solution facing different problems or sources of threats. For example, P1's recurrent avoidance solution was observed in 8 of her 15 WDRs, in reaction to a dirty pond, humiliation, a wave, an interpersonal conflict, rain, a risk of falling, and insects. Similarly, the same recurrent solution can manifest in various specific ways. For instance, P3's recurrent solu-

tion in 6 dream reports, often in reaction to a situation in which she felt anxious, was to seek/receive support, but the support came from different figures: her family and partner, her friend, her father, a support line, a girl, and a nurse with a man.

Learning context. For almost all participants (*n* = 4), the waking life context in which the EM seems to have been learned, according to the memories told by the participants, was mirrored in a recurrent context of the dream. For example, in 5 of the 12 WDRs from P4, who was struggling with an EM learned during her teenage years, different contextual contents referred to this stage of her life: her teenage apartment, her high school friends, a teenager, a high school, and her dream Ego experienced as a teenager.

Triggering context. For most participants (*n* = 3), the context currently triggering the EM in their waking life was experienced both as a recurrent context and as a recurrent problem in their dreams. For instance, in 5 of P1's WDRs, interior or exterior housework was the context in which the problem occurred or was anticipated (e.g., she was cleaning or gardening), while in 5 dream reports, the dirt/rot/lack of order was described as the problem to solve or to avoid. This dirt/cleaning theme once figured as both the context and the problem in a single dream report:

I am at a client's house to clean his garden [...] A friend tells me I have time to pay him his due. OK! In my head: what does he mean? He repeats to me that he is willing to accept any form of payment. He is attracted to me. And me too even if he is older than me. [...] There is a kind of powder on the floor. It is everywhere and I feel desperate to see the volume of work I must do. I cry because I will never make it (P1-D9).

Recurrent emotions in WDRs. Some of the recurrent unpleasant emotions in the dreams corresponded with the avoided emotions felt when facing the EM problem or threat (*n* = 3). For example, P9 felt shame/embarrassment in 5 of her 16 WDRs, facing different contexts in which she can be heard or seen while lacking control, kindness or knowledge. One recurrent pleasant emotion (feeling connected with others/sense of belonging/sexual desire/shared pleasure) related to the unmet needs resulting from the EM of the participants (n = 3). More specifically, it was the emotion that would result if these needs would be met. For example, P6 aimed at opening herself to a love relationship with a man who would be invested in it and caring to her. In 4 of her 17 WDRs, she did feel she was sharing pleasure with a man.

Recurrent reactions of the participant about their dreams. Beyond the narrative content analysis, the way a dreamer recurrently describes their dreams may also reflect an EM component. For example, in 7 of the 20 WDRs from P3 she started by specifying its blurry nature ("Fuzzy dream", "Dream a bit blurry" or "This is a very fuzzy dream"). This seems to relate to the perceived problem/threat of uncertainty, from her waking life EM, which is also a recurrent problem identified in her WDRs.

3.2. Visual dream reports

This section illustrates how VDRs may relate to participants waking life EM. Both recurrent symbols and recurrent formal elements of the VDRs lead to hypothetical connections with the participants EM.

3.2.1 Recurrent characters

In the category "character" of the observation grid, the two participants (P1 and P9) who recurrently pictured a single woman are also the two participants who had a waking life EM about abandonment (Appendix B). For example, P9 said that it was hard for her "to believe that people love me, care for my well-being, and that they will not abandon [her]" (see Figure 1). Interestingly, this theme was not identified as a recurrent problem in their WDRs. Often (P1, P3, and P9), the recurrent character related to the perceived problem/threat component of the participant waking life EM, while in other cases (P4 and P6), it was rather associated with the learned solution. In one last case, it was relating to the context triggering the EM (P3).

3.2.2 Recurrent symbols and formal elements

Both the context in which a participant EM was learned in the past (P1 and P4) and the context in which it is currently triggered in waking life (P4) seemed to be reflected through a VDR recurrency (Appendix C). For example, the recurrent house symbol in the VDR of P1 echoes the WDR recurrent theme of interior and exterior housework and represents the context in which the EM was learned during her childhood, dirt or lack of cleaning inside or outside of the house resulting in the father's violent behaviors (see Figure 2).

For P4, the context in which her EM was learned seemed to rather be reflected through a recurrent formal element of her VDRs. In fact, she recurrently used less than 50% of the space on the sheet of paper, mirroring the WDR recurrent theme "lack of space". This lack of space may refer to the context in which she learned an EM leading her to seek "the smallest quiet place" and to avoid expressing herself (i.e., when she was living in a mobile home with her parents).

3.2.3 Recurrent colors

Recurrent colors observed in the VDRs may also reflect different aspects of an EM, namely the perceived problem or threat (P1), and the avoided emotion (P4 and P9), drawing on the personal or cultural associations between the color

Figure 1. Visual dream report of Participant 9: Single woman as a recurrent character.

Figure 2. Visual dream report of Participant 1: House as a recurrent symbol.

and a specific theme or emotion (Appendix D). For example, P4 was afraid to be submersed by "negative" emotions (like anger), avoiding it, and a recurrent color in her VDRs was red (see Figure 3). Fetterman et al. (2012) showed robust evidence for an implicit association between anger and red among North Dakota State participants. In French, similarly as in English, different expressions reflect this common association between red (*rouge*) and anger (*colère*), like *être rouge de colère* (red with anger) and *voir rouge* (seeing red).

3.2.4 Recurrent missing parts

For each participant but one (P3), at least one element recurrently missing from the VDRs, as compared to WDRs, seems to relate to one of their EM. They are described here. P1 mentioned that if she would stop her compulsion to clean (i.e., the learned solution, from her waking life EM), she would invest more time and energy in her relationship with her husband (i.e. the unmet need, as a result of her EM). However, the husband or lover that she refers to in her WDRs does not figure on the corresponding VDRs (*n* = 2). Similarly, P6 was struggling with an EM preventing her from engaging in an intimate relationship with a man (unmet need), and the men that she refers to in her WDRs are often missing from her VDRs (*n* = 3).

Moreover, one EM of P4 prevented her from being fully herself, which she thought was learned in the context of a long-lasting felt sense that for her mother, giving birth to a
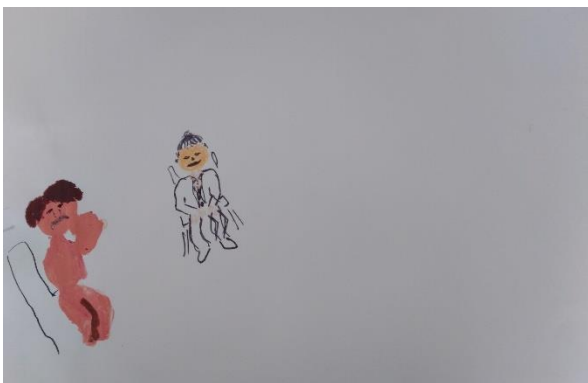

Figure 4. Visual dream report of Participant 4: Own clothes recurrently missing.

Figure 3. Visual dream report of Participant 4: Red as a recurrent color.

son would have been better than to a daughter. However, while her mother is mentioned in her WDRs, she is not represented in the corresponding VDRs (n = 2). Also, she repeatedly omits to represent her own clothes on her VDRs when they are mentioned in her WDRs (n = 2), which might relate to this fragile sense of her identity, since clothes are not only used to cover one's body, but also to express one's identity (see Figure 4).

Finally, one EM of P9 concerns the anticipation that she will not receive the help she needs if she asks for it. Interestingly, the WDRs characters whose role is to help is recurrently absent from the corresponding VDRs (*n* = 2). Also, her waking life EM activates shame. Thus, it might be relevant that her own character is repeatedly missing from the VDRs (*n* = 2), since the common tendency resulting from shame is self withdrawal and isolation (Greenberg, 2011).

4. Discussion

Dreams provide relevant information to therapists about their clients' issues and therapeutic evolution (Eudell-Simmons & Hilsenroth, 2005). However, a single dream is probably insufficient to draw conclusions about the dreamer (Schredl et al., 2015). Jung (1976) put a similar emphasis on dream series. This research demonstrates how recurrences in dreams can provide information about implicit EMs that are in need of being updated, which is in line with the continuity hypothesis of dreams (Schredl, 2012). Clinicians working with dreams may therefore benefit from paying special attention to recurrent themes in the dream series of their clients, beyond working with the individual dream at the time. More specifically, implicit EMs seems to be reflected in WDRs through recurrent contextual elements, problems and solutions, even if the related dream figures and symbols were constantly changing from one dream to another. The recurrent emotions extracted from the WDRs also seem to reflect avoided emotions and unmet needs related to a waking life EM. Moreover, the fact that the context triggering the EM in waking life was observed in dreams both as a recurrent context and as a recurrent problem echoes the association process merging the perceptual or contextual aspects of an EM (e.g., the dirt – P1) with the problem itself (e.g., the violent behaviors of the father – P1), resulting for example in the post-traumatic stress disorder symptoms of re-experiencing the trauma when a contextual element triggers it (Keane et al., 1985).

Analyzing dream discrete figures and symbols may be useful according to various dreamwork methods (Hamel,

2020; Jung, 1998; Ullman, 1996). However, implicit EM is complex, more process-like, and can be framed in a narrative structure including not only emotion itself, but also a triggering context as well as a perceived problem and learned solution. In the current research, the themes observed through these EM components (e.g., teenage-related themes, seeking support) were recurrent even when the related manifest contents of dreams varied a lot (e.g., teenage-related people or buildings, seeking support from different characters). Thus, looking at the dreams of their clients through this process framework, beyond the figures and symbols, could be helpful to clarify their implicit EMs. For example, the dreamwork method *Listening to the dreamer* (Schredl, 2011) includes a step during which the dreamer removes the dream images (figures and symbols) to only focus on the underlying processes (actions and emotions). Indeed, it would be interesting to assess the relevance of incorporating an EM narrative structure to this step by identifying the context, the problem and the solution that are depicted in the dream. The observation of recurrences through an EM narrative structure can also be useful for dreamers who wishes to increase self-awareness and better understand the EMs that are in the way of their willingness to change, as well as to identify alternative solutions or reactions to the perceived problems they encounter in the dreams and in their waking life. However, this can hardly be done with very short dreams, since they tend to be less narrative and might even be comprised of a context only, without a problem or solution.

As sleep seems to extract the essence of our waking life experiences (Payne et al., 2009), creating a VDR in session may in turn extract the gist of a dream experience. Indeed, Gestalt therapy states that what emerges as a figure from the ground in the field of awareness (the Gestalt) is the experience that most urgently needs to be processed. As explained by Masquelier-Savatier (2017), perceptual and affective components influence each other. To illustrate it, she uses the example of thirst: The thirst leads us to see water and the sight of water leads us to be thirsty (p. 34). Therefore, letting the client choose the starting point to create a VDR could lead to them extracting the gist of a dream experience, or the EM which is the most in need of being updated. It is also interesting to note that the recurrencies observed in a client VDR may sometimes provide supplemental information that is not observed in the WDR, like it was the case for the two participants with an abandonment related EM, who recurrently pictured a single woman in their VDR, while the theme was not identified in the WDRs. Moreover, both the recurrent formal elements of the image (e.g., color and space) and the recurrent presence or absence of a character or symbol in a client VDRs may provide information about their EMs to update. Thus, it seems important for therapist to avoid overlooking one of these aspects.

The current research focuses on EM identification as a prerequisite of the therapeutic memory reconsolidation process. However, both the reactivation of the EM and the occurrence of a prediction error are required to update a memory through reconsolidation (Nader, 2003; Pedreira et al., 2004). Thus, it would also be relevant to verify if the dreamer's predictions are violated in dream reports, since controversy remains in the literature about the existence of such prediction errors in dreams (Hobson & Friston, 2012; Bonamino et al., 2024).

Besides the implications of this research for therapy, it also has implications to better understand the dreaming consciousness. For example, the fact that recurrent problems and solutions in the WDRs were associated with various characters and contexts supports the evidence of dream hyperassociativity, as a possible mechanism of emotional memory assimilation processes during sleep (Malinowski & Horton, 2015). It could also be hypothesized that dreams play a role in memory updating through reconsolidation, if the reactivation of an EM during sleep is followed by a prediction error, for example through new associations with former memories.

Limits

The small size of the research sample was useful to conduct a deep qualitative analysis of each dream series, but since most participants created not more than 5 VDRs, only 2 occurrences were required to identify a recurrence, which is a very small number. Therefore, the sample size mainly impacted the analysis of the VDR recurrences. Moreover, considering the exploratory nature of this research, further studies are needed to clarify how implicit EMs manifest in dreams reports.

It is important to note that the connections between VDRs and EMs are interpretative and that the researchers did not have access to the feedback from the dreamers, while it is recommended by clinicians to first get the subjective associations of the dreamers themselves (Ellis, 2020; Hamel, 2020). Since these connections can reflect the subjectivity of the researchers, they should be considered as hypotheses rather than facts. The use of multiple sources of information and the input of the client are recommended in a therapeutic context.

Finally, since the dream content changes through the therapeutic evolution (Eudell-Simmons & Hilsenroth, 2005), we might find less recurrences in this sample than in dream reports of people outside of a therapeutic context. Indeed, a recurrent theme may stop being recurrent when it's processed or updated through therapy (Boudrias, 2024). Therefore, the results of this research can't be transferred to other populations.

5. Conclusion

This research describes and illustrates how the EMs of five art therapy clients may have been reflected in the written and visual dream reports during a five-week treatment. Paying attention to recurrent emotions, themes, symbols, and visual formal elements in written and visual dream reports seems to be relevant to unfold the EMs of clients in psychotherapy. This research was exploratory and further research is needed.

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Appendix A

Frequency of the recurrent themes in the WDRs of the participants

Category	Theme	P1	P3	P4	P6	P9
Recurrent contexts (N = 11)	At work or at school		8			
	Social leisure activity	4				4
	Customer position of the dream ego/purchases by dream ego					5
	Interior or exterior housework	6				
	Waiting/line up		4			
	Family of origin's house		7			
	My adult apartment/My adult house		5			
	Travel/transportation/moving			6	6	5
	Illness/wounds/physical care/healthcare place or staff		4			
	Teenage years			5		
	Intimate relationship or moment with a man		6		6	
Recurrent problems (N = 10)	Threat to physical integrity/physical aggression/life in danger/ destruction	4				
	Lack of space/invasion of space/narrowness			4		
	Lack of rigor from others		6			
	Dirt/rot/lack of order/contamination/rust	5				
	Lack of time/something takes a lot of time				6	
	Uncertainty/ambivalence		7			
	Judgments from others/damage to reputation/be seen or heard in an embarrassing situation like a mistake or failure/look inadequate or inappropriate		4			7
	Lack of control/capacity		4			
	Cold, uninterested or careless attitude/lack of consideration from others/being ignored, not heard or not seen by others		7	5	4	
	Loss of freedom/loss of privilege/loss of right				6	
Recurrent solutions (N = 6)	Search for "the right thing to do"/fix a mistake		7			
	Avoid the threat physically/leave/move away/change of place or position	8				5
	Attempt to get in touch or to extend contact to someone			4		
	Ask (except support)/express or assert oneself/negotiate			4	7	
	Seek or receive support/caring/support proposal		6			4
	Endure/avoid asking/submit/freeze				5	
Recurrent emotions (N = 8)	Sadness/disappointment		4			
	Anger/frustration/irritability		5	4		
	Fear	6				
	Wonderment/admiration	5				
	Feeling connected to others/sense of belonging/sexual desire/shared pleasure	5	5		4	
	Shame					5
	Anxiety/stress/worry		10			
	Calm				4	

Note. P = Participant

Appendix B

Recurrent characters in VDRs

P	VDR recurrence	Verbatim and WDR words	Implicit EM
P1	Single woman (*n* = 2)	"In a love relationship, in the parent-child relationship, with my own parents but also with my children, there is always an abandonment story." (S7)	**Perceived problem**: When I feel abandoned, I feel guilty about something.
P9	Single woman (*n* = 3)	"It is hard for me to believe that people love me, care for my well-being, and that they will not abandon me." (S1)	**Perceived problem**: If I engage in something involving a possible success, people will realize that I am incapable, that I am worth nothing, and I will be abandoned.
P3	Baby/child/children (*n* = 3)	"Of course they are worried, because I am their little girl." (S1) "I had a lot of dreams about babies in a short period of time." (S7)	**Perceived problem**: In contexts uncertainty and life problems, I am fragile, vulnerable and helpless, like a little girl.
P3	Group of people (*n* = 4)	"I experience it with friends, in a group, when I feel a bit apart because I can't talk with people." (S7)	**Triggering context**: If people do not seem enthusiastic towards me, it is because I am different and uninteresting. I feel rejected and I stay apart.
P4	Undefined sex or gender (*n* = 4)	"I have a huge, erect penis coming out of my ribs, under my left breast. My partner is very impressed by the large size of the penis. […] I am in fact a hermaphrodite without knowing it. This new discovery makes me want to quickly announce it to my mom, for whom giving birth to a son would have been better than to a daughter. I think that she may love me more knowing that." (WDR1)	**Learned solution**: If I am too confident in my own posture, I will be rejected and feel inadequate. Therefore, I must constantly make things in the aim of answering exterior expectations and keep up appearances, even if I need to fake agreement or stop being myself.
P6	Dead character (*n* = 3)	"When I was young… I think what I am about to say is a bit intense, but I didn't exist. My physical body existed, but feeling sad, having needs, nobody was hearing it. My parents were not hearing it." (S1) "I ended this relationship because I was leaving my soul there. My soul had been shut down […] What I mean is I didn't exist anymore, my soul stopped living (S7). We have a couple life, but we have an individual life, you know, each of us doesn't stop existing when the other person is not there (S7). "I am resigned. I am ready to die. I am waiting […] I am totally submissive to his actions." (WDR17)	**Learned solution**: When I feel uncomfortable or threatened by something in the relationship, like coldness and insensitivity, it is not worth fighting for myself. I must instead close my eyes to it and resign, passively undergoing it, even if it means losing something important to me.

Note. P = Participant, S = Session

Appendix C

Recurrent symbols and formal elements in VDRs

P	VDR recurrence	WDR recurrence	Verbatim	Implicit EM
P1	House symbol (*n* = 2)	Interior or exterior housework (*n* = 6)	Reported episodic EM: "Everything needed to be straight. […] The glasses always to the left. We were living in fear because everything needed to be perfect when daddy came back and when he found something wrong, we were beaten […] The garden too." (S1)	**Learning context**, according to the reported episodic EM.
P4	Formal element "Space": Less than 50% of space is used on the sheet of paper (*n* = 2).	Lack of space (*n* = 4)	Reported episodic EM: "We were living in a mobile home, so it was not big, and when we made a mistake, the mistake was not easily accepted. Or if we did not correspond to the parents ideal, I would say." (S1) "I never liked being in a wide space, you know. […], big rooms. I am more the one who seeks the smallest quiet place. Being outside without the possibility to come back in whenever I want is very uncomfortable to me." (S7)	**Learning context**, according to the reported episodic EM. This theme (lack of physical space) might also relate to the **triggering context** of the waking life EM "feeling there is no space for me (e.g., to express myself)".

Note. P = Participant, S = Session

Appendix D

Recurrent symbols and formal elements in VDRs

P	VDR recurrence	WDR recurrence	Verbatim and WDR words	Implicit EM
P1	Brown (n = 2)	Interior/exterior housework (n = 6)	"I am on a path that runs along a huge muddy pond […] The water is muddy, dirty, and stinky." (WDR2)	**Perceived problem/threat**: When something is dirty or messy, I feel that I am in danger. To prevent this feeling, I need to avoid dirt and mess by cleaning everything as soon as possible.
P4	Red (n = 3)	Lack of consideration from others (n = 5) (seems to lead to anger, based on the verbatim)	"When I feel something is imposed upon me that does not make sense to me, it makes me very, very, very angry, you know, and closed too." (S7) "Then I became very angry, first because he did not consider my expertise […], he imposed a way on me […], it has been awful for me." (S7)	**Avoided emotion**: Anger If I feel negative emotions with someone, I will be submersed by this emotion and this person. (Anger being hypothetically an emotion being perceived as negative and potentially overwhelming, based on the verbatim.)
P9	Black (noir, in French) (n = 2)	Judgments from others/damage to reputation/be seen or heard in an embarrassing situation like a mistake or failure/ look inadequate or inappropriate (n = 7) Shame (n = 5)	"I buy many things at the grocery store - juice, apples, a black apple - with a credit card." (WDR2)* "[My mother and sister], they are not good for my mental health. They judge my choices. I feel a kind of... In this family, I feel like the black head, the little black sheep." (S1) "The kind of fight that I always experience between my inner darkness (noirceur) and the light, it is very present, and often, I find myself in the dark (dans le noir)." (S7)	**Avoided emotion**: Shame If I feel anger or if I am unavailable to someone who needs me, it also means that I am dark (original French word used: noire), bad and selfish.

Note. P = Participant, S = Session
*In session, P9 reported feeling ashamed of choosing a black apple, considering black as bad.

Appendix E

Recurrent missing parts

P	VDR recurrent missing part	Verbatim	Implicit EM
P1	Husband (n = 2)	"[If I was free from my compulsion to clean (learned solution),] I would give more importance to my relationship with my lover." (S1)	**Unmet need**: to spend more time with my husband.
P4 P4	Mother (n = 2) Clothes (n = 2)	"I definitely identify with the female gender, but in my dreams there's a theme like I should have been a boy." (S7)	**Learning context**: the felt sense that her mother would have loved her more if she has been a boy.
P6	Men (n = 3)	"I've always tended to be with men who invested little, rather cold […] When a man is too attentive to me, I just want to leave." (S1)	**Unmet need**: engaging in an intimate relationship with a man.
P9	Characters whose role is to help (n = 2)	"My family, […] it's unhealthy and they don't help me." (S1)	**Perceived problem/threat**: nobody will help me.
P9	Own character (n = 2)	"They judge me a lot […] I am the black head. I am the little black sheep" (S1)	**Avoided emotion**: Shame

Note. P = Participant, S = Session