

Exploring emotional characteristics in dreams of clinical populations within Japanese psychotherapy

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Summary. The aim of this study was to determine the emotional characteristics of dreams documented in Japanese psychotherapy case studies. A total of 423 dreams were extracted from 26 cases that fit the criteria of the clinical population and emotions were analyzed using objective ratings. The findings indicated that of all the emotions rated, positive emotions accounted for 16.5%, while negative emotions constituted 76.9% of the reported dreams. Among individual negative emotions, fear, disgust, and anger were the most prevalent, at 38.5%, 15.4%, and 14.3%, respectively. No significant gender differences were observed. Among age groups, adolescents experienced overall emotions, negative emotions and emotions of fear more frequently in dreams than adults. These findings support the dream emotional continuity hypothesis and the theory of emotional processing in dreams. This study is a significant contribution to the understanding of dream emotions reported in psychotherapy.

Keywords: Dream emotion, meta-analysis, psychotherapy

1. Introduction

In the field of psychotherapy, dreams have been used as a tool for analysis for a long time since Freud (1900/1953). Particularly, they are extensively utilized in schools of thought such as psychoanalysis founded by Freud, analytical psychology founded by Jung, Adlerian psychology, and Perls' Gestalt therapy. Dreams reveal unconscious desires (Freud, 1900/1953), clarify personality and lifestyle (Bonime, 1962), and have a compensatory function for consciousness (Jung, 1931/1974). In other words, by utilizing dreams, it is possible to gain a clearer understanding of a client's psychological state and enhance the effectiveness of therapy.

In a review on the frequency of dream usage in therapy, Hackett (2020) found that, although there are differences among schools of thought, dreams are widely used. Fox (2002) reported that 83% of therapists used dreams in therapy, and Schredl et al. (2000) observed that 63% of clients in psychoanalytic therapy in Germany presented dreams, further dedicating 44% of therapy time to working with dream material. However, only 15% of clients attending human-centered/cognitive behavioral therapy sessions presented dreams. Crook and Hill (2003) noted that therapists in the United States estimated an average of 8% of therapy time is spent working on dreams, and 15% of clients brought dreams to therapy. These findings suggest that dreams are commonly used therapeutically, although there are variations among schools of thought.

In the context of psychotherapy, the emotions experienced in dreams are considered an important focus (Konakawa, 2017). Freud (1900/1953) aimed to reveal the unconscious latent contents hidden behind the manifest content of dreams through interpretation, emphasizing the emotions in dreams as they are not distorted by dream work and thus serve as crucial clues for interpretation. Bonime (1962) noted that the emotions in dreams are vital for revealing the dreamer's personality. Moreover, he thought that even clients who repress or deny their emotions can experience the true nature and intensity of their feelings through dreams, thus enabling them to understand their emotions via dreams. Adler (1931) also stated that the purpose of dreams is the emotions that linger after waking, suggesting that dreams are a means to stir emotions. Thus, emotions have been regarded as significant in the dream theories of classical psychotherapists. This suggests that focusing on the emotional aspect of dreams may be useful in some way in psychotherapy.

In contemporary theories related to the emotions in dreams, one of the most significant is the emotional continuity hypothesis of dreams (Domhoff, 2017; Hartmann, 1996, 2008, 2011; Pesant & Zadra, 2006; Schredl, 2003; Sikka et al., 2018; Yu, 2007). The emotional continuity hypothesis posits that emotions during wakefulness and in dreams are continuous. Hartmann (1996) suggests that dreams are guided by the dreamer's dominant emotions or central emotional concerns, thereby "contextualizing" the dreamer's emotional concerns. This is particularly evident following traumatic events or stressful experiences. Hartmann (2011) explains that the continuity of emotions between waking and dreaming states is because we are the same individuals with underlying emotions, whether we are dreaming, asleep, or awake; these underlying emotions influence all forms of mental processing, including dreams. This continuity seems to be less about the events experienced on the day of the dream and more about the intensity of the individual's emotional concerns and interests, which form a central aspect of the dream content (Domhoff, 2017).

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Numerous survey studies support the emotional continuity hypothesis. Schredl (2003) noted that individuals experiencing high stress during wakefulness are more likely to have not only nightmares but also negative dreams in general, suggesting that people troubled by stress while awake are prone to negative dreams and that state factors are more appropriate indicators for the likelihood of negative dreams than are trait factors. A longitudinal study conducted on 28 participants by Pesant and Zadra (2006) revealed that lower levels of self-reported psychological well-being were associated with dreams featuring not friendly interactions but aggressive emotions, not positive emotions but negative ones, and, though to a lesser extent, failure and misfortune. Yu (2007) found a positive correlation between emotions before sleep, during dreams, and after waking, highlighting the continuity between daytime emotions and dream emotions. Sikka et al. (2018) discovered that the emotional content of dream reports reflects certain aspects of well-being or malaise experienced while awake. According to a survey conducted by Serpe and DeCicco (2020) among college students, depression upon waking is related to depressive imagery in dream content, and anxiety upon waking is related to anxious imagery in dream content. These studies demonstrate that the emotions experienced in dreams reflect the emotions or emotional concerns the dreamer has while awake.

Additionally, there is the theory of emotional processing in dreams. This theory pertains to the function of dreaming. Hartmann (1995) proposed that dreaming and psychotherapy share common functions, such as the freeing of associations, prevention of “acting out,” and making psychological connections in many different senses, encapsulated by the phrase “making connections in a safe place.” For both, providing a safe space for the dreamer allows for the connection of trauma with other related memories and issues, leading to the mental integration of the trauma and its associated effects, thus aiding the dreamer’s adaptation. This can be explained by the phenomenon of reaction dreams to trauma, where traumatic experiences and accompanying emotions are re-experienced in dreams. Cartwright et al. (1998) conducted an experiment using the Profile of Mood States (POMS) on 60 student subjects without current or past episodes of depression to examine if REM sleep helps regulate negative mood at night. The results suggested that dreaming may positively alleviate mood and that dreams could play a role in facilitating the resolution of emotional conflicts. Further, Cartwright et al. (2006) conducted a study on patients with depression who had experienced divorce. Those whose depression had remitted at the follow-up evaluation had frequently dreamt about their former spouses, more so than those whose depression had not remitted, suggesting that dreams are influenced by emotional concerns during wakefulness and that dreaming may facilitate the resolution of emotional conflicts. Malinowski et al. (2019) investigated the dream rebound effect, a phenomenon where suppressed thoughts during wakefulness tend to appear in dreams. The results showed that unpleasant thoughts had a higher rebound in dreams, and when the rebound was higher, the suppressed thoughts were experienced more comfortably after waking. Even if suppression before sleep failed, if the dream rebound was high, thoughts were more comfortably experienced after waking than when suppression failed and the dream rebound was low. These results support the hypothesis that dreaming more about

suppressed thoughts, the dream rebound, brings therapeutic effects in emotional processing. These studies suggest that dreams not only continue the dreamer’s emotional experiences and concerns during wakefulness but also have a therapeutic effect in processing emotional concerns and negative emotions.

In the context of psychotherapy, when considering the emotional continuity hypothesis and the theory of emotional processing in dreams, the following can be stated. Firstly, the emotional continuity hypothesis posits that the emotions in dreams are continuous with emotions experienced during wakefulness. Clients undergoing psychotherapy typically have some form of mental or psychological symptoms, or even if symptom-free, they may be experiencing conflicts in their life or daily activities, leading them to seek therapy. Therefore, it can be assumed that clients often experience negative emotions during wakefulness. It can be inferred that dreams reported in therapy, particularly for clients with mental disorders, are likely to involve negative emotional experiences. For example, studies have shown that clients with anxiety disorders frequently experience anxiety and negative emotions in their dreams (Rimsh & Pietrowsky, 2020, 2021, 2022).

Similarly, the context of the emotional processing theory can be considered. This implies that clients might be dealing with emotional conflicts or traumatic experiences that they cannot resolve on their own, or they may have unresolved emotional memories. Moreover, the fact that they are receiving therapy suggests that they are focused on their psychological issues and are attempting to address and resolve these conflicts. Consequently, it can be assumed that a function to process conflicts and experiences may be active in dreams as well, making it likely for clients to have dreams related to the central emotional issues they are dealing with. In other words, it is assumed that by dreaming about unresolved negative emotional experiences, clients are more likely to experience negative emotions in their dreams as well.

Although there are studies analyzing the emotions in dreams from individual clinical cases or a small number of cases (see Fabik, 2023), there has been no research investigating the trends in dream emotions reported across a larger number of cases. It is necessary to understand the general tendencies of emotions in dreams reported in psychotherapy. This study has two objectives. The first is to clarify the tendencies in the types of emotions in dreams reported in psychotherapy. The hypothesis 1, based on the emotional continuity hypothesis and the theory of emotional processing, is that the frequency of negative emotions will be higher than that of positive emotions.

The second objective is to identify differences in the emotions of dreams reported in psychotherapy based on gender and age. The hypotheses 2 are as follows: In terms of gender differences, female clients are hypothesized to report dreams with negative emotions more frequently than male clients. Regarding gender differences, the rationale is based on previous studies that have found a higher frequency of nightmare recall in women (Georgi, 2012; Kelly & Daughtry, 2021; Schredl & Reinhard, 2011), and studies reporting that women experience more emotional and negative dreams (Schredl et al., 2014). Regarding age differences, younger dreamers are hypothesized to report both overall and negative emotions in dreams more frequently. This hypothesis is based on prior research showing that younger individuals

are more likely to experience intense emotions in dreams, particularly negative ones (Fogli et al., 2020; Salvio et al., 1992; Waterman, 1991; Yoshioka, 2024; Zanasi et al., 2005). These prior research findings are primarily interpreted based on the emotional continuity hypothesis. This study aims to determine whether such differences in gender and age appear in the clinical group receiving psychotherapy.

To achieve these objectives, this study will conduct a survey of 26 psychotherapy cases reported in Japanese academic journals and analyze the 423 dreams reported within these cases. Specifically, dreams reported in psychotherapy cases will be extracted, the emotions experienced in these dreams will be objectively rated, and a quantitative analysis will be conducted.

2. Method

2.1. Collection of Cases for Analysis

First, to collect dreams for analysis, we comprehensively searched for case studies reporting five or more dreams within the “Journal of Japanese Clinical Psychology” from its first issue (Vol. 1, No. 1, 1983) to Vol. 41, No. 1 (2023), and the “Archives of Sandplay Therapy” from its first issue (Vol. 1, No. 1, 1988) to Vol. 35, No. 2 (2023). The “Journal of Japanese Clinical Psychology” is a well-known academic journal in Japan, featuring a wide range of case studies across various schools of thought in clinical psychology. The “Archives of Sandplay Therapy” is a journal focused on imagery-related topics such as sandplay, dreams, and drawing, predominantly publishing case studies grounded in Jungian psychology.

In this study, we focused on case studies that pertained to the clinical population. “Clinical population” is characterized as a group comprising individuals who fulfill any of the subsequent criteria: 1) individuals with a formal diagnosis, 2) individuals attending psychiatric consultations due to mental health issues, and 3) individuals receiving pharmacological treatment for mental health issues. This definition aims to include cases in clinical populations even in the absence of explicit diagnostic mentions within case studies, based on the premise that the need for clinical intervention is recognized. The facts of psychiatric consultation and pharmacological treatment serve as indicators of eligibility for the clinical population, as they signify that the individual is facing some form of mental distress or disorder and is receiving professional treatment. Regarding exclusion criteria, we have established the following: cases suggested in case studies to involve mental distress or disorders, yet lacking any record of psychiatric consultation or pharmacological treatment, as well as the absence of a clearly stated diagnosis, will be excluded from the clinical population. This criterion prioritizes the presence of diagnostic information, records of consultations, and pharmacological treatment as evidence of the actual receipt of or need for clinical intervention.

From the “Journal of Japanese Clinical Psychology,” 7 cases were extracted, and from the “Archives of Sandplay Therapy,” 19 cases, totaling 26 cases and 423 dreams for emotional rating. Nakamura (1997) reported two cases in one paper. Therefore, the number of case studies is 25, but the number of cases is 26. This research was conducted with ethical approval from the Kyoto University Clinical Psychology Research Ethics Review Committee.

2.2. Characteristics of the Cases

All clients and therapists in the extracted cases were Japanese. The demographics of the clients were 9 males (with 142 dreams) and 17 females (with 281 dreams). The ages at the start of the therapy sessions ranged from 15 years to the 60s. Based on age classification, adolescents were defined as those between 15 to early 20s, and adults as those in the late 20s and beyond. This resulted in 11 adolescents (with 177 dreams), and 15 adults (with 246 dreams). The duration of therapy varied from as short as 11 months to as long as ten years, although many cases did not specify the duration. The number of therapy sessions ranged from 19 to 211. The clients’ diagnoses, main complaints, and therapists’ assessments were classified according to DSM categories. The results were: 5 cases of anxiety disorders, 6 of feeding and eating disorders, 1 of dissociative disorders, 1 of somatic symptom and related disorders, 2 of depressive disorder, 3 of personality disorders, 3 of neurodevelopmental disorders, 2 of obsessive-compulsive and related disorders, 1 of bipolar and related disorders. There were 2 cases that did not fit into any of these categories, including issues related to physical illness and maladjustment at work leading to a leave of absence. The number of dreams in each case ranged from 5 to a maximum of 42. Most therapists appeared to be inclined towards psychodynamic therapies, such as psychoanalysis or Jungian psychology.

The format of the case studies varied, but most described the dreams reported by the clients during the course of therapy. Discussions about the dreams or interpretations by the therapists were often not described. Some included the clients’ own explanations of their dreams. Dreams reported in each article were extracted and analyzed for emotions.

2.3. Emotional Rating Method

We adopted the method of third-party emotional rating of dreams as used by Sikka et al. (2014). The method of Sikka et al. (2014) allows for the assessment of implicit as well as explicit emotions. In addition, both positive and negative emotions can be assessed in a balanced manner. The procedure for the rating is outlined as follows.

2.3.1 *Rating the Presence or Absence of Emotions*

Initially, a list of dreams was created, extracted solely from the case study papers. During the emotional rating of dreams, the analysis focused solely on the content of the dreams themselves. Any comments, descriptions, or impressions provided by clients about their dreams were not included in this evaluative process. The presence or absence of emotions in dreams was rated in three specific scenarios. At this stage, rather than identifying the types of emotions, sections where emotions were deemed present were simply underlined. The three scenarios are the cases described below, taken from examples in Sikka et al. (2014).

(1) An emotion was explicitly expressed (e.g., “I noticed that there were two shockingly big dogs and I was afraid of what was going to happen”). (2) An emotion was present but its target was unclear and could not be attributed to any particular person besides the dream self (e.g., “Three of the puppies jumped on me which was terribly funny as they began biting each other’s tails”); (3) The dream character exhibited behaviour that clearly depicted an emotional

state, and the emotional state was explicitly inferable from the behaviour (e.g., “He was quite a joker so we were laughing”).

2.3.2 Determining the Type of Emotion

Subsequently, for the underlined sections in the dream list that were judged to contain some form of emotion, an assessment was conducted using the 20 categories of the modified Differential Emotions Scale (mDES; Fredrickson et al., 2003). The evaluation focused on the presence or absence of emotions, rather than their intensity. The mDES scale is designed with 20 types of emotions set out, where eight are classified as negative emotions: Angry, Irritated, Annoyed; Sad, Downhearted, Unhappy; Scared, Fearful, Afraid; Disgust, Distaste, Revulsion; Contemptuous, Scornful, Disdainful; Embarrassed, Self-Conscious, Blushing; Repentant, Guilty, Blameworthy; Ashamed, Humiliated, Disgraced. Ten are classified as positive emotions: Grateful, Appreciative, Thankful; Interested, Alert, Curious; Love, Closeness, Trust; Amused, Funloving, Silly; Glad, Happy, Joyful; Hopeful, Optimistic, Encouraged; Sexual, Desiring, Flirtatious; Proud, Confident, Self-Assured; Content, Serene, Peaceful; Awe, Wonder, Amazement. Lastly, two are classified as other emotions: Sympathy, Concern, Compassion; Surprised, Amazed, Astonished.

In this study, for each dream, the presence of each specific emotion was counted. However, the frequency of the same emotion appearing multiple times within the same dream report was not considered. There were instances where two or more different emotions were counted within the same dream. Furthermore, even if some form of emotion

was identified during the stage of determining the presence of emotions, if it was judged that the emotion did not fit into any of the 20 categories (for example, “impatience”), it was not counted. The reason for this is that the emotions in dreams are complex and diverse, making it challenging to count every emotion that does not fit into a predefined category. Furthermore, the objective of this study was not to focus on individual emotions, but to understand the overall trends of emotions within dreams reported in psychotherapy cases. Therefore, analysis of specific individual emotions was considered beyond the scope of this research.

2.3.3 Inter-Rater Reliability Test

As the rating procedure was conducted entirely by the author, a test for reliability was conducted for validation purposes. A random sample of 42 dreams, representing 10% of the total, was extracted. Another rater, independent of the author, performed the emotional rating using the same procedure. The inter-rater reliability for the emotion coding, assessed using Cohen’s kappa, was found to be high ($\kappa = .76$). This result indicates that the reliability of the rating process is satisfactory.

2.4. Statistical Analysis

In the analysis concerning the ranking of emotions, the following steps were taken. Initially, the total count of all emotions that appeared in the all dreams was calculated. This was followed by determining the proportion of positive and negative emotions, as well as the proportion of each individual emotion within the total emotional content. Subsequently, the emotions were ranked in descending order of their respective percentages.

For each case, we calculated the proportion of dreams in which emotions were rated, the proportion of dreams in which positive emotions were rated, the proportion of dreams in which negative emotions were rated, and the proportion of dreams in which each emotion was rated. Dreams in which emotions were rated were dreams in which one or more types of emotions were rated. A Welch’s *t*-test was conducted with gender as the independent variable and the incidence rate of emotions as the dependent variable. Additionally, a Welch’s *t*-test was performed with age as the independent variable and the incidence rate of emotions as the dependent variable to assess the effect of age on emotional expression in dreams.

3. Results

3.1. Overall Trends in Dream Emotions

An analysis was conducted on the overall trends of emotions in the rated dreams. The results are presented in Table 1. Out of a total of 423 dreams, emotions were rated in 159 dreams (37.59%). Since more than one emotion could be rated in a single dream, the total number of emotions identified was 182. Among all rated emotions, scared was the most prevalent, accounting for 38.5%, followed by disgust at 15.4%, and anger at 14.3%. Positive emotions comprised 16.5%, and negative emotions 76.9%, indicating that negative emotions were more frequent than positive emotions.

Table 1. Frequency of Emotional Content in Dreams.

Emotion	Count	%
1 Scared, Fearful, Afraid	70	38.5
2 Disgust, Distaste, Revulsion	28	15.4
3 Angry, Irritated, Annoyed	26	14.3
4 Surprised, Amazed, Astonished	10	5.5
4 Glad, Happy, Joyful	10	5.5
5 Content, Serene, Peaceful	9	4.9
6 Sad, Downhearted, Unhappy	8	4.4
7 Awe, Wonder, Amazement	5	2.7
7 Embarrassed, Self-conscious, Blushing	5	2.7
8 Repentant, Guilty, Blameworthy	3	1.6
9 Sympathy, Concern, Compassion	2	1.1
9 Interested, Alert, Curious	2	1.1
9 Sexual, Desiring, Flirtatious	2	1.1
10 Love, Closeness, Trust	1	0.5
10 Grateful, Appreciative, Thankful	1	0.5
11 Ashamed, Humiliated, Disgraced	0	0.0
11 Amused, Funloving, Silly	0	0.0
11 Hopeful, Optimistic, Encouraged	0	0.0
11 Proud, Confident, Self-assured	0	0.0
11 Contemptuous, Scornful, Disdainful	0	0.0
Total positive emotion	30	16.5
Total negative emotion	140	76.9
Others	12	6.6
Total	182	100

Table 2. Mean, Standard Deviation, and Welch’s *t*-test of the Frequency of Emotional Content in Dreams by Gender.

Emotion	Men (n=9)		Women (n=17)		<i>t</i> -value	<i>p</i> -value
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Dream emotion	0.45	0.24	0.36	0.20	0.97	0.35
Positive emotion	0.06	0.07	0.06	0.07	0.17	0.87
Negative emotion	0.36	0.21	0.31	0.19	0.60	0.56
Scared, Fearful, Afraid	0.19	0.16	0.16	0.15	0.46	0.65
Disgust, Distaste, Revulsion	0.08	0.09	0.06	0.08	0.64	0.53
Angry, Irritated, Annoyed	0.06	0.07	0.07	0.11	-0.27	0.79
Surprised, Amazed, Astonished	0.06	0.08	0.01	0.03	1.68	0.13
Content, Serene, Peaceful	0.01	0.02	0.02	0.04	-1.41	0.17
Sad, Downhearted, Unhappy	0.02	0.03	0.01	0.03	0.45	0.66
Glad, Happy, Joyful	0.04	0.06	0.02	0.04	0.98	0.35
Awe, Wonder, Amazement	0.01	0.03	0.01	0.02	0.65	0.53
Embarrassed, Self-conscious, Blushing	0.01	0.03	0.02	0.04	-0.87	0.39
Love, Closeness, Trust	0.00	0.00	0.00	0.01	-1.00	0.33
Repentant, Guilty, Blameworthy	0.01	0.02	0.01	0.03	-0.40	0.70
Sympathy, Concern, Compassion	0.01	0.03	0.00	0.02	0.42	0.68
Interested, Alert, Curious	0.00	0.00	0.00	0.01	-1.43	0.17
Grateful, Appreciative, Thankful	0.00	0.00	0.00	0.01	-1.00	0.33
Sexual, Desiring, Flirtatious	0.01	0.02	0.00	0.01	0.63	0.54
Ashamed, Humiliated, Disgraced	0.00	0.00	0.00	0.00		
Amused, Funloving, Silly	0.00	0.00	0.00	0.00		
Hopeful, Optimistic, Encouraged	0.00	0.00	0.00	0.00		
Proud, Confident, Self-assured	0.00	0.00	0.00	0.00		
Contemptuous, Scornful, Disdainful	0.00	0.00	0.00	0.00		

3.2. Analysis of Differences by Gender and Age

A Welch’s *t*-test was conducted to examine the relationship between gender as the independent variable and the dream emotions as the dependent variable. The results indicated that there was no significant difference in dream emotions between male and female participants. Specific results are provided in Table 2. This table demonstrates that all comparisons resulted in *p* values greater than 0.05, confirming the absence of significant differences.

A Welch’s *t*-test was conducted to examine the relationship between age as the independent variable and the dream emotions as the dependent variable. The results indicated a statistically significant higher incidence of overall dream emotions in adolescents compared to adults ($t(21.97) = 2.26, p = .03, \text{Cohen's } d = .86$). Similarly, adolescents exhibited a significantly greater frequency of negative emotions ($t(21.16) = 2.91, p = .01, \text{Cohen's } d = 1.13$) and feelings of being scared ($t(18.12) = 3.05, p = .01, \text{Cohen's } d = 1.22$). This suggests that adolescents tend to experience more frequent emotions, negative emotions, and feelings of being scared in their dreams compared to adults. Detailed results of the analyses are provided in Table 3.

4. Discussion

4.1. Characteristics of Dream Emotions Reported in Psychotherapy

In terms of the overall emotional trends in dreams, fear was the most prevalent, accounting for nearly 40% of all

emotions rated. This was followed by disgust and anger, indicating a predominance of negative emotions. In terms of overall proportions, negative emotions constituted over 70%, significantly outnumbering positive emotions. Therefore, hypothesis 1, stating that the frequency of negative emotions would be higher than that of positive emotions, was supported. Similar rating methods used by Sikka et al. (2014) showed that in external evaluations, positive dreams accounted for 9.6%, and negative dreams for 11.3%, suggesting comparable proportions. Thus, the results of this study suggest a higher occurrence of negative emotions compared to previous research.

The findings of this study can be attributed to two factors: the nature of the emotional content of dreams reported in psychotherapy and the influence of the research methodology. First, the dreams analyzed in this study were those reported in psychotherapy settings. All 26 cases studied either had a formal diagnosis or had received medical attention or medication for psychiatric problems. Consequently, these individuals likely experienced high stress or depressive tendencies and were prone to negative emotions during wakefulness. These waking negative emotions and experiences, according to the emotional continuity hypothesis (Domhoff, 2017; Hartmann, 1996, 2008, 2011, Pesant & Zadra, 2006; Schredl, 2003; Sikka et al., 2018; Yu, 2007), might continue to manifest in dreams. For example, Rimsh & Pietrowsky (2020, 2021, 2022) have found that clients with anxiety disorders frequently experience negative emotions in their dreams. Such findings indicate that dreams reported by clients with anxiety disorders frequently involve negative

Table 3. Mean, Standard Deviation, and Welch's *t*-test of the Frequency of Emotional Content in Dreams by Age Group.

Emotion	Adolescent (n=11)		Adult (n=15)		<i>t</i> -value	<i>p</i> -value
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Dream emotion	0.50	0.20	0.32	0.20	2.26	0.03
Positive emotion	0.07	0.07	0.05	0.07	0.43	0.67
Negative emotion	0.44	0.18	0.24	0.17	2.91	0.01
Scared, Fearful, Afraid	0.27	0.15	0.10	0.11	3.05	0.01
Disgust, Distaste, Revulsion	0.06	0.08	0.07	0.08	-0.27	0.79
Angry, Irritated, Annoyed	0.08	0.10	0.06	0.09	0.39	0.70
Surprised, Amazed, Astonished	0.03	0.07	0.02	0.04	0.31	0.76
Content, Serene, Peaceful	0.02	0.03	0.01	0.03	0.17	0.87
Sad, Downhearted, Unhappy	0.02	0.03	0.01	0.02	0.59	0.56
Glad, Happy, Joyful	0.04	0.06	0.02	0.03	1.22	0.25
Awe, Wonder, Amazement	0.01	0.02	0.01	0.03	-0.47	0.64
Embarrassed, Self-conscious, Blushing	0.03	0.05	0.01	0.02	1.37	0.20
Love, Closeness, Trust	0.00	0.00	0.00	0.02	-1.00	0.33
Repentant, Guilty, Blameworthy	0.00	0.01	0.01	0.03	-0.64	0.53
Sympathy, Concern, Compassion	0.00	0.00	0.01	0.03	-1.47	0.16
Interested, Alert, Curious	0.00	0.00	0.01	0.01	-1.43	0.17
Grateful, Appreciative, Thankful	0.00	0.00	0.00	0.01	-1.00	0.33
Sexual, Desiring, Flirtatious	0.00	0.01	0.00	0.01	0.48	0.64
Ashamed, Humiliated, Disgraced	0.00	0.00	0.00	0.00		
Amused, Funloving, Silly	0.00	0.00	0.00	0.00		
Hopeful, Optimistic, Encouraged	0.00	0.00	0.00	0.00		
Proud, Confident, Self-assured	0.00	0.00	0.00	0.00		
Contemptuous, Scornful, Disdainful	0.00	0.00	0.00	0.00		

emotions, potentially leading to the prevalence of emotions like negativity and fear. In the cases examined in this study, it was observed that out of 26 cases, 5 were diagnosed with anxiety disorders, and it is inferred that there are many dreamers who are prone to experiencing negative emotions such as depression during wakefulness. This is believed to be reflected in their dreams as well. Besides the explanation offered by the emotional continuity hypothesis, the emotional processing function of dreams (Cartwright et al., 1998; Hartmann, 1995; 2008; Malinowski et al., 2019) may also play a role. Most clients undergoing therapy voluntarily seek help for symptoms, daily life issues, or concerns. As demonstrated by Malinowski et al. (2019), dreaming about emotionally distressing content may facilitate emotional processing and therapeutic effects. Therefore, the emotional regulation function in dreams could be actively working, leading to a higher frequency of dreams involving negative emotions as a means of resolving emotional conflicts and experiences.

The second factor influencing the results pertains to the research methodology used. Studies by Schredl and Doll (1998) and Sikka et al. (2014) suggest that while the ratio of positive to negative emotions in actual dreams is balanced, negative emotions predominate when objective ratings are employed. Schredl and Doll (1998) compared the ratio of positive to negative emotions in dreams using both self-assessment of the intensity of emotions and objective evaluations based on content analysis (Hall & Van de Castle, 1966). They found that negative emotions exceeded positive emotions only in the case of evaluations by others, while the

ratio was balanced in dreamers' self-assessments. This discrepancy was attributed to the underrepresentation of positive emotions in objective evaluations. Sikka et al. (2014) examined the difference between subjective and objective ratings of emotions in dream reports obtained from REM awakenings in a laboratory setting. The objective rating method used in their study was similar to that employed in our research. They found that dreams rated by the dreamers themselves scored higher in dream emotionality, intensity of positive emotions, the proportion of dreams containing both positive and negative emotions, and the variety of emotions compared to objective ratings. These findings from Sikka et al. (2014) also imply that positive emotions are undervalued in objective ratings. In our study, the emotions in dreams reported in therapy were objectively rated by a third party, suggesting the possibility that positive emotions were less likely to be rated as compared to negative emotions.

Furthermore, in this study, emotions such as Ashamed, Amused, Hopeful, Proud, and Contemptuous were not observed. Similar to the rating methodology employed in our study, Sikka et al. (2014) using objective ratings, detected only 12 out of 20 types of emotions, with emotions like Proud, Hopeful, Love, Grateful, Contemptuous, Sad, and Ashamed not being identified. In Sikka's (2018) evaluation of emotions in Home and Laboratory dreams, emotions such as Ashamed, Grateful, Guilty, Hopeful, and Inspired did not appear. Similarly, in a study by Strauch and Meier (1996), which investigated the emotions of 500 dreams from 44 individuals, emotions like contempt, guilt, and disgust were almost nonexistent. The findings of our study generally sup-

port those of previous research. These emotions might be inherently less likely to appear in dreams, or they may be difficult to detect through objective ratings.

4.2. Differences in Dream Emotions Reported During Psychotherapy by Gender and Age

Regarding gender differences, no significant differences were observed across any of the emotions, thus hypothesis 2 pertaining to gender differences was not supported. Previous research has indicated that women are more prone to experiencing nightmares, stronger emotions, and more negative dreams (Fogli et al., 2020; Schredl et al., 2014; Schredl & Reinhard, 2011). However, there are also studies that found no gender differences in dream emotions. Schredl and Doll (1998) reported that women did not experience more negative emotions in dreams compared to men. Kahn & Hobson (2002) found no gender differences in the intensity of dream emotions or in the ratio of positive to negative emotions. Suzuki & Matsuda (2012) investigated the frequency of recall for seven types of dream contents (enjoyable, sad, anxious, strange, unpleasant dreams) among Japanese university students and found no significant differences between genders. Therefore, the findings regarding gender differences in dream emotions are inconsistent across studies, suggesting the need for further research in this area.

Regarding age differences, it was found that dream emotions were higher in adolescents compared to adults, with negative emotions and fear being more prevalent in adolescents than in adults. Given that there were no significant differences in positive emotions across age groups, it can be inferred that the differences in dream emotions are largely associated with variations in negative emotions. Hence, hypothesis 2 regarding age differences was supported. Firstly, the finding that dream emotion frequency is higher in adolescents compared to adults aligns with previous research (Maggiolini et al., 2003; Yoshioka, 2024; Zanasi, 2005). The observation that negative emotions and fear are more commonly experienced by adolescents compared to adults is also consistent with prior studies (Fogli et al., 2020; Salvio et al., 1992; Yoshioka, 2024). Salvio et al. (1992) indicated that younger individuals have a higher frequency of nightmare recall than older adults. Yoshioka (2024) conducted a survey among Japanese individuals in youth, adulthood, and old age, finding that overall dream emotions and negative emotions, as well as anxiety/fear and confusion/shock, decrease in older age.

These results can be interpreted in the context of the emotional continuity hypothesis of dreaming (Domhoff, 2017; Hartmann, 1996; 2008; 2011; Pesant & Zadra, 2006; Schredl, 2003; Sikka et al., 2018; Yu, 2007). That is, during wakefulness, adolescents are more likely to experience stronger and more negative emotions, which may continue to be manifested in dreams. There is substantial evidence that younger individuals experience stronger emotions, particularly negative ones, more readily than adults (Bailen et al., 2019). It is known that negative emotions decrease with age (Carstensen et al., 2000; Kessler & Staudinger, 2009; Scheibe & Carstensen, 2010). This is believed to be due to the greater difficulty young adults have with emotion regulation, which becomes easier with age (Orgeta, 2009). Indeed, adolescents and young adults are more likely to describe anger and intense aversive emotions (Birditt & Fingerhant, 2003), and even after adjusting for individual differences in

life satisfaction, younger people experience stronger negative emotions than older adults (Burr et al., 2021). Thus, it is well known that adolescents experience negative emotions more frequently than adults during arousal. Additionally, the phenomenon of heightened fear and anxiety among adolescents is a well-documented. Studies such as those conducted by Kim & Ganella (2015), Mahoney et al. (2015), and Muris (2007) highlight a notable frequency of emotions like fear and anxiety in younger populations. Moreover, Milne et al. (1995) indicates a significant prevalence of moderate phobic symptoms among many youths. These findings collectively suggest that adolescents might frequently encounter fear and anxiety in their daily lives.

The results of this study also revealed that adolescents more frequently than adults reported emotions and negative emotions in client-reported dreams during therapy. This is thought to reflect the continuous intensity of negative emotions, anxiety, and fear that adolescents experience when they are awake, as shown in previous research. In other words, this can be explained in the context of the emotional continuity hypothesis, which states that emotional experiences during waking life and emotions in dreams tend to be continuous.

5. Conclusion and Limitations

The results of this study revealed the following characteristics of dreams reported in Japanese psychotherapy cases. Overall, fear was the most prevalent emotion, accounting for nearly 40% of all emotions rated. Disgust and anger followed, indicating a predominance of negative emotions. In terms of overall proportions, negative emotions constituted over 70%, significantly outnumbering positive emotions. These findings support the emotional continuity hypothesis and the emotional processing function of dreams. This study employed a method of objectively rating dreams reported in case studies, suggesting that the method of emotion rating could have influenced the results. As for differences by age, it was found that adolescents in comparison to adults, were more likely to report dream emotions, especially negative emotions and being scared. This is generally consistent with the results of studies conducted on non-clinical groups. These findings support the emotional continuity hypothesis, suggesting that emotions experienced during wakefulness are likely to manifest in dreams.

As limitations of this study, first, there was inconsistency in the format of the analyzed articles, leading to difficulties in analysis. For instance, not all articles clearly stated the diagnosis. Furthermore, the descriptions of dreams were not standardized. Such differences in reporting methods could have influenced the results of this study. Additionally, the dreams reported in the papers were selectively chosen by therapists, meaning that not all dreams reported in therapy sessions were utilized. Ideally, data from actual session recordings or comprehensive reports of all dreams and session conversations should be used. Another limitation of this study involves the methodology for emotional evaluation of dreams. Specifically, if a self-rating method were to be employed, it could yield results inconsistent with the emotional continuity hypothesis. This acknowledges a potential methodological constraint in assessing dream emotions, suggesting the need for diverse evaluative approaches to robustly test the hypothesis.

For future research, it is desirable to compare the cases studied here, which all involved Japanese individuals, with

cases from other cultures and countries. Also, due to the limited number of cases and the wide range of diagnoses and symptoms in this study, a detailed analysis of the emotional aspects of dreams specific to certain mental disorders was not feasible. Such an analysis is recommended for future studies.

Conflict of Interest

The author declares no conflict of interest.

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