The dream experiences of insomnia sufferers in cognitive behavioral therapy: A qualitative study

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Summary. Individuals with insomnia have more negative dream contents than good sleepers, but no study has examined their perceptions of their dreams and their need to address this topic during therapy. Five adults were recruited from the Sleep Psychology Clinic at Université Laval after receiving a cognitive behavioral therapy for insomnia (CBT-I). They were administered a semi-structured interview constructed by the research team. The interviews were recorded and transcribed into verbatim for content analysis. The Insomnia Severity Index was administered before and after treatment, and sleep diaries were completed two weeks prior to the therapy and in the last two weeks of therapy. The participants experienced negative dreams but attributed little importance to them. They did not feel the need to discuss their dreams in therapy. However, they would be opened to address their dreams in therapy if it was relevant to their situation. Motives considered to be acceptable for talking about dreams in therapy were the experience of nightmares, a disruptive effect of dreams on sleep quality and daytime functioning, or the analysis of dreams to understand the causes of one's difficulties. This study constitutes a first step in documenting the perceptions of individuals with insomnia regarding their dreams, and the perceived importance of these dreams in the context of CBT-I. While assessing the experience of nightmares is recommended, the results suggest that some individuals with insomnia do not need to discuss their dreams during CBT-I.

Keywords: Insomnia, dreams, qualitative, cognitive behavioral therapy

1. Introduction

Insomnia is a mental health disorder characterized by difficulties initiating or maintaining sleep which cause clinically significant distress in one or more areas of functioning (American Psychiatric Association, 2013). The prevalence of individuals meeting the insomnia disorder criteria as defined by the DSM-5 (APA, 2013) or the ICSD-3 (Sateia, 2014) varies between 6% and 10% (Morin & Benca, 2012; Morin & Jarrin, 2022). This disorder has been associated with several negative outcomes, including daytime fatigue, psychological distress (Morin, LeBlanc, et al., 2006), anxiety or depression (Baglioni et al., 2011; Ohayon, 2002; Taylor et al., 2005), physical discomfort (Morin, LeBlanc, et al., 2006), hypertension and cardiovascular diseases (Jarrin et al., 2018; Javaheri & Redline, 2017), and a heightened risk of road collision (Morin et al., 2020).

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There is a relationship between negatively valenced dreams and insomnia. Studies have shown that the dreams of individuals with insomnia have a more negative tone than those of good sleepers: their dreams present more concerns, more themes of depression and negative representations of self, negative emotions of greater intensity, and are self-rated more negatively (Pérusse et al., 2016; Schredl et al., 1998). Additionally, an association has been observed between elevated negative oneiric activity and a lower sleep efficiency in insomnia sufferers (Pérusse et al., 2016). Moreover, the severity of sleep difficulties is positively associated with nightmares (Schredl, 2009), with about 18.3% of insomnia sufferers experiencing nightmares regularly (Ohayon et al., 1997). Nightmares cause awakenings and reduce sleep quality (Krakow et al., 2012; Lemyre et al., 2019; Ohayon et al., 1997). In turn, the sleep difficulties caused by nightmares can lead to fatigue, irritability, and a difficulty concentrating (Lemyre et al., 2019). Despite these data, no qualitative study has been conducted with individuals experiencing insomnia to understand their perceptions of their dreams, including the consequences of their dreams on their insomnia symptoms.

It is also important to consider the possibility that insomnia negatively impacts dreaming. The continuity hypothesis, which postulates that the content of dreams is in continuity with thoughts, conceptions, and concerns (Hall & Nordby, 1972), is one of the most scientifically supported dream theories to date (Domhoff, 2011; Malinowski et al., 2014). In line with the continuity hypothesis, Riemann et al. (2012)

propose that daily concerns—mostly worries and concerns about sleep difficulties and their consequences—can dominate the dreams of insomnia sufferers. They postulate that cognitive hyperarousal in individuals experiencing insomnia (i.e., pre-sleep concerns, worries and ruminations, mostly about insomnia and its consequences) could result in sleep mentation reflecting the thoughts and concerns active before sleep. As such, Riemann et al. (2012) hypothesize that "enhanced arousal during REM sleep may render these wake-like cognitions more accessible to conscious perception, memory storage and morning recall" (p.167). It could then contribute to the perception of disturbed dreaming and non-restorative sleep (Riemann et al., 2012). Furthermore, insomnia has the potential to disrupt the emotion regulation function of sleep (Deliens et al., 2014). This can increase affect distress (a tendency to experience strong emotional reactions to negative stimuli/events), which is hypothesized to be involved in the etiology of nightmares (Gieselmann et al., 2019; Levin & Nielsen, 2007).

The use of dream work in clinical settings has been marginalized due to cultural, historical, political, and economic factors (Leonard & Dawson, 2018). However, some studies indicate that the clients express a need to talk about their dreams with their therapist and that they tend to be the ones initiating this conversation, notwithstanding the therapist's theoretical orientation (Hill et al., 2013; Schredl et al., 2000). The main reasons for clients to talk about their dreams in therapy are to address disturbing dreams or to gain insight about themselves (Hill et al., 2013). Dream work in therapy has been associated with benefits such as a better therapeutic alliance, insights, problem solving, and facilitating access to thoughts and emotions which are difficult to express for the client (Edwards et al., 2015; Hill et al., 2013; Hill & Knox, 2010; Hill et al., 2000; Pesant & Zadra, 2004; Wonnell & Hill, 2005).

While Imagery rehearsal therapy (IRT) is recommended for nightmare disorder (Morgenthaler et al., 2018), cognitive behavioral therapy for insomnia (CBT-I) is the first-line treatment for insomnia disorder (Edinger et al., 2021; Riemann et al., 2017; Riemann et al., 2023; Schutte-Rodin et al., 2008). CBT-I can include psychoeducation about sleep, sleep restriction, stimulus control, behavioral and cognitive interventions to change maladaptive beliefs about sleep, and relaxation techniques (Morin et al., 2015). Its efficacy has been thoroughly demonstrated (Brasure et al., 2016; Morin, Bootzin, et al., 2006; Trauer et al., 2015). CBT-I does not traditionally include dream work. Since insomnia sufferers' negative oneiric activity is associated with their sleep difficulties (as discussed above), it appears relevant to study the perceptions of these individuals regarding the use of dream work in CBT-I. This would help determine whether there is a need to address the dreams of these individuals in therapy.

The present study is a preliminary investigation on the perceptions of individuals with insomnia regarding their dream experiences. It aims to provide a qualitative description of the phenomenon of dreaming in a population of adults with insomnia with or without comorbidity who have undergone CBT-I. Since qualitative methods are exploratory, they can be useful for gaining a better understanding of a phenomenon which remains understudied (Creswell, 2009). Qualitative methods can also contribute to develop a better understanding or description of a phenomenon by looking at it from the perspective of the individual (Flick, 2007). Hence, this design is appropriate to conduct an in-depth investigation of the perceptions and experiences of insomnia sufferers in relation to their dreams. Specifically, the dream phenomenon was explored based on the following questions: 1) What importance does the client attribute to their dreams in their daily lives? 2) What impact do dreams have on their insomnia symptoms? and 3) What is the client's perception of dream work in the context of CBT-I? To gain perspective on those questions, dream perceptions were also explored.

2. Method

2.1. Participants

Five individuals consulting the Sleep Psychology Clinic (SPC), which is part of the Consultation Service in the School of Psychology at Université Laval, participated in the current study. Three of them were university students and two were employees. The inclusion criteria were: (a) to have received an insomnia disorder diagnosis according to the DSM-5 criteria; (b), to have completed a CBT-I within the past 3 months; and (c) to be 18 years of age or older. The exclusion criteria were: (a) to suffer from sleep apnea without continuous positive airway pressure therapy (CPAP), since it can affect dreams (BaHammam & Almeneessier, 2019); (b) to take any of the following medications: fluoxetine (Prozac), protriptyline (Vivactil), clonidine, and fluvoxamine (Luvox), all of which can affect REM sleep (MacFarlane, 2008, 2019); and (c) to suffer from a severe mental disorder such as severe depression with suicidal thoughts or a psychotic disorder. Presenting another mental disorder did not constitute an exclusion criterion since insomnia is highly comorbid with other mental disorders (Kessler et al., 2011; Vallières et al., 2021). Since the goal of the study was to explore the dream experiences of individuals with insomnia who have undergone CBT-I, no criterion about nightmares was included. This decision was made to ensure that the exploration of dreaming experiences remained as broad as possible.

2.2. Treatment

The SPC is a university clinic offering psychological evaluation and therapy for people suffering from various sleep difficulties, most commonly insomnia. For a complete description of the population consulting at the SPC, see Vallières et al. (2021). The evaluation process at the SPC typically consists of administering the Structured Sleep Diagnostic Interview (including on question on nightmares; inspired from Morin, 1993) and the MINI International Neuropsychiatric Interview (Sheehan et al., 1998) to investigate the presence of insomnia, other sleep disorders including nightmare disorder, and other comorbid psychopathologies. Questionnaires assessing sleep difficulties are administered before and after therapy, including the Insomnia Severity Index (ISI) (Bastien et al., 2001). Daily sleep diaries are completed by the client starting at least two weeks prior to the therapy and throughout the therapy. The CBT-I offered at the clinic is a six-session treatment inspired by Morin and Espie's manual (Morin & Espie, 2003), administered in individual format. It includes psychoeducation about sleep, sleep restriction, stimulus control, cognitive restructuring, and sleep hygiene. Relaxation techniques are added to the therapy if needed. The treatment manual does not include content on dreams. Interventions at the clinic are offered by doctoral students in psychology under the supervision of a licensed

psychologist with an expertise in sleep (A.V.). The therapists' clinical approach is cognitive behavioral.

2.3. Research Instruments

2.3.1 Insomnia Severity Index (ISI)

The ISI (Bastien et al., 2001) is a seven-item questionnaire measuring the subjective severity of insomnia. A scale from "0" (none) to "4" (very) is used to measure the severity of sleep difficulties (i.e., difficulties falling asleep, difficulties staying asleep, and problem waking up too early). Sleep satisfaction is measured on a scale from "0" (very satisfied) to "4" (very dissatisfied). A scale from "0" (not at all) to "4" (very much) is used to measure the interference of sleep difficulties with daily functioning, the extent to which the sleep problem is noticeable to others, and worries related to sleep. The ISI has good psychometric properties (Bastien et al., 2001). The French version of the ISI, which was used in this study, has been validated in a clinical setting (Gagnon, 2012).

2.3.2 Sleep diary

The sleep diary (Vallières et al., 2014) assesses sleep variables and provides an overview of the sleep-wake schedule on a 24-hour line for each day of the week. Individuals note the medications, caffeine, and alcohol they have used during the day. They also report the following information in relation to their main sleep period: their sleepiness before and after sleep on a Likert-scale from "1" (I feel active and energetic, awake and alert) to "7" (dreamy, difficult to stay awake), the time at which they went to bed, the time when they closed the light, the amount of time required to fall asleep, the length of their awakenings, the time when they last woke up, and the time when they got out of bed. These questions allow for the calculation of the following sleep parameters: total time in bed, total wake time, total sleep time, and sleep efficiency (SE; the percentage of time the individual slept while in bed).

2.3.3 Qualitative Interview

A semi-structured individual interview was developed for this study. The interview comprises 21 questions exploring perceptions in relation to dreams, the importance attributed to dreams, the relationship between sleep and dreams, and the use of dreams in therapy. An additional fourteen follow-up questions are included to obtain more detailed answers if needed. The first participant was asked about their experience with the interview and their opinion of it. No modification to the interview was made at that time. After the third interview, question 13 was removed since it was deemed confusing, and because it was considered to be very similar to question 14. The interview was developed in French and translated into English for the present article (Table 1); the notes in italic are intended for the interviewer.

2.4. Procedure

The participants were recruited from January 2019 to April 2020 at the SPC. The recruitment was terminated due to the sociosanitary context of the COVID-19 pandemic. Therapists from the SPC received the list of inclusion and exclusion criteria for the study. They offered eligible clients the possibility to contact the research team or to be contacted by the study coordinator at the end of their CBT-I. It was emphasized that their participation in the study was voluntary, confidential, and would not affect any present or future treatments. The participants met the first author individually at the SPC. A consent form was presented and signed. Then, the semi-structured interview was administered by the first author and recorded in audio format. A sheet containing the contact number of resources in psychology was provided to the participant at the end of the meeting. Permission to retrospectively access data from the ISI (completed before and after the therapy) and the sleep diaries (for the two weeks preceding the therapy and the last two weeks of therapy) was obtained from the participants. By participating in the study, the participants were eligible to win movie tickets worth $20. The study was approved by the Université Laval Psychology and Education Ethics Committee (reference number: 2018-247 A-2/01-05-2019).

2.5. Qualitative Analysis

The audio recordings of the interviews were transcribed into verbatim by undergraduate students and revised by the first author. The first author read the interviews to familiarize herself with their content. Five categories were determined based on the interview's questions and the reading of the verbatim: 1) dream perceptions, 2) dream importance, 3) dream-sleep relationship, 4) dream-wake relationship and 5) dreams experiences in psychotherapy. Then, a content analysis was performed to analyze the verbatim (L'Écuyer, 1990). Content analysis "is a direct representation of what was said in answer to the research question" (p.619; Crowe et al., 2015). The first interview was codified by the first author (C.R.) in collaboration with the second author (A.L.). All subsequent interviews were codified by the first author alone. Meaningful segments were extracted and assigned a code. Codes are labels that are attached to significant segments of data to facilitate their analysis (Miles & Huberman, 2003). When appropriate, the codes were grouped into subcategories.

The codified interviews were revised during meetings involving the first (C.R.) and second (A.L.) authors to ensure a common understanding of the codes' meaning as well as a greater correspondence between the data and the codes (Miles & Huberman, 1994). A codification journal was produced and included the five categories, the subcategories, the codes, the codes' definition, and the verbatim segments. A three-way interrater agreement was performed to ensure the validity of the codification journal. All 219 verbatim segments coded by the first author (Judge 1) were sent to two undergraduate research assistants (Judges 2 and 3) who codified the segments based on the codes' definitions. Interrater agreement was calculated using Miles and Huberman (1994) method: number of agreements ÷ (number of agreements + number of disagreements). Interrater agreement was 74.4% between Judges 1 and 2, 69.4% between Judges 1 and 3, and 68.4% between Judges 2 and 3. A discussion between the three judges was undertaken to address each disagreement. Modifications to the length of some segments were made. The definition of certain codes was modified to better differentiate them. Finally, some segments were divided, which resulted in a total of 231 segments. Consensus was obtained for all 231 segments. The final version of the codification journal can be found in tables 2, 3, 4, 5 and 6.

Table 1. Qualitative interview.

Qualitative interview
1. First, I would like to know what a typical night of sleep is for you. *(Bedtime and wake-up time, awakenings, bedtime routine, morning routine, presence or absence of dreams during the night)* 2. Briefly, what motivated you to consult for sleep difficulties? a) In your own words, how would you describe your sleep difficulties?
Section 1: Dream perceptions
3. What is a dream for you? 4. Could you tell me about your dreams? a) *(if the participant does not remember their dreams)* What do you think about not remembering your dreams? b) Usually, what do you dream about? 5. Could you describe a dream that you experienced recently? a) How did you feel during the dream? b) How did you feel when you woke up? 6. How do you usually feel after a dream? 7. Are there any circumstances or events that influence your dream experience? a) What factors have a positive impact on your dreams? b) What factors have a negative impact on your dreams?
Section 2: Dream importance.
8. What do you think is the purpose of dreaming? 9. What place do your dreams take in your waking life? In your night of sleep? 10. What is the meaning of your dreams and dreaming in general? 11. Do you use strategies to remember your dreams? To avoid remembering them? a) *(if yes)* What are these strategies? b) *(if no)* What is your motivation for not using such strategies?
Section 3: Dream-sleep relationship.
12. What do you do after a dream? a) When the dream is pleasant? b) When the dream is unpleasant? 13. Do you think there is a link between dreaming and sleep? If yes, what is it? 14. Do you think that your dreams influence your sleep? How? *(Can include: depth, length, quality)* 15. Do you think that your dreams influence your waking life? How? *(Can include: mood, life choices, thoughts during the day, course of the day, motivation)*
Section 4: Dream experience in psychotherapy
16. Do you talk about your dreams with your loved ones? What are your motives for talking/not talking about them? 17. Did you address or attempt to address the topic of your dreams during your therapy? *(If yes)*, a) How was your experience? b) How did it make you feel? c) What interventions did you enjoy or dislike? 18. What were your motives for talking or not talking about your dreams with your therapist? 19. In what context do you find/would you find it relevant to talk about your dreams with a therapist? 20. In what context do you find/would you find it irrelevant to talk about your dreams with a therapist? 21. What would you think about discussing dreams in the context of a therapy for insomnia?
Section 5. Sociodemographic data 22. How old are you? 23. What is your main occupation?

The recruitment was canceled because of the COVID-19 pandemic crisis, which started in March 2020. Therefore, saturation could not be reached. Saturation designates the point at which enough information has been collected, which means that all new information can be associated with an existing code (Miles & Huberman, 1994, 2003). Since new codes emerged in the last interview, it is possible that new information could have been extracted if more participants had been interviewed.

2.6. Interviewer

In qualitative research, the researcher is the primary tool of the study (Miles & Huberman, 2003). As such, a presentation of the researchers who collected and analyzed the data is relevant since their experience and perceptions could have influenced the conclusions drawn from these data.

The first author was a doctoral student in clinical psychology. In her clinical training, she used empirically based cognitive behavioral interventions. She also administered CBT-I to insomnia sufferers at the SPC under the supervision of a licensed psychologist (A.V.). Thus, she was familiar with the setting and the methods used at the SPC, where the participants were recruited. Based on her cognitive behavioral approach, she considered that emotions, behaviors, and cognitions are interrelated and must be considered when trying to understand a client's difficulties. She considers predisposing, precipitating, and maintaining factors in her clini-

cal conceptualization. The interviewer's clinical experience could have helped the participants confide to her, especially since all participants mentioned that they felt accepted and did not perceive any judgment from the interviewer.

In her clinical training, she encountered clients who talked about their dreams, including dreams that were perceived as disturbing. These discussions offered the opportunity to make associations between the main themes of these dreams and issues in the client's daily life. Therefore, the first author considers that thoughts or preoccupations, behaviors, and emotions in the day could be linked to the content of dreams, in agreement with the continuity hypothesis of dreaming. These attitudes might have led the first author to attribute a greater attention to some aspects of the participants' discourse during the interviews, such as the continuity between their dreams and their daily lives.

The second author (A.L.), who helped the first author with the codification process, was a Ph.D. student in psychology. He specialized in experimental and theoretical research, most specifically in relation to nightmares, dreams, and sleep difficulties. He was experimented in both quantitative and qualitative research. Like the first author, his knowledge of the scientific literature in these fields may have influenced his analysis of the verbatim.

3. Results

3.1. Descriptive data

Seven individuals who completed their CBT-I manifested an interest in the study, and five chose to participate. Five participants (3 women) aged 41 ± 13.78 years old (ranges 19 to 52) were recruited at the SPC. The mean length of the interviews was 42 minutes (SD = 3:43, shortest interview: 36:27, longest interview: 45:55). Four participants (P2, P3, P4 and P5) were interviewed within one month of completing their therapy and one participant (P1) was interviewed 76 days after the therapy. Due to therapist-patient confidentiality, the obtained ethical approval did not allow to document how many patients were presented with the study by their therapist, nor how many chose not to be contacted by the research team. A short description of each participant is presented below.

P1 was a 45-year-old female student. Before therapy, her SE varied between 90% and 99% depending on the night (mean SE: 96%). At the end of therapy, her SE varied between 75% and 100% (mean SE: 89%, after excluding one night due to missing data). The ISI result was 27 before therapy, suggesting severe insomnia, and 2 at post-treatment, indicating no insomnia. These data indicate that her insomnia problem consisted mainly of dissatisfaction with sleep – which met the DSM-5 criteria for insomnia (American Psychiatric Association, 2013) – and that it resorbed fully with therapy.

P2 was a 41-year-old female student. Her mean SE at pre-treatment was 44% after excluding 12 nights out of 14 due to missing data (for the only two nights which could be used, her SE was 36% and 52%). At the end of therapy, her SE varied between 98% and 99% (mean SE: 98%). The ISI result was 22 before therapy, suggesting severe insomnia, and 0 at post-treatment, indicating no insomnia.

P3 was a 52-year-old employed male. His SE varied between 65% and 90% before therapy (mean SE: 78%, no missing data). At the end of therapy, his SE varied between 73% and 92% (mean SE: 86%). The ISI result was 15 before therapy, suggesting moderate insomnia, and 4 at post-treatment, indicating no insomnia.

P4 was a 51-year-old employed female. Her mean SE at pre-treatment varied between 63% and 92% (mean SE: 81%, no missing data). At the end of therapy, her SE varied between 79% and 96% (mean SE: 89%). The ISI result was 25 before therapy, suggesting severe insomnia, and 14 at post-treatment, suggesting subclinical insomnia.

P5 was a 19-year-old male student. Before therapy, his SE varied between 74% and 96% (mean SE: 90%, no missing data). His SE varied between 93% and 99% at the end of therapy (mean SE: 97%). The ISI result was 13 before therapy, suggesting mild subclinical insomnia, and 6 at post-treatment, indicating no insomnia.

3.2. Dream perception

Table 2 contains the codes for the "Dream Perceptions" category and their associated definition. All participants reported that they generally did not remember their dreams. Two participants (P3 and P4) mentioned that they rarely experienced nightmares. Three participants (P1, P3, and P5) considered that most of their dreams contained negative elements, while three participants (P2, P3, and P4) reported experiencing recurrent negative dreams, without qualify-

Table 2. Dream perceptions.

Sub-Category	Code	Definition
Dream valence	Negative dreams in general (n=3)	The participant reported that their dreams generally contained elements that were negative, stressful, or anxiety-inducing.
	Recurrent negative dreams (n=3)	The participant reported having recurrent dreams (i.e., dreams with a similar theme or content) that were describe as being negative (i.e., the dreams contained anxiety-inducing imagery, worries, or work-related imagery, which was considered unpleasant by the participant).
Dream recall frequency	Forgetting the dream (n=5)	The participant reported that they rarely remember their dreams and tended to forget their dreams soon after waking up.
	Nightmare frequency (n=2)	The participant reported rarely experiencing nightmares.
Others	Exposure to documentation on dreams (n=3)	The participant has been exposed to vulgarized documentation on sleep, dreams or nightmares in a magazine, a book, or a course.
	Reflection on dreams (n=2)	The participant reflected on the cause of a negative dream or its meaning in relation to their current or past experiences.

ing them as nightmares. These negative dreams contained stressful or anxiety-inducing imagery, worries, or what were considered unpleasant themes (e.g., work).

***P5**: That's it, and if I think about it a lot, I feel that… there is always a bit of anxiety in my dreams, which would make sense based on how I feel in everyday life.*

***P3**: […] It's very rare that I have nightmares. But… I have recurrent dreams. And don't ask me why, I don't know. I will dream about extraterrestrial invasions. It happens, ah, maybe every six months maybe, but it is recurrent […].*

P4 and P5 reported having reflected on the cause of a specific dream and its relation to their past or current experiences. They wondered why they had dreamed about a particular theme or why they had experienced a negative dream. P4, for example, dreamed of a parent requesting medical assistance in dying. In the months preceding the dream, this same parent died of an incurable disease. The family had decided to refuse to continue treatment. P4 wondered if this relative had visited her in her dream to reassure her about the decision that was taken at the time.

***P4:** And I started to cry in my dream and when I woke up, my heart was heavy, I was, I was moved and I said to myself: "What would have happened if she could have asked for medical assistance in dying, if she had been conscious, would she really have done it?" And after that I told myself: "Did she come in my dream to tell me: 'It's okay'?" Because we refused treatment, she had an infection and we refused treatment and she died after that. And I asked myself: "Did she come to tell me: 'Don't worry, you did the right thing, anyway if I could have, I would have asked for medical assistance in dying'?"*

Two participants (P1 and P5) spontaneously mentioned having been exposed to information on sleep or dreams, such as references to insomnia or dreams in magazines or a book, or some part of Freud's theory in the context of a course in the case of P5:

***P5**: It may be important to mention that in CÉGEP [education level between high school and University in Québec] when we saw Freud and the subconscious, it really captivated me and I really felt like his writings seemed true, realistic.*

3.3. Dream importance

Table 3 contains the codes for the "Dream importance" category and their associated definition. Most participants (P1, P2, and P4) reported not knowing what the function of dreaming was or not believing that dreams had a specific function. They did not see a relationship between dreaming and their life or never questioned themselves about it. Nevertheless, P1, P4, and P5 proposed a hypothesis on the function of dreaming later in the interview. The hypothesized functions of dreaming were (a) to unveil the unconscious and produce insights (P5), (b) to rest (P4), and (c) emotional regulation (P1).

***P1**: […] it [dreaming] allows us to take a step back, that's what I mean, take a step back from our actions, the situation that happened before sleep […]. And… I'm sure something is going on, because we wake up better. In any case, I wake up in a better mood and feeling more positive in the morning.*

All but one participant (P5) reported that they did not use strategies to recall or forget their dreams more often. They

Table 3. Dream importance.

Sub-Category	Code	Definition
Dream functions	No function (n=3)	The participant ignored what the function of dreams was and/or believed that dreams might not have any specific function.
	Unveiling of the subconscious and the production of insights (n=1)	The participant believed that dreaming is the expression of subconscious thoughts or suppressed emotions and could allow the dreamer to know more about one's own psyche.
	Emotional regulation (n=1)	The participant believed that dreams may play a role in reducing the intensity of the previous day's negative emotions by bringing a new perspective on past events.
	Resting (n=1)	The participant wished that dreams could be a way to rest one's mind and recover energy.
Behaviors after dreaming	Talking (n=5)	The participant talked about negative dreams to cope with the resulting waking distress or to obtain reassurance about the fictive nature of the dream (i.e., that the events of the dream did not correspond to events in reality), or to share a pleasant or humoristic dream experience.
	No strategies (n=4)	The participant did not use strategies to influence dream recall frequency since this possibility was not considered, or because they did not deem relevant to do so considering that sleep difficulties and the insomnia treatment had priority.
	Trying to remember the dream (n=2)	The participant made an effort to remember pleasant or impactful dreams.
	Writing down a dream (n=2)	The participant wrote down their dreams, possibly with the intention of analyzing them in the future.
Others	No importance (n=5)	The participant reported that dreams are not important. The participant did not consider relevant to pay attention to them since they had other priorities or because they did not remember dreams on a regular basis.
	Curiosity (n=3)	The participant expressed an interest in learning more about dreams and/or in undertaking an analytical approach in relation to their dreams in the future, but had not taken concrete actions in that direction.

explained that they never thought about such strategies and that dreams did not impact their daily lives:

> ***P1**: No, since they do not disturb my daily life I do not use strategies, because they [the dreams] disappear on their own in a few minutes.*

All participants reported that they sometimes talked about their dreams to a partner or a colleague. Their motivations included seeking reassurance to cope with the waking distress resulting from a negative dream (immediately after awakening) and sharing a dream for humoristic purposes or simply as a discussion topic. Two participants (P4 and P5) reported that they also tried to remember positive or impactful dreams when they woke up, sometimes with the intention to talk about them the next day. Two participants (P3 and P5) reported that they would sometimes write down their dreams. Even so, all participants reported that dreams did not affect their daily lives, such as their behaviors or mood the following day. They considered that it was irrelevant to pay attention to their dreams since they had other priorities or did not remember them very often anyway.

> ***P4**: […] I don't care, […]. When I wake up in the morning I don't go look into a book or on the internet to find out what that means. Because, well, I don't believe this, that maybe there can be some link, and I don't want to fool around with that either […]. When I go to bed at night I don't say to myself, "I hope I'm going to have a nice dream" or "I don't know what I'm going to dream about." Not at all, and when I wake up in the morning, except as I said if there is something really special that happened then I will tell my partner: "You don't know what I dreamed about, I dreamed of this.", But, I mean, nothing more. And during the night when I wake up, like I said, I just make the observation: "Ah, you talk about a funny dream.", But I don't care more than that.*

> ***P3**: For me, it [dreaming] is an insignificant matter, without much interest.*

Three participants (P1, P4, and P5) reported that they had some form of curiosity toward dreams. They told the interviewer that they considered dreams to be mysterious and would like to know more about them, but they had not taken any proactive step in that direction.

3.4. Dream-sleep relationship

Table 4 contains the codes for the "Dream-sleep relationship" category and their associated definition. Three participants (P2, P4, and P5) reported that they did not perceive dreams as playing a role in their sleep difficulties and considered that they could easily go back to sleep if they woke up after a dream:

> ***P5**: Anyway, the factors that affect my sleep or influence it more are […] factors… Other than dreams. Like, changes in my schedule, or my sleep environment, more than, I don't know… specific emotions felt in dreams […] it [awakenings] rarely happens to me and when it does, I feel like I can go back to sleep relatively quickly. I do not feel that my dreams have a big impact on my sleep quality.*

Two participants (P1 and P3) reported that their dreams could sometimes wake them up during the night, which could be followed by a difficulty falling back asleep. P1 reported that such awakenings were due to the distress associated with the dream. However, she reported that dreams impacted on her sleep only before her CBT-I. In the rare occurrences when P3 was awoken by a dream, he considered that the time of the night was responsible for his difficulty falling back asleep. These consequences (awakenings, difficulties going back to sleep) were associated with increased fatigue during the day.

> ***P3**: Good question. Rather, I tend to think that they [the dreams] exhaust me more than not. Anyway, if I could not dream, I think I would rather not dream. Especially an intense dream that wakes me up, I don't need that. But hey, I have no control over this issue.*

Two participants (P2 and P4) believed that dreams were associated with either lighter or deeper sleep stages. P2 mentioned that she dreamed when she had insomnia; therefore, she did not think that dreams were associated with deep sleep. P4 believed that dreams occurred in the deepest sleep stage.

3.5. Dream-wake relationship

Table 5 contains the codes for the "Dream-wake relationship" category and their associated definition. The participants attributed their dreams to different causes, most commonly "work/profession" (P1, P2, and P4) and "concerns/stress" (P2, P3, and P5). Other reported causes were "relationships" (P1 and P3), "performance" (P5), "media" (P1), "life change" (P1), "death" (P4), and "unknown" (P3). The participants reported that these variables could influence the content or valence of their dreams.

> ***P2**: It [the dream] was related to a course I gave, I think it was in a somewhat imaginary situation, it was not the same people to whom I had given this course, but there*

Table 4. Dream-sleep relationship.

Code	Definition
No consequence on sleep (n=3)	The participant reported that dreams did not alter sleep quality or that insomnia symptoms were not related to the presence of dreams. This was attributable to an absence of worry about dreams and the belief that one can go back to sleep easily after waking up from a dream.
Consequences of dreaming on sleep (n=2)	The participant reported that dreams can impair one's sleep quality and may provoke awakenings during the night, which can be followed by a difficulty in falling back asleep. This can result in increased fatigue upon waking up. These consequences may be ongoing, or they might have been present only during the period prior to the insomnia treatment.
Dream-sleep perception (n=2)	The participant associated dreaming with deeper or lighter sleep stages.

Table 5. Dream-wake relationship.

Sub-Category	Code	Definition
Dream causes	Work/Profession (n=3)	The participant experienced dreams related to a current or past job/profession, which content may have included places, people, situations, emotions, or actions reminiscent of daily life at work.
	Concerns/stress (n=3)	The participant perceived that the stress, anxiety or worries experienced while awake can foster negatively toned dreams.
	Relationships (n=2)	The participant had negative dreams related to interpersonal conflicts or a perceived lack of control in relationships. The participant might also have experienced a positive dream following a positive interaction with a significant other.
	Unknown (n=1)	The participant reported that the cause of a specific dream or dreams in general was unknown.
	Performance (n=1)	The participant reported that a perceived need to perform in one or more areas can impact dream content.
	Medias (n=1)	The participant perceived a relationship between the content of movies or TV programs and the content or valence of dreams.
	Life change (n=1)	The participant perceived a relationship between life changes (e.g., moving out, shared custody) and the main themes of dreams.
	Death (n=1)	The participant dreamt of a deceased relative.
Dream consequences	Absence of impact on daily life (n=5)	The participant reported that a specific dream, or dreams in general, did not impacted on their mood or behaviours the next day.
	Negative emotions upon waking up (n=4)	The participant reported that some or most of their dreams triggered negative emotions upon waking up, such as sadness, anxiety, or the disappointment of having experienced negative dreams.
	Positive emotions upon waking up (n=3)	The participant reported that some dreams triggered positive emotions upon waking up, such as joy, happiness, or a desire to stay in the dream for a longer period.
Others	Presence of a dream-wake relationship (n=3)	The participant stated that there is a relationship between what happened in the near past (i.e., during the previous day or week) and dreams (i.e., in their content or valence).
	No dream-wake relationship (n=2)	The participant perceived no relationship between daily life and dream content.

was a course situation, something like that. Sometimes, I also dream about the courses that I am preparing […].

***P3**: […] stress may increase my likelihood of having a dream, uh… not particularly pleasant, because it is going to be directly associated with a stressful situation that I experienced during the day.*

Participants reported that dreams could trigger emotions upon awakening, mainly negative ones (P1, P3, P4, and P5) such as anxiety, sadness, or disappointment. Three participants (P2, P3, and P5) reported that some dreams could trigger positive emotions upon awakening, such as joy. However, all participants reported that specific dreams or dreams in general had no impact on their mood and behaviors the next day; some participants (P1, P3, and P4) added that the emotions felt upon awakening did not linger more than a few minutes.

***P4**: I can't say it's a fun part of my life, work. […] So dreaming about my work, while I'm thinking about changing jobs, I say to myself: "Well (sigh) maybe I could dream about a lot of other things" you know like a future job or about the beautiful things that are happening, family and so on […].*

***P1**: But it doesn't affect my day at all. It's just my waking state and it goes away. A few minutes and it's over. As soon as I have my coffee, when I get out of bed even, it's over and it does not preoccupy me anymore.*

All but P4 and P5 believed there was a relationship between what happened in the near past (i.e., the previous day or week) and dream content (i.e., place, people, or situation) or dream emotions. P4 considered that dreams were unrelated to her daily life, even if she had attributed causes to her dreams earlier in the interview; she specified that even if dreams referred to some aspects of her life, like work, dreams were still independent from what happened in the near past. P5 did not believe that specific daytime events in the near past were expressed directly in his dreams, but he specified that dreams could reference those events indirectly (i.e., the environment depicted in the dream would be somewhat similar to a place he visited in the past, but not identical; emotions would be expressed symbolically).

***P1**: My dreams usually have links with what I have experienced in the previous day. Most of the time, but not always. Very, very, very often.*

***P4**: […] I do not think that my dreams have an influence on my day or conversely, because I was on sick leave for seven months and I was still dreaming about work, but I was not working during the day.*

***P5**: I do not have the impression that there would be an event occurring in my conscious life and that tonight or the night after I will dream of such an event. […] The contexts of my dreams are going to be inspired by real-life situations.*

Table 6. Dreams experiences in psychotherapy.

Sub-Category	Code	Definition
Potential reasons for talking about dreams in therapy	Nightmares or dysphoric dreams (n=3)	The participant considered that the experience of nightmares or dysphoric dreams would be a valid motive for talking about dreams in psychotherapy.
	Sleep disturbance (n=3)	The participant considered that the experience of sleep disturbances as a result of negative dreams or nightmares would be a valid motive for talking about dreams in psychotherapy.
	Waking distress (n=3)	The participant considered that experiencing waking emotional distress (i.e., worries) as a result of negative dreams would be a valid reason to talk about dreams in psychotherapy.
	Difficulties in daily functioning (n=2)	The participant reported that experiencing impaired daily functioning as a result of negative dreams would be a valid reason for talking about dreams in psychotherapy.
	Dream analysis (n=1)	The participant considered that dream analysis could be a therapeutic tool for understanding the causes of a patient's difficulties.
Others	Absence of discussion in psychotherapy (n=5)	The participant reported not talking about dreams with the therapist since it was not deemed relevant to the therapeutic process.
	Openness to discuss dreams with the therapist (n=3)	The participant reported that they would be opened to talk about dreams with a therapist if both considered that it could be helpful or relevant.
	Therapist proactivity (n=2)	The participant reported that the therapist asked questions about dreams or the experience of nightmares.

3.6. Dreams experiences in psychotherapy

Table 6 contains the codes for the "Dream experiences in psychotherapy" category and their associated definition. All participants reported that they did not talk about their dreams with their therapist since it was not deemed relevant, even if some participants (P1, P3) reported that their therapist briefly investigated the presence of nightmares. Motives for not talking about dreams in therapy included a lack of concern regarding dreams and the perception that dreams are not important and do not impact on sleep.

> ***P4**: No! Never, I never thought about it [discussing dreams in therapy] and we did not talk about it with [the therapist] […] because it doesn't occupy my thoughts. I am meeting another therapist to settle some things within myself and it never happened with him either. Because it does not take an important place. And it does not concern me.*

> ***P5**: I did not feel the need to [talk about dreams in therapy]. And also, I don't really feel like my dreams affect my sleep quality.*

Three participants (P2, P4, and P5) reported that they would be open to discuss their dreams with a therapist if both considered it helpful or relevant to the participant's situation.

> ***P2**: Hmm, I would not mind if my therapist asked me, like we did earlier, do an overview, like "Are you dreaming" and "What are you dreaming about" and depending on my answers, we could say "okay, we will focus more on that." […]*

When asked about what they would consider to be valid reasons for talking about their dreams in therapy, the participants reported the presence of nightmares (P3, P4, and P5), or the presence of sleep disturbances (P1, P3, and P5), waking distress (P1, P2, and P4), or impaired functioning (P1 and P2) related to dreams. The use of dream analysis as a tool to understand one's own difficulties was also suggested (P5).

> ***P3**: Like I said, for other people who have bad nights, repetitive nightmares or who wake up often because of dreams, etc., then I think that yes, maybe there is something to investigate.*

> ***P2**: Maybe in the context of repetitive dreams or dreams that really have an impact on the course of the day, because the person is really attached to the dream and they represent worries, then I think it would be a valid reason to talk about it […]*

3.7. Preliminary understanding of dream experiences in insomnia

Based on the results, a preliminary understanding of dream perceptions in adults who have undergone CBT-I can be developed (see Figure 1). Since saturation was not reached, this understanding is partial and must be interpreted with caution. The model in Figure 1 presents the categories, the sub-categories (for the sub-categories titled "others", the codes are also included to improve clarity; when no subcategory emerged in a category, the codes are presented instead), and their relationships. Each relationship is denoted by a letter from A to F. The number of participants who stated clear relationships between codes from two categories is presented in the model (n = x).

A relationship ("A") is present between "Dream Perceptions" and "Dream-Wake Relationship". Indeed, participants reported a low dream recall frequency ("Dream Perceptions"), and among those dreams that were recalled, they could most often attribute a cause to the dream imagery or valence, such as work, concerns/stress, relationships, performance, media, life changes, and death ("Dream-Wake Relationship"). Thus, the content and valence of dreams ("Dream Perceptions") could be linked to waking life in some ways ("Dream-Wake Relationship"). Furthermore, most participants perceived the dreams they remembered as negative, stressful, or disappointing ("Dream Perceptions"). The

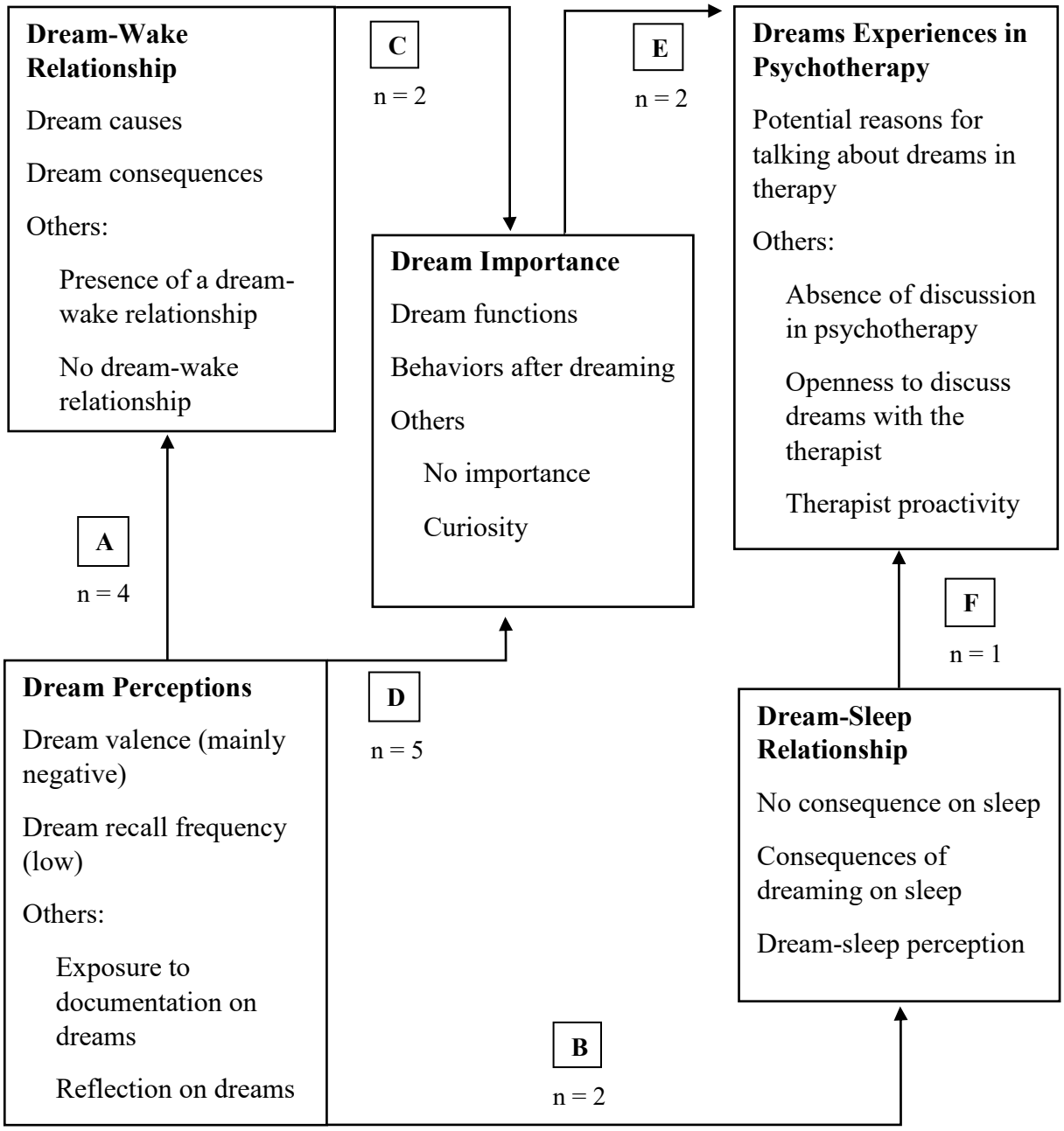

Figure 1. Dream Experiences in Insomnia Sufferers Who Have Undergone a Cognitive Behavioral Therapy.

dreams could then trigger emotions upon awakening depending on the dream's valence; however, these emotions did not linger during the day and as such, dreams would not affect daily functioning ("Dream-Wake Relationship").

As indicated by relationship B, the dreams' content and valence ("Dream Perceptions") would not affect (or would minimally affect) sleep quality ("Dream-Sleep Relationship"); when such effect was present (i.e., when dreams provoked awakenings), the participants could generally go back to sleep immediately. When they had difficulty falling back asleep, it would be attributed to another cause than dreams, such as the time of the night at which the awakening occurred.

Regarding the relationships C and D, the dreams' valence ("Dream Perceptions") and the resulting emotions upon awakening ("Dream-Wake Relationship") could motivate participants to adopt behaviors in waking ("Dream Importance"), such as discussing a dream with another person. However, the low frequency of dream recall ("Dream Perceptions") and their minimal impact on the participants' daily lives ("Dream-Wake Relationship") led the participants to perceive dreams as unimportant ("Dream Importance"). Finally, being exposed to documentation on dreams or searching the meaning of a dream ("Dream Perceptions") might generate curiosity towards dreaming ("Dream Importance"), but this remains hypothetical as it was not explicitly expressed by any participant.

For the relationships E and F, because dreams were perceived as being trivial ("Dream Importance") and as having minimal impact on their sleep quality ("Dream-Sleep

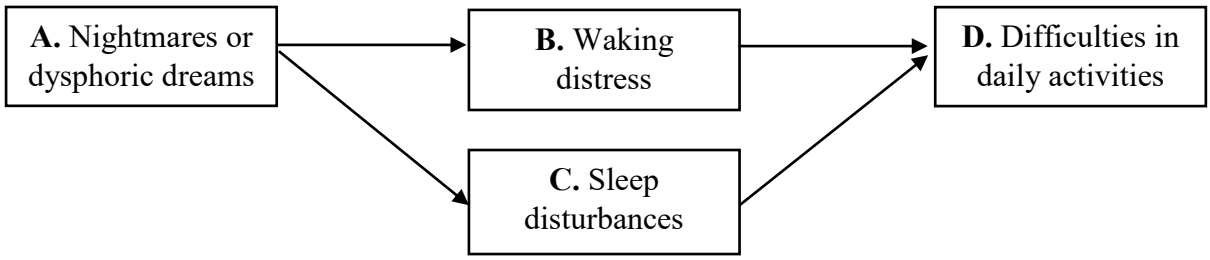

Figure 2. Motives that are Considered to be Acceptable for Discussing Dreams in Cognitive Behavioural Therapy for Insomnia.

Note. Links between each code, as stated by each participant:
P1: A→B and A→C→D
P2: A→B→D
P3: A→C
P4: A→B
P5: A→C

Relationship"), the participants did not deem it relevant to discuss their dreams when consulting a therapist for sleep difficulties ("Dream Experiences in Psychotherapy"). For P3, the lack of importance ("Dream Importance") attributed to dreams explained the decision not to discuss them in therapy ("Dream Experiences in Psychotherapy"), even in the presence of impaired sleep quality associated with negative dreams ("Dream-Sleep Relationship").

3.8. Relationships between the potential motives for discussing dreams in therapy

Relationships can be established between the motives that were considered to be acceptable for discussing dreams in therapy (see Figure 2). In the model, the presence of nightmares or dysphoric dreams can cause waking distress and/or sleep disturbances, which could in turn cause difficulties in daily functioning. Even if it was not clearly stated by the participants, the presence of waking distress might foster sleep disturbances (relationship not shown in the model). In summary, the experience of dysphoric dreams alone would not necessarily constitute an acceptable motive for discussing dreams in therapy; the dreams would need to be sufficiently intense and influence waking distress, sleep, and/or daily functioning.

4. Discussion

The objective of this study was to provide a qualitative description of the phenomenon of dreaming in a population of adults with insomnia who have undergone CBT-I. The participants reported that their dreams tended to be negative. They reported little or no consequences of dreaming on their sleep quality, except for P3 who reported that some of his dreams could cause awakenings, and P1 who reported impaired sleep quality associated with dreaming before CBT-I. The participants also reported that their dreams did not have a significant impact on their daily functioning, and the emotions felt after awakening from a dream did not linger during the day. As a result, all participants reported attributing little or no importance to their dreams and they did not discuss them in therapy.

The mean SE at pre-treatment was high for P1 and P5. For P5, the range of SE values suggests a night-to-night variability typical of insomnia (Sánchez-Ortuño & Edinger, 2012; Vallières et al., 2011). Indeed, the DSM-5 diagnostic criteria for insomnia indicate that the individual must experience poor sleep at least three times per week (American Psychiatric Association, 2013), which means that insomnia sufferers could have up to four good nights weekly. For both P1 and P5, the ISI results indicated an insomnia complaint, highlighting the subjective aspect of insomnia.

The negative dream perceptions reported by the participants is in continuation with previous research on the dream contents of individuals with insomnia. Indeed, previous research has shown that the dreams of individuals with insomnia contain more negative elements compared with the dreams of good sleepers (Pérusse et al., 2016; Schredl et al., 1998). A negative memory bias in insomnia sufferers might partly explain the latter findings. Indeed, individuals with poor sleep remember more negative stimuli when presented emotional and non-emotional pictures (Gobin et al., 2015). Similarly, when shown positive, neutral and negative pictures, individuals with insomnia recall less positive and neutral stimuli compared with good sleepers (Chunhua et al., 2019). Based on these results, it is possible that individuals with insomnia recall more negative dream elements than positive or neutral ones. Besides, it is possible that insomnia fosters negatively valenced dreams. In a systematic review on the relationships between insomnia and nightmares, Delage et al. (2024) argued that these two sleep difficulties can be mutually aggravating. They proposed a model of the mechanisms through which insomnia may foster nightmares, and conversely (Delage et al., 2024).

The frequency of dream recall in individuals with insomnia compared to individuals without insomnia has been debated: one study reported a higher dream recall frequency in this population (Schredl et al., 1998) whereas another reported a lower frequency (Pagel & Shocknesse, 2007). The participants in our study reported a low dream recall frequency. However, in our study, all participants were remitted from their insomnia disorder at the end of their CBT-I, which is when the interviews took place. As such, if dream recall is negatively influenced by sleep difficulties (Pagel & Shocknesse, 2007), our participants would have been expected to report an increase in dream recall frequency with the improvement of their symptoms. However, the participants did not report any modification in their dream recall frequency. The observation of a low dream recall frequency together with a low importance attributed to dreaming is in line with

previous results. Schredl (2013) reports that the frequency of positive/neutral dreams and the frequency of negative dreams are negatively related to the perception that dreams are nonsense. It might be that a high dream recall frequency leads to the perception that dreams are more meaningful; alternatively, attributing more meaning to dreams might lead to better dream recall. Relatedly, the lack of interest expressed by our participants in relation to their dreams could have led to an underestimation of their dreams recall frequency. Indeed, individuals who attribute little importance to their dreams tend to underestimate their dream recall frequency when questioned retrospectively (Beaulieu-Prévost & Zadra, 2005), probably due to a retrospective estimation bias (Beaulieu-Prévost & Zadra, 2007).

Most participants perceived a relationship between their waking life and their dream content. This finding is consistent with the continuity hypothesis (Hall & Nordby, 1972). However, two participants (P4 and P5) did not believe that dreams could be directly influenced by daily life, even though they attributed causes to their dreams such as work/profession, the death of a parent, stress, and performance. It is possible that the interpretation of the question influenced the participants' responses. In a future study, individuals with insomnia could be asked whether their dreams are *directly* or *indirectly* related to their waking life, or whether they believe that concerns, daily emotions, or past events can *directly* or *indirectly* influence their dreams. The theory proposed by Voss and Klimke (2018) could reconcile the different perceptions of the participants on dream-wake relationships. According to these authors, salient or recent events do not appear in dreams in a predictable manner. They postulate that REM sleep favors involuntary associative activity in highly activated brain regions, such as the hippocampus, because of the increased activity in the limbic system and the inhibition of the frontal lobe. As such, bizarre dream imagery could be produced, which may or may not reflect waking life depending on the activated cells assemblies (Voss & Klimke, 2018).

The results indicate that the participants were not proactive in discussing their dreams during CBT-I. When the subject of dreams was (briefly) brought up, it was because the therapist questioned the client regarding the experience of dreams/nightmares (the Insomnia Diagnostic Interview, which was used in the context of the CBT-I, contains a question on nightmares). Studies investigating the frequency of dream discussions in therapy estimate that 15% to 50% of clients initiates such discussions (Crook & Hill, 2003; Hill et al., 2013; Schredl et al., 2000). Schredl and al.'s (2000) indicated that individuals consulting in private practice were more prone than therapists to initiate discussions about dreams, which differs from our findings. This divergence could be explained by the difference in settings. The SPC is a semi-private practice, with a cognitive and behavioral orientation, specialized in treating sleep difficulties, and situated within the university. In comparison, Schredl et al. (2000) questioned a diverse pool of therapists in private practice, with various theoretical orientations, and who were not specialized in treating sleep difficulties. The patients' profiles cannot entirely explain the divergence in the results since 84% of the patients at the SPC present two or more diagnoses, with an average of 2.85 diagnoses per patient (Vallières et al., 2021). The difference between the two studies may stem from the patients' expectations when consulting a therapist in a private practice versus a therapist within a sleep clinic based on a university campus. It is also worth noting that the theoretical orientation of the therapists might influence their likelihood of addressing dreams in therapy. Indeed, therapists with a strong cognitive behavioral orientation are less likely to discuss dreams with their clients compared with therapists who have a weaker cognitive behavioral orientation (Crook & Hill, 2003). Finally, it is important to consider that the treatment manual used at the Sleep Psychology Clinic did not include material related to dreams. Considering the therapist's theoretical orientation in future studies on the dream experiences of insomnia sufferers could be useful for gaining a broader understanding.

The participants did not discuss their dreams with their therapist since they did not recall their dreams often, experienced no particular concern in relation to their dreams, and/or considered that their insomnia treatment was more important. These results are similar to those of Hill et al. (2013), who investigated the reasons why clients generally do not talk about their dreams with their therapist. Previous research has indicated that dream work is more profitable for people who have an interest in dreams or who experience disturbing dreams (Hill et al., 2013; Hill & Knox, 2010). Thus, it is possible to conclude that not all individuals with insomnia would benefit from- or be interested in dream work. However, our participants would have been opened to discuss their dreams with their therapist if it had been relevant to their situation (i.e., if they had experienced dysphoric dreams causing waking distress, sleep difficulties, and/or impairments in daily functioning). This underscores the importance of screening for nightmare disorder. It is especially important considering that nightmares are underreported and often go undetected, in part because this condition is considered to be untreatable by many individuals (Nadorff et al., 2015). If a nightmare disorder is diagnosed, an empirically validated intervention such as IRT should be offered (Morgenthaler et al., 2018), with the possibility of using dream work as a complement if both the therapist and client deem it useful. To summarize, the decision to use dream work in CBT-I should be based on the client's needs, clinical presentation, and interest.

Clients with insomnia might be more inclined to use dream-related strategies to reduce insomnia symptoms, such as lucidity induction techniques or techniques aimed at improving dream recall. A pilot study suggests that techniques for inducing lucid dreams might be useful for reducing insomnia symptoms (Ellis et al., 2020). More research is required to validate the efficacy of lucidity induction techniques to treat insomnia symptoms as a stand-alone treatment or as a complementary intervention to CBT-I. Furthermore, one study (Pérusse et al., 2015) suggests that recalling dreams could positively influence subjective sleep quality in individuals with insomnia. Indeed, when recalling dreams, the individual knows that they were sleeping, which could prevent a misperception of sleep quantity and quality (Pérusse et al., 2015). Clients might be interested to try interventions for increasing their dream recall frequency if the goal was to reduce insomnia symptoms. In the future, it would be relevant to study the characteristics of individuals with insomnia for whom interventions targeting dreams—such as lucidity induction techniques or techniques to improve dream recall—in the context of CBT-I could be useful.

5. Limitations and Strengths of the Study

The results of this study should be interpreted in the light of methodological limitations. First, a qualitative design allows to answer more "open" research questions and in more depth than a quantitative design (Creswell, 2007). As such, qualitative studies typically involve smaller samples. However, as noted previously, saturation was not reached in the present study, which suggests that new or richer information could have been obtained by recruiting more participants. Second, the participants recruited in the present study did not discuss their dreams in therapy; dream perceptions, the importance attributed to dreams, the dream-sleep relationship, and the dream-wake relationship could be different in individuals who choose to discuss their dreams in therapy. Third, a retrospective memory bias is possible since participants were recruited after they completed CBT-I. Regarding the study's strengths, two researchers analyzed the data and a three-way interrater agreement was conducted to enhance the study's reliability (Miles & Huberman, 1994).

6. Conclusion

This study is the first to explore perceptions pertaining to dreams in individuals with insomnia who have undergone CBT-I. The present study offers insights into the phenomenon of dreaming in insomnia sufferers and into the motives that are perceived as acceptable for addressing dreams in therapy. The results suggest that addressing dreams during CBT-I might not be perceived as relevant, except in the presence of distressing dreams causing sleep difficulties and impairments in daily life. Other studies on dream perceptions in insomnia sufferers should be conducted to better understand this phenomenon. For instance, it would be interesting to compare dream-related perceptions between individuals with insomnia who have chosen to discuss their dreams with their therapist and those who have not. A better understanding of this phenomenon could shed light on the need to develop and test dream interventions for individuals with insomnia, and on the characteristics of the clients who might benefit from such interventions.

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