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How does the Dream Experience (Length, Location, Characters, Social Interactions, and Emotions) Change from Childhood to Adulthood?

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Abstract

Background: This research study is part of a larger study, which was intended to examine the manifest dream content and meaning representation in children and adults. This part of the study addressed the question, *Are there any significant differences between children's and adults dream reports obtained through the Dream Recording Booklet with respect to the content? And are there any gender differences between children and adult groups.*

Aim and Objectives: To study how does the dream experience (length, location, characters, social interactions, and emotions) change from childhood to adulthood.

Materials and Methods: To study the objective, the researcher adopted the methodology standardized by Margaret Bowman Howard of Iowa State University, Iowa, USA (1978), which in turn is based on the methodology developed by Hall and Van de Castle. The Dream Recording Booklet was circulated among the participants with clear instructions. Children were requested to recall and record their dreams just after the sunrise awakenings. Parents were asked to support reminding children about their daily recordings without interfering with the children's dream experiences. In six to eight months, dream data was collected from all the children and adults in the sample. This home-based data collection method worked out very well in obtaining the data.

Results: In our comparison of assertiveness between children and adults, we observed that children have a mean score of 3.31, accompanied by a standard deviation of 1.65. Adults, on the other hand, exhibit a higher mean score of 4.42, with a standard deviation of 1.15. The analysis yielded a t-value of 3.491 and a p-value of 0.0008. Since the p-value is below the threshold of 0.05, we can confidently conclude that there is a significant difference between the two groups. This leads us to reject the null hypothesis (H0), which posits that there is no substantial difference in the number of dreams experienced by children and adults. Instead, we accept the alternative hypothesis (H1), indicating that children and adults indeed differ in the number of dreams they experience. This insight can guide further research and discussions on the emotional and cognitive development of both age groups.

Conclusion: The findings of this study align with those of several other studies conducted by Avila-White, Schneider, & Domhoff, 1999; Oberst, Charles, & Chamarro, 2005; Saline, 1999; Strauch & Lederbogen, 1999. The scores obtained support the idea that cultural differences influence the dreams of both children and adults. As a result, dream content analysis plays a significant role in understanding the nature of dreams across different age groups.

Keywords: Psychoanalysis, Dream Content, Dream Experience, Emotions in Dreams, Dream Characteristics.

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INTRODUCTION

No one can decipher a dream in its natural form. When dreams are unfiltered, no one can understand them. Psychoanalysts use the disclosed, interpreted, or reported information as the primary corpus to reinterpret and find significance. Therefore, what we see in dreams is an attempt at reconstruction. (Domhoff, 1996). Stanley Krippner and Jan Weinhold (2002) stated that "What is disclosed about the dream may vary considerably, depending on how the dreamer recalls, forgets, embroiders, or reconstructs different portions of the report. In postmodern terms, serial reports of the same dream are *fluid texts* rather than *fixed texts*. Hence, dream work of any type needs to be done with care, with attentiveness, and with humility. Nevertheless, if diligent care is taken, the use of dream reports as data can yield useful information for the social sciences."

AIMS, OBJECTIVES & RESEARCH QUESTIONS

One of the important objectives of this study is to examine the manifest dream content and meaning representation in children and adults. To study this objective, the researcher adopted the methodology standardized by Margaret Bowman Howard of Iowa State University, Iowa, USA (1978), which in turn is based on the methodology developed by Hall and Van de Castle. This part of the study addressed two questions: 1. Are there any significant differences between children's and adults dream reports obtained through the Dream Recording Booklet with respect to the dream content? 2. Are there any gender differences between children and adult groups with respect to the dream experience (length, location, characters, social interactions, and emotions?

HYPOTHESES

- There is no significant difference between children's and adults dream reports obtained through the Dream Recording Booklet with respect to the dream content.
- There are no gender differences between children and adult groups with respect to the dream experience (length, location, characters, social interactions, and emotions.

MATERIALS AND METHODOLOGY

After developing a reasonable amount of rapport with the parents and children, the researcher briefed them about the study process and their sensitive role in data collection. The Dream Recording Booklet was circulated among the participants with clear instructions. Children were requested to recall and record their dreams just after the sunrise awakenings. Parents were asked to support reminding children about their daily recordings without interfering with the children's dream experiences. In six to eight months, dream data was collected from all the children and adults in the sample. This home-based data collection method worked out very well in obtaining the data.

The dream records that are less than 15 words are ignored. From each respondent, five dreams Dream records containing fewer than 15 words are disregarded. From each participant, five dreams are selected for analysis. The researcher examined all available dominant dream analysis tools, including those by Reger *et al.* (1971), Brenneis (1970), Hall & Van de Castle (1966), Hauri, Sawyer, & Rechtschaffen (1967), Langs (1966), Sheppard & Rosenhan (1965), and Tokar, Brunse, Castelnuovo-Tedesco, & Stefflre (1973). Ultimately, Hall and Van de Castle's classification system, recommended by Margaret Bowman Howard (1978), was chosen for rating the dream reports. are selected for the analysis. The researcher surveyed all the available dominant dream analysis tools (Reger *et al.*, 1971; Brenneis, 1970; Hall & Van de Castle, 1966; Hauri, Sawyer, & Rechtschaffen, 1967; Langs, 1966; Sheppard & Rosehan, 1965; Tokar, Brunse, Castelnuovo-Tedesco, & Stefflre, 1973), and finally Hall and Van de Castle's classification system that was suggested by Margaret Bowman Howard (1978) is selected for rating the dream reports.

The researcher employed content analysis to systematically identify, categorize, classify, and quantify qualitative data in an objective manner. The research procedures developed for this portion of the study are based on the Hall-Van de Castle System. According to Dumhoff (1999), "Content analysis is an attempt to use carefully defined categories and quantitative methods to extract meaning from a text, whether it be a newspaper article, a transcribed conversation, a short story, or a dream report." One of the earliest proponents of content analysis, Cartwright (1953), stated that the

fundamental objective of this method is to convert people's symbolic behavior into scientific data. This involves achieving results that are (1) objective and reproducible; (2) measurable and quantifiable; (3) significant for both theoretical and applied purposes; and (4) generalizable.

The researcher was able to systematically quantify various features and written characteristics. The coding categories of the Hall-Van de Castle system are nominal. According to Domhoff (1996), as noted by Dumhoff (1999), "The system contains both empirical and theoretical categories; however, the theoretical categories proved to have no validity or usefulness and have long since been abandoned." It is important to acknowledge that the issues with these theoretical categories are not unique to the Hall-Van de Castle system.

Krippner and Weinhold (2002) state that "the Hall-Van de Castle system is both nominal and empirical; it does not provide information about the level of activity in dreams nor does it include theoretical concepts such as castration anxiety. While it originally included theoretical scales, their usefulness was not demonstrated, leading to their abandonment. These decisions likely contribute to the Hall-Van de Castle system's high inter-coder reliability" (Hall & Van de Castle, 1966, p. 117).

Hall and Van de Castle published their most renowned research in 1966 with the work titled "The Content Analysis of Dreams." In this study, they presented a comprehensive methodology for capturing dream content through a detailed coding system. Their research involved the analysis of 1,000 dreams collected from 200 undergraduate students at Case Western Reserve University and Baldwin Wallace College in Cleveland, Ohio, between 1947 and 1952. Since its release, the Hall-Van de Castle System has been widely used by many dream researchers. Furthermore, both Hall and Van de Castle, along with various other researchers, have demonstrated the reliability and validity of this system worldwide (Winget and Kramer, 1979).

According to Domhoff (1999), developing reliable and valid categories for content analysis is one of the most challenging tasks. Unfortunately, there are no universally applicable guidelines for creating such categories, and those developed for one type of text may not be suitable for another. Typically, content categories are created through a process of trial and error after an in-depth examination of the texts being analyzed. They usually undergo multiple revisions before they are ready for regular use. This was certainly true for the system developed by Hall and Van de Castle, which Hall initially created in the 1940s and later refined with Van de Castle's assistance during two intensive years of work in the 1960s.

As per the Hall-Van de Castle System guidelines, essential content items are identified and converted into frequencies and percentages. To achieve objectivity and reliability, two experts, the researcher, and the researcher are involved in the coding process. Tartz and Krippner (2008) say,According to the Hall-Van de Castle System guidelines, essential content items are identified and quantified into frequencies and percentages. To ensure objectivity and reliability in the coding process, two experts, including the researcher, are involved. Tartz and Krippner (2008) state, "The major Hall-Van de Castle categories coded included characters, aggressive interactions, friendly interactions, sexual interactions, activities, successful outcomes, failed outcomes, misfortunes, good fortunes, emotions, settings, objects, and modifiers."

All the dream reports were coded for all the categories suggested by the Hall-Van de Castle System. The inter-rater reliability was calculated using the percentage-perfect-agreement method, a clear and well-defined process suggested by Hall and Van de Castle (1966, p.146). The results are robust, with inter-rater reliability scores for all the categories falling within a range of 75% to 90%. As Dumhoff (1999) affirmed, "Because categories in a nominal coding system can be clearly defined, there is very high inter-coder reliability in using the Hall and Van de Castle system. This high reliability is determined by the method of perfect agreement, which means that all the similar codings by two independent coders are divided by the number of agreements plus the number of disagreements. For example, if coder A makes 51 codings for characters and coder B makes 49 codings, they make the same coding 48 times. The inter-coder reliability is 48 divided by 52 (48 agreements plus four disagreements), which equals .92. Hall and Van de Castle used this approach by comparing the results with what is found with every other conceivable approach. They show that the outcomes from various methods of determining inter-judge reliability can range from zero to 100% (Hall & Van de Castle, 1966, pp. 145-147). It is, therefore, meaningless to report a reliability finding without stating the method used, and it makes little or no sense to use the other methods with this particular

coding system (Dumhoff, 1996; Hall, 1969b; Hall & Van de Castle, 1966; Van de Castle, 1969)".

For the purpose of study, twenty-eight standard indices were computed and compared between children and adults. The measured empirical categories called "indicators" are presented in an array of percentages and ratios. Except for social interaction ratios, all the items were tested for significance. Since the social interaction ratios are only ratios and not true proportions, the data represents just mathematical differences between one ratio and another. For all other items, two-tailed tests for statistical difference between two independent proportions were employed. The z -score and p-values are interpreted accordingly. The following six areas of dream content are identified for assessment of the dream reports of children and adults of the sample.

1. **Dream Length:** This section includes the total number of dreams reported by respondents over the course of one week, as well as the average number of words used to describe each dream.
2. **Dream Setting:** Dream settings are evaluated based on two criteria. The first criterion is the location of the dreams, categorized as indoor or outdoor. The second criterion assesses familiarity, as dreams often feature people, objects, and events that are both known and unknown to the dreamer are included in this area.
3. **Dream Characters:** This assessment includes four types of dream character scales: i) Central Figure, ii) Sex, iii) Age, and iv) Identity. In adult dreams, dreamers are typically the central figures, while animals are often the central figures in children's dreams. This pattern holds true across various cultures. Dreams may feature male and female characters as well as individuals of different ages, including children, youth, adults, middle-aged individuals, and seniors. According to Dumhoff (1999), "The percentage indicators reveal what parts of an overall category are contained in specific subcategories." For example, to calculate the percentage of animal characters in a series of dreams, the number of animal characters is divided by the total number of characters to determine the animal percentage. Similarly, to find the male/female percentage, one would calculate the number of male and female human characters.
4. **Social Interaction:** In this assessment area, three social interaction scales measure aggression, sexual content, and friendliness. Concerning the measure of social interaction, Dumhoff (1999) says, "The social interaction ratios, on the other hand, provide rates of social interactions per character, not percentages. The friendliness per character ratio, the F/C ratio or F/C index, is typically .22 for women and .21 for men, meaning there is one friendly interaction for every five characters who appear in the overall set of dreams."
5. **Emotions:** The study measures both positive and negative emotions as reported in dreams. Emotions such as anger, apprehension, sadness, confusion, and happiness are included in this analysis. Additionally, factors such as success, failure, internal and external pressures, and the impact of the dreamer on outcomes are examined. This section of the study also addresses issues related to self-negativity, feelings of bad luck, negative emotions, and the percentage of success attributed to the dreamer. Furthermore, the study explores a range of additional emotions, including aggression, friendliness, sexuality, misfortune, good fortune, success, failure, and the pursuit of goals.

According to Dumhoff (1999), some indicators are created by combining various categories. For example, the percentages of aggressive and friendly interactions can be combined to calculate an assertiveness percentage. This is done by dividing the sum of initiated aggressive and friendly interactions by the total number of aggressive and pleasant interactions. One of the newest indicators is the self-negativity percentage, which may be useful in predicting a highly critical attitude toward oneself or certain forms of psychopathology. This concept considers failures experienced by the individual, misfortunes that occur, and the presence of a victim status within aggressive interactions. While these indicators are grounded in empirical research, they can be seen as quasi-theoretical since they involve categorizing various categories based on middle-range conceptualizations.

DATA ANALYSIS AND INTERPRETATION

Measuring Dream Length construed in this study in terms of numbers of dreams and number of words that dreams carry. The analysis of dream reports is based on the number of persons rather than the number of dreams. Means and standard deviations are computed to capture the overall view of the content of dreams of children and adults to

the number of dreams and words in dreams. A t-test determines the mean differences between children (boys and girls) and adults (male and female), and the results are presented accordingly.

As discussed above, two variables, the average number of dreams reported in one week and the average number of words written by the respondents in their dream reports, are considered dream length for assessment. The following table presents the dream length of the children and adults with respect to the number of dreams.

Table 1: Measuring Number of Dreams

Variable	Group	Gender	N	Mean	SD	t-value	p-value
Dream Length	Children	Boys	30	2.65	1.52	2.756	0.0078
		Girls	30	3.82	1.76		
	Adults	Male	30	4.02	0.87	2.877	0.0056
		Female	30	4.82	1.25		

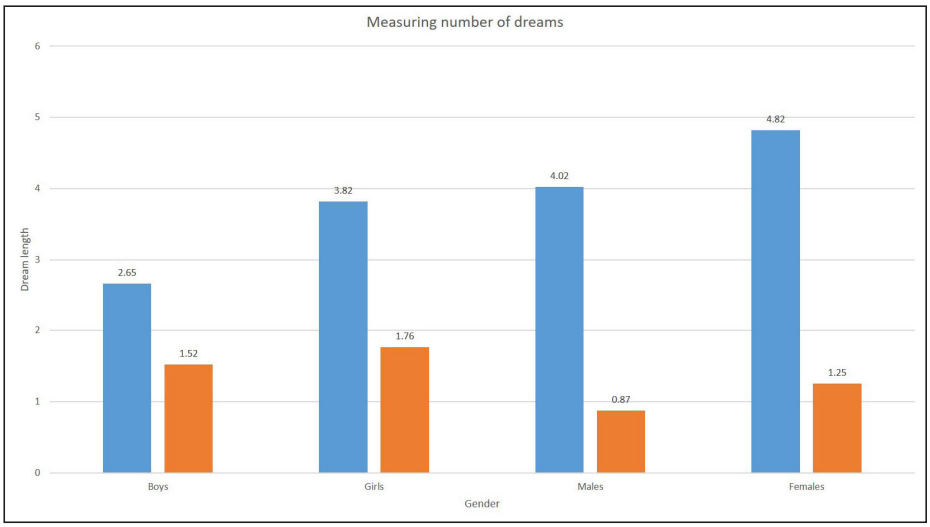
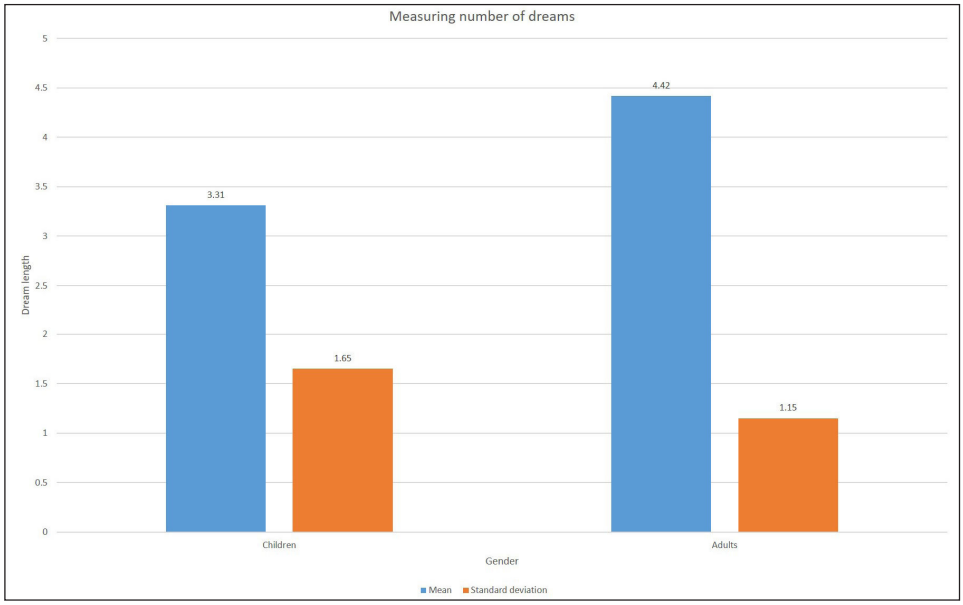


Table 2: Measuring Number of Dreams

Variable	Group	N	Mean	SD	t-value	p-value
Dream Length	Children	60	3.31	1.65	4.275	0.0001
	Adults	60	4.42	1.15		



The above tables indicate that in the case of children, the mean score of boys for the number of dreams is 2.65 with a standard deviation of 1.52 and the mean score of girls is 3.82 with a standard deviation 1.76. The t-value calculated for comparing the means is 2.756 and p-value is .0078. Since the p-value is less than 0.05 (P<0.05), the conclusion is that the two means are significantly different. In other words, boys and girls differ significantly in the number of dreams dreamt. Hence, it is inferred that the null hypothesis (H_0), *Children, both boys and girls, do not differ significantly w.r.t. the number of dreams* is rejected whereas the alternative hypothesis (H_1), *Children, both boys, and girls, differ significantly w.r.t. the number of dreams* is accepted.

In the study of adults, the mean dream length for males is 4.02, with a standard deviation of 0.87, while for females, the mean is 4.82, with a standard deviation of 1.25. The calculated t-value for comparing these means is 2.877, and the p-value is 0.0056. Since the p-value is less than 0.05 ($p < 0.05$), we conclude that the two means are significantly different. Therefore, we reject the null hypothesis (H0), which states that *there is no significant difference in the number of dreams between male and female adults*. Instead, we accept the alternative hypothesis (H_1), which asserts that *male and female adults differ significantly in the number of dreams they experience*.

In the final comparison between children and adults, the mean score for assertiveness in children is 3.31, with a standard deviation of 1.65. In contrast, the mean score for adults is 4.42, with a standard deviation of 1.15. The calculated t-value for comparing these means is 3.491, and the p-value is 0.0008. Since the p-value is less than 0.05 ($p < 0.05$), we conclude that the two means are significantly different. Therefore, we reject the null hypothesis (H_0), which states that there is no substantial difference in the number of dreams experienced between children and adults. We accept the alternative hypothesis (H_1), indicating that children and adults differ in the number of dreams experienced. The following table presents the dream length of children and adults in terms of the number of words in their dreams.

Table 3: Measuring Number of Words in Dreams

Variable	Group	Gender	n	Mean	SD	t-value	p-value
Dream Length	Children	Boys	30	73.42	23.42	3.426	.00011
		Girls	30	96.47	28.45		
	Adults	Male	30	116.72	52.67	2.718	.0087
		Female	30	158.24	65.02		

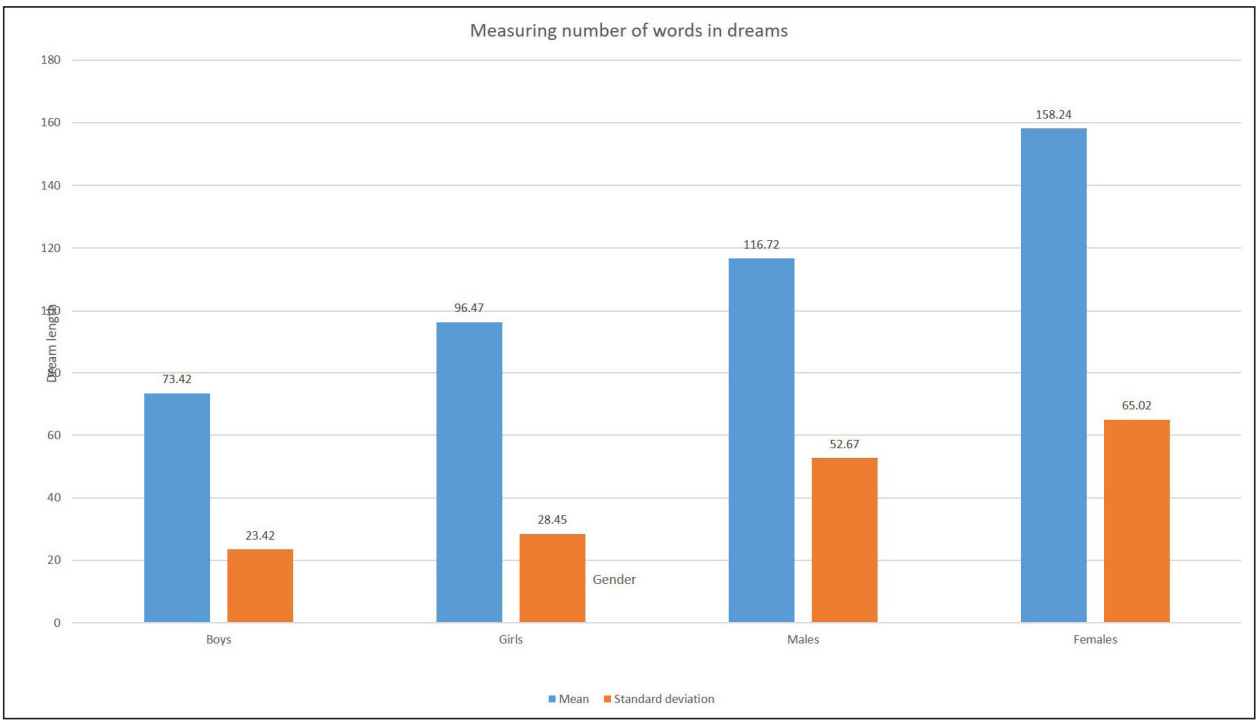
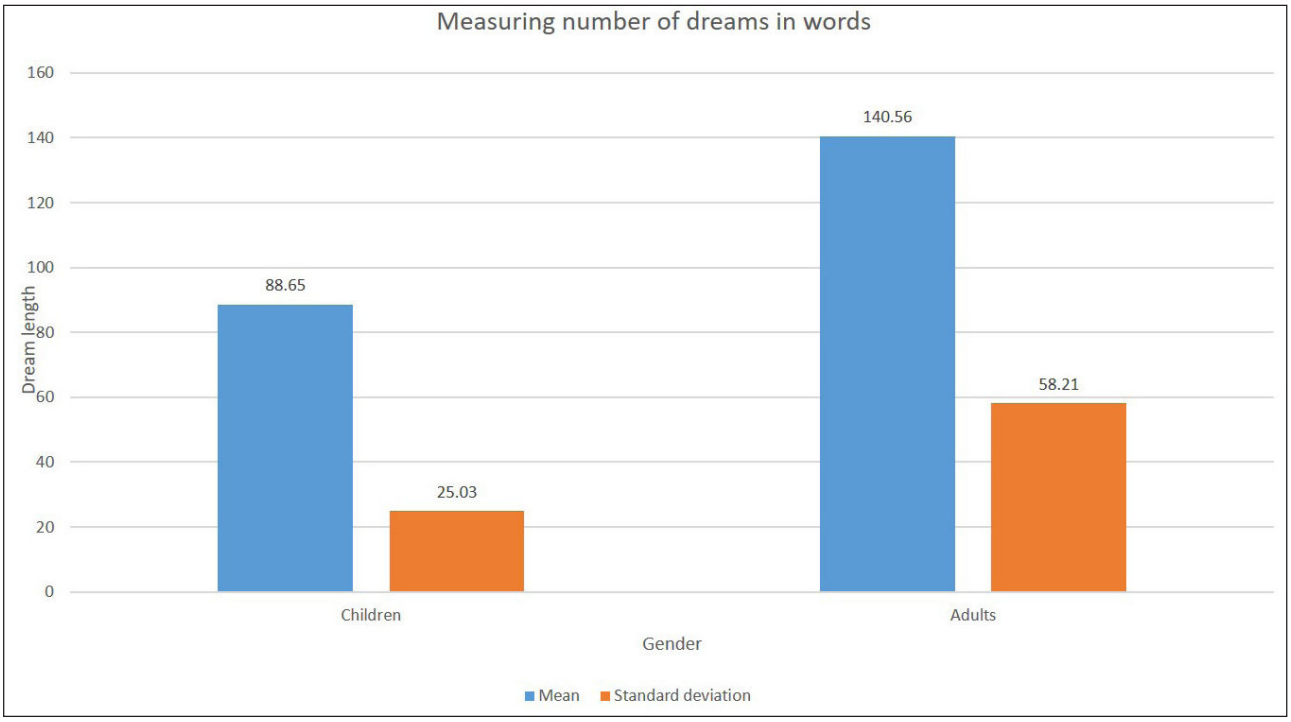


Table 4: Measuring Number of Words in Dreams

Variable	Group	N	Mean	SD	t-value	p-value
Dream Length	Children	60	88.65	25.03	6.346	.0001
	Adults	60	140.56	58.21		



The tables above show that, among children, the mean score for the number of words in dream reports is 73.42 for boys, with a standard deviation of 23.42, and 96.47 for girls, with a standard deviation of 28.45. The t-value calculated for comparing these means is 3.426, and the corresponding p-value is .0001. Since the p-value is less than 0.05 ($p < 0.05$), we conclude that the two means are significantly different. This indicates that boys and girls differ considerably in the number of words in their dream reports. Therefore, we reject the null hypothesis (H_0), which states that there is no significant difference between the number of words in the dream reports of boys and girls. Instead, we accept the alternative hypothesis (H_1), which states that boys and girls differ significantly in the number of words in their dream reports.

In the study of adults, the mean score for assertiveness among males is 116.72, with a standard deviation of 52.67. For females, the mean score is 158.24, with a standard deviation of 65.02. The calculated t-value for comparing these means is 2.718, and the p-value is 0.0087. Since the p-value is less than 0.05 ($p < 0.05$), we conclude that the two means are significantly different. Consequently, we reject the null hypothesis (H0), which states, "Adults, both males and females, do not differ significantly in the number of words in their dream reports." Instead, we accept the alternative hypothesis (H_1), which asserts, "Adults, both males and females, differ significantly in the number of words in their dream reports."

In the final comparison between children and adults, the mean word count in children's dream reports is 88.65, with a standard deviation of 25.03. In contrast, the mean word count for adults is 140.56, with a standard deviation of 58.21. The calculated t-value for comparing these means is 6.346, yielding a p-value of 0.0001. Since the p-value is less than 0.05 ($p < 0.05$), we conclude that the two means are significantly different. Therefore, we reject the null hypothesis (H_0), which states that "Children and adults do not differ significantly in the number of words in their dream reports," and accept the alternative hypothesis (H_1), which asserts that "Children and adults differ significantly in the number of words in their dream reports."

Table 5: Dream Content in Children

Dream Content Index	Specific Indicators	Boys	Girls	z	p
I. Dream Settings	1. Indoor setting percent	42	61	-1.4724	.14156
	2. Familiar setting percent	45	62	-1.3201	.18684
II. Dream Characters	1. Male/female percent	77	42	2.7614	.00578
	2. Familiarity percent	51	76	-2.0112	.04444
	3. Friends percent	22	24	-0.1841	.85716
	4. Family percent	31	57	-2.0286	.04236
	5. Dear&Imaginary percent	6	8	-0.3036	.76418
	6. Animal percent	20	18	0.1974	.84148
III. Social Interactions	1. Aggression/friendliness percent	76	50	2.0857	.03662 p<.05
	2. Befriender percent	43	40	-0.2358	.81034
	3. Aggressor percent	30	18	1.0882	.27572
	4. Physical aggression percent	90	69	2.0147	.0444 p<.05
IV.Social Interaction Ratios	1. A/C Index (Aggression/Character)	.38	.27	No statistical comparisons could be conducted since index values aren't true proportions.	
	2. F/C Index (Friendliness/Character)	.15	.16		
	3. S/C Index Sexuality/Character	.01	.01		
V. Self-concept	1. Self-negativity percent	38	65	-2.0924	.03662 p<.05
	2. Bodily misfortunes percent	37	14	2.0437	.04136 p<.05
	3. Negative emotions percent	56	82	-2.1773	.02926 p<.05
	4. Dreamer-involved success percent	34	68	-2.6342	.00854 p<.05
VI. Dreams with at least one	1. Aggression	52	48	0.3098	.75656
	2. Freindliness	21	28	-0.6304	.5287
	3. Sexuality	2	3	-0.2481	.80258
	4. Misfortune	8	7	0.147	.88076
	5. Good Fortune	5	6	0.1699	.86502
	6. Success	8	6	0.3036	.76418
	7. Failure	7	9	-0.2855	.77182
	8. Striving	10	8	0.2707	.78716

Table 6: Dream Content in Adults

Dream Content Index	Specific Indicators	Male	Female	z	p
I. Dream Settings	1. Indoor setting percent	45	57	-0.9297	.3523
	2. Familiar setting percent	52	62	-0.7823	.4354

Dream Content Index	Specific Indicators	Male	Female	z	p
II. Dream Characters	1. Male/female percent	75	50	2.000	.0455 p<.05
	2. Familiarity percent	49	74	-1.9898	.0466 p<.05
	3. Friends percent	38	40	-0.1588	.8728
	4. Family percent	22	47	-2.0368	.0413 p<.05
	5. Dear&Imaginary percent	7	5	0.3262	.7414
	6. Animal percent	12	10	0.2476	.8025
III. Social Interactions	1. Aggression/friendliness percent	62	43	2.0286	.04236 p<.05
	2. Befriender percent	52	43	0.698	.48392
	3. Aggressor percent	40	17	1.9733	.04884 p<.05
	4. Physical aggression percent	83	60	1.9733	.04884 p<.05
IV. Social Interaction Ratios	1. A/C Index (Aggression/Character)	.34	.27	No statistical comparisons could be conducted since index values aren't true proportions.	
	2. F/C Index (Friendliness/Character)	.16	.15		
	3. S/C Index Sexuality/Character	.05	.05		
V. Self-concept	1. Self-negativity percent	37	69	2.4832	.01314 p<.05
	2. Bodily misfortunes percent	48	21	2.1998	.0278 p<.05
	3. Negative emotions percent	61	82	-1.995	.0466 p<.05
	4. Dreamer-involved success percent	67	38	2.2491	.02444 p<.05
VI. Dreams with at least one	1. Aggression	53	32	1.6453	.09894
	2. Freindliness	25	29	-0.3489	.72634
	3. Sexuality	12	10	0.2476	.80258
	4. Misfortune	10	13	-0.3642	.71884
	5. Good Fortune	6	8	-0.3036	.76418
	6. Success	14	8	0.7427	.4593
	7. Failure	14	8	0.7427	.4593
	8. Striving	22	14	0.8065	.41794

Table 7: Dream Content in Children and Adults

Dream Content Index	Specific Indicators	Children	Adults	z	p
I. Dream Settings	1. Indoor setting percent	58	62	0.4472	.6527
	2. Familiar setting percent	61	68	-0.8012	.4237
II. Dream Characters	1. Male/female percent	59	62	-0.3361	.7278
	2. Familiarity percent	63	61	0.2257	.8181

Dream Content Index	Specific Indicators	Children	Adults	z	p
	3. Friends percent	22	39	-2.0224	.04338 p<0.5
	4. Family percent	48	30	2.0213	.04338 p<05
	5. Dear & Imaginary percent	8	7	0.1681	.8650
	6. Animal percent	19	9	-7.8094	.0000 p<.05
III. Social Interactions	1. Aggression/friendliness percent	75	50	2.000	.0455 p<.05
	2. Befriender percent	55	42	-1.4247	.1556
	3. Aggressor percent	28	32	-0.4781	.63122
	4. Physical aggression percent	74	.56	2.067	.03846 p<0.5
IV. Social Interaction Ratios	1. A/C Index (Aggression/Character)	.36	.25	No statistical comparisons could be conducted since index values aren't true proportions.	
	2. F/C Index (Friendliness/Character)	.15	.15		
	3. S/C Index Sexuality/Character	.01	.05		
V. Self-concept	1. Self-negativity percent	48	55	-0.7672	.4413
	2. Bodily misfortunes percent	25	34	-1.0809	.28014
	3. Negative emotions percent	64	72	-0.9393	.34722
	4. Dreamer-involved success percent	48	51	-0.3286	.7414
VI. Dreams with at least one	1. Aggression	45	42	0.3314	.7414
	2. Freindliness	26	30	-0.488	.62414
	3. Sexuality	3	22	-3.1467	.00164 p<.05
	4. Misfortune	14	12	0.3257	.7414
	5. Good Fortune	10	8	0.3828	.70394
	6. Success	11	10	0.1787	.85716
	7. Failure	8	10	-0.3828	.70394
	8. Striving	14	19	-0.7378	.4593

DISCUSSION AND RESULTS

The tables above reveal significant gender differences in the male-to-female ratio among both children and adults. However, when comparing these differences between children and adults, they are not substantial. It is also noted that the male-to-female ratio increases with age in girls. In other words, as girl children grow into adulthood, they tend to have dreams that reflect a higher male-to-female ratio. These findings align with those of previous studies conducted by Avila-White *et al.* (1999), Domhoff (1996), Oberst *et al.* (2005), Strauch (2005), Strauch & Lederbogen (1999), and Oberst *et al.* (2005).

When it comes to familiar characters in dreams, both children and adults tend to experience dreams featuring more familiar characters than strangers. Notably, girls and women report a higher percentage of familiar characters compared to boys and men. However, there are no significant differences in familiarity percentages between children and adults. This observation aligns with research conducted by Swiss psychologists Strauch (2005) and Strauch and Lederbogen (1999).

Family members frequently appear in dreams. The data indicates that girls and women exhibit higher percentages of family members in their dreams than boys and men in both children and adult groups. Interestingly, the percentage of family members is relatively lower in adults compared to children. The study uncovered several patterns: Firstly, there are significant differences in family percentages between boys and girls, a trend also seen in adults. Secondly, children and adults show significant differences in the percentage of family members appearing in their dreams. Friends play a crucial role in one's personal and social life; thus, it is noteworthy that the percentage of friends appearing in dreams is higher among adults compared to children. These findings are consistent with results from studies conducted by Domhoff (1996), Foulkes (1999), Maggiolini *et al.* (2003), and Strauch (2005).

Regarding the percentage of animals in dreams, there are no significant gender differences between children and adult groups. However, the percentage of animals present in children's dreams is notably higher than in adults. This observation supports the findings of previous studies conducted by Foulkes (1999), Domhoff (1996), Saline (1999), Strauch (2005), and Strauch & Lederbogen (1999).

From the tables presented, it is evident that the percentage of familiar settings in dreams is relatively high compared to unfamiliar or strange settings. Additionally, a trend is observed where more girls in the child group experience familiar and indoor dreams compared to boys. However, the differences between males and females are less pronounced in adults. Notably, adult males showed a significant increase in the percentage of familiar settings. These results are consistent with the research findings of Domhoff (1996), Strauch & Lederbogen (1999), and Strauch (2005).

The data analysis reveals that boys tend to experience more dreams with aggressive elements compared to girls. When examining the aggression/friendliness percentages, it becomes evident that boys and male adults score higher than girls and female adults. Additionally, the aggression and friendliness values of adults are generally lower and more stable than those of children. Statistical analysis indicates significant differences between boys and girls regarding aggression, friendliness, and physical aggression. Similarly, male and female adults also show significant differences in these areas. The data indicates that both children and adults vary considerably in their aggression/friendliness percentages and physical aggression percentages. These findings align with similar research conducted by American psychologists (Avila-White *et al.*, 1999) and Swiss psychologists (Strauch, 2005; Strauch & Lederbogen, 1999). Furthermore, the conclusion drawn from this study— that physical aggression is higher in boys than in girls— is corroborated by studies conducted by Avila-White *et al.* (1999), Oberst *et al.* (2005), and Cristina Riva *et al.* (2008).

In comparison to their counterparts, the percentage of befriending behaviors is relatively high among boys and adult males. Furthermore, it is observed that the befriending percentage score is higher in adults than in children. This study confirms the findings of Robert S. Tartz and Stanley Krippner (2008), who examined cognitive differences in dream content between Argentine males and females. However, the results of the current study do not align with the research conducted by Avila-White *et al.* (1999), which reported a higher befriending percentage among girls.

Regarding the A/C Index, the number of aggressive interactions per dream character is significantly higher for boys and males compared to girls and females. Other social interaction ratios, such as F/C and S/C, are generally similar across genders. However, no statistical comparisons could be made, as the A/C Index values are not true proportions.

Girl children and female adults scored higher self-negativity percentage values compared to boys and male adults. From the above tables, it is inferred that Boys and girls differ significantly with respect to self-negativity percentage, and male and female adults differ significantly with respect to self-negativity percentage. However, the analysis found no significant differences between children and adults concerning self-negativity percentage. The data show that the majority of respondents' emotions are negative. In terms of negative emotion percent, boys and girls differ greatly in children's cases, as do males and females in adults' cases. However, there are no significant differences between children and adults in terms of negative emotions. These findings are in agreement with the findings of the studies conducted by Valli, K., Revonsuo, A., Pälkäs, O., Ismahil, K. H., Jelal Ali, K., & Punamäki, R. L. (2005) on dreams of traumatized children.

CONCLUSION

Regarding the last eight indices under the category of "dreams with at least one…," it was found that, with the exception of sexuality, there are no significant differences between children and adults. Both boys and girls reported a very low occurrence of dreams involving sexual interactions and feelings. In contrast, approximately 22 percent of adult males and females reported experiencing sexual feelings in their dreams. For the other categories—aggression, friendliness, misfortune, good fortune, success, failure, and striving—the differences between children and adults were statistically insignificant.

These findings align with those of several other studies (Avila-White, Schneider, & Domhoff, 1999; Oberst, Charles, & Chamarro, 2005; Saline, 1999; Strauch & Lederbogen, 1999). The scores obtained support the idea that cultural differences influence the dreams of both children and adults. As a result, dream content analysis plays a significant role in understanding the nature of dreams across different age groups.

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