

Characters, social interactions, emotions and self-representation in 7-8 and 9-11 year olds' dream reports: A mixed methods study

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Summary. Using a mixed methods approach, this study investigates whether the content of dreams reported by 7 to 8 year olds differs significantly from those of 9 to 11 year olds. Nineteen children in the south west of England completed dream diaries at home for 14 days. The data were coded using Hall and Van de Castle's (1966) Dream Content Analysis system. The results demonstrate that despite a small sample size, significant differences were discovered between the dream reports of 7-8 and 9-11 year old children. Overall, familiar characters, aggression, emotions and self-representation increased with age. Gender differences between the dream reports and possible cross-cultural differences were also identified. Whilst some findings were concurrent with previous research, there were differences particularly with regards to the number of animals in girls' dreams not decreasing with age; the inclusion of sexual interactions; and possible cross-cultural differences in the incidences of aggression. Qualitative analysis was employed to further explore the role of animals and the appearance of media-related phenomena on children's dream content. Overall, the study contributes new findings to research on children's dreams using a mixed methods approach which is underutilised in dream research with children. Further, the study offers a geographical data set for comparison with data gathered in US studies.

Keywords: Children's dreams; content analysis; mixed methods; animal characters; aggression

1. Introduction

Investigating children's dreams, particularly using quantitative approaches, offers insight into their psychological and cognitive development. It potentially facilitates greater understanding about: The development of consciousness (Foulkes, 1999); the developmental stages through which children progress (Valli, Heinila & Revonsuo, 2008); and the role that dreaming plays in children's lives. In addition, qualitative studies can explore the place of significant dreams in childhood (Siegel & Bulkeley, 1998; Adams, 2003; Adams & Hyde, 2008) and how children make meaning from their dreams (Siegel & Bulkeley, 1998; Mallon, 2002; Adams, 2010). However, relative to the amount of studies conducted on adults' dreams, the literature on children's dreams remains relatively sparse.

1.1. Content analysis of children's dreams

A range of quantitative studies have investigated the content of children's dreams, usually analysed with the Hall and Van De Castle (1996) coding system. Characters are a key focus of such analyses, with several studies showing

animals to be a regular feature of children's dreams (e.g. Resnick et al, 1994; Foulkes, 1999; Valli et al, 2008). The number of animal appearances tends to decrease with age (Crugnola, Maggiolini, Caprin, De Martini and Giudici 2008; Valli et al 2008).

Family members and familiar characters are also commonly reported. Resnick et al (1994) discovered that in dream reports collected from their 4 to 10 year old participants, 71% of all characters were either family members or other individuals that the children knew. Punamaki (1999), Avila-White, Schneider and Domhoff (1999) and Crugnola et al (2008) observed that girls tended to dream more of their families and home environments than boys did.

Gender differences in the development of dream characters are also apparent. Strauch and Lederbogen (1999) discovered in a study of 9 to 15 year olds' dreams that boys tend to dream of male more than female characters whereas girls tended to dream of both genders equally. These findings were replicated by Avila-White et al (1999).

Foulkes (1999) suggests that between the ages of 11 and 13, children's dreams reflect sex-role development in terms of characters and social interactions between dream characters. According to Hall & Van de Castle's (1966) Dream Content Analysis system, social interactions are categorised as social aggression, friendliness and sexual interactions. Avila-White et al (1999) studied the most recent dreams reported by 12 to 13 year olds and discovered that they reported a much larger incidence of aggression in their dreams than adults. Saline (1999) and Oberst, Charles and Chamorro (2005) concurred with this finding. Studies (e.g. Avila White et al 1999; Saline 1999; Punamaki, Ali, Isma-hil and Nuutinen 2005) have also demonstrated that boys' dreams tend to involve more aggression and less friendli-

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ness than the dreams of girls.

Saline (1999) stated that in dreams reported by both boys and girls aged 8 to 11, children were more likely to be victims than aggressors and recipients of friendliness rather than befrienders, consistent with Oberst et al's (2005) findings. Contrary to this, Foulkes (1999) stated that in his longitudinal study beginning in 1982, social interactions in the dreams of children aged 5 to 7 were predominately positive and rarely contained aggression.

In much of the existing research surrounding children's dreaming, there is little mention of sexual interactions in dreams. Crugnola et al (2008) reported that in the dreams of preadolescents and adolescents, sexual content was almost non-existent and this finding was supported by Siegel (2005). In Strauch's (2005) research into the dreams of children aged 9 to 15, only 1 out of 551 dream reports contained a sexual interaction. When investigating the dreams of 9 to 15 year olds, Foulkes (1999) discovered that sexual imagery only appeared in 1% of boys' dreams and 3% of girls' dreams.

1.2. Emotions

The overall infrequency of emotions in children's dreams is similar to that of adult dreaming (Domhoff, 1996). Schredl, Palmer and Montasser (1996) reported that in a sample of 624 children aged 10 to 16, 62% of the participants were able to recall and describe a bad dream they had experienced. Similarly, Muris, Merckelbach, Gadet and Moulaert (2000) reported that fear, worries and scary dreams were common among children aged 4 to 12. A key finding about childhood dreaming is that the nightmare is a regular feature, with a variety of studies showing that they regularly occur between the ages of 3 and 16 (Mallon, 2002), with the highest concentration occurring between the ages of 4 and 6 (Hartmann, 1996; Siegel and Bulkeley, 1998). This finding contradicts Foulkes' (1999) longitudinal study in which fear was not reported until the ages of 7 to 9, with only 1 in 67 reports classed as a 'bad dream'. However this discrepancy is likely due to different methodologies, with Foulkes' study having been conducted in sleep laboratories which may inhibit natural patterns of dreaming (Van de Castle, 1994).

1.3. Self-representation

One question debated among researchers is the age at which children begin to actively represent themselves in their dreams. Foulkes (1999) stated that self-representation does not occur in children's dreams before the age of 8 and further suggested that below this age, children are also unable to visually imagine themselves in the world during their waking lives. Foulkes (1999) linked the commencement of self-representation in children's dreams with an increased understanding of the self, improved visual-spatial skills and emotions in dreams.

Contrary to Foulkes' (1999) findings, Resnick et al (1994) reported that self-representation in children's dreams actually occurs very frequently and from as young as 4 years old. In fact, Resnick et al (1994) discovered that active self-representation occurred in 81% to 83% of the 88 dream reports they collected from children aged 4 to 10 years. Valli et al (2008) similarly discovered in a home dream diary study, that self-representation occurred in 74% of 3 to 5 year olds' dreams and in 84% of 5 to 9 year olds' dreams. Although these findings support Foulkes' (1999) theory that the fre-

quency of self-representation in children's dreams increases with age, they also suggest that children are cognitively able to represent themselves in their dreams at a much younger age than Foulkes (1999) believed. Furthermore, Strauch (2005) discovered in a longitudinal study that between the ages of 9 and 15, children changed from playing a passive to a more interactive role in their dreams. This is supported by Valli et al (2008) who discovered that children from as young as 3 years old were able to actively represent themselves in a vast majority of their dreams. Children over the age of 5 reported a more active dream self than the younger children did. These findings suggest that self-representation in children's dreams can occur from a very early age, but the role of the dreamer may become more complex and active as children grow older.

1.4. Aims

The main aim of this study was to investigate whether or not the content of dreams reported by 7 to 8 and 9 to 11 year olds differed significantly in terms of characters, social interactions, emotions and self-representation. The majority of research regarding children's dreaming has been based in America and this study, based in the UK, offers a comparative data set. Further, by using a mixed methods approach, the use of qualitative analysis facilitates a deeper exploration of the children's dream reports. Despite some exceptions, (e.g. Adams, 2003; Bulkeley, Broughton, Sanchez and Stiller, 2005) previous research has predominately used quantitative methods when investigating children's dreaming and even less research has used a mixed methodology.

2. Method

Dream reports are frequently collected in the home environment and Resnick et al (1994) highlighted that there are several advantages to this, including the collection of dreams over a set of consecutive nights and a naturalistic, familiar sleep environment for the children. Avila-White, Schneider and Domhoff (1999) caution that the number of dreams recorded in home studies is likely to be low. Further, there is the possibility of parents/carers influencing what children write down.

2.1. Participants

Participants were children aged between 7 and 11 years old (see Table 1) who attended the same primary school in the south west of England; an area of low socio-economic status. Informed consent was obtained from the head teacher, class teachers and children in accordance with the guidelines issued by the British Psychological Society. A total of 120 diaries were distributed. The children were asked to record their dreams every day for 14 days in as much detail

Table 1. Frequency of participants in each age group

Age Group	Frequency of males	Frequency of females
7-8	1	6
9-11	4	8
Total:	5	14

Table 2. Mean word counts of dream reports.

Age Group	male dream reports	female dream reports
7-8	38.5	28.5
9-11	17.3	68.6

as possible, as soon as they woke up in the morning. They were assured that if they did not dream or did not remember their dream, that they should state this in their diary. The number of participants returning a dream diary was 19.

2.2. Dream records

In total, 131 dreams were recorded by 19 participants and the mean number of dreams was 6.9. The range was 13 (the highest amount of recorded dreams was 14 and the lowest was 1). The number of dreams recorded by females aged 7-8 was 51; the number of dreams recorded by males aged 7-8 was 8; the number of dreams recorded by females aged 9-11 was 47 and the number of dreams recorded by

males aged 9-11 was 25. The completed diaries were read by two researchers in order to identify any fabricated dream reports (n=5). Table 2 depicts the mean word counts per dream report.

The dream diary entries were coded for characters, social interactions and emotions in accordance with the coding rules set out in Hall and Van de Castle's (1966) Dream Content Analysis system and were entered into the Dream-SAT spread sheet (Schneider and Domhoff, 2009). A content analysis system was developed in order to explore the frequency of self-representation in the children's dreams. Thematic analysis was used to explore the dream reports in greater depth. Specifically, it was used to investigate the role of animals and the influence of the media in children's dreams. Data were coded to identify the main themes.

3. Results

3.1. Quantitative part: Dream content analysis

Comparison of females aged 7 to 8 and 9 to 11. Table 3 and Figure 1 present the results obtained from the Dream-SAT spread sheet (Schneider and Domhoff, 2009) in a comparison of dream content between female participants.

The results show that the percentages of animal charac-

Table 3. Percentages, h statistics, p values and frequencies of each category showing a comparison of female participants aged 7 to 8 and 9 to 11.

	Females 7-8	Females 9-11	h vs females	p vs females	N for fe- males 7-8	N for fe- males 9-11
Characters						
Male/Female Percent	32%	39%	-.14	.523	31	61
Familiarity Percent	69%	84%	-.37	*.038	51	86
Friends Percent	20%	48%	-.61	** .001	51	86
Family Percent	31%	21%	+.24	.180	51	86
Dead & Imaginary Percent	21%	07%	+.41	** .009	68	108
Animal Percent	19%	19%	+.00	.985	68	108
Social Interaction Percents						
Aggression/ Friendliness Percent	36%	46%	-.20	.403	25	52
Befriender Percent	36%	32%	+.08	.814	14	25
Aggressor Percent	13%	26%	-.35	.410	8	19
Physical Aggression Percent	80%	39%	+.87	** .005	15	36
Social Interaction Ratios						
A/C Index	.22	.33	-.26	-	68	108
F/C Index	.32	.29	+.08	-	68	108
S/C Index	.03	.02	+.02	-	68	108
Self-Concept Percents						
Self-negativity Percent	44%	45%	-.03	.935	16	31
Negative Emotions Percent	33%	27%	+.14	.705	15	15
Dreams with at least one:						
Aggression	30%	35%	-.11	.615	37	43
Friendliness	49%	40%	+.17	.437	37	43
Sexuality	05%	05%	+.02	.935	37	43

ters in the dreams of female participants aged 7 to 8 and 9 to 11 were exactly the same (19%) and did not decrease as expected. Whilst female participants aged 9 to 11 dreamt significantly more of familiar characters ($h = -.37, p < 0.05$) and friends ($h = -.61, p = 0.001$), female participants aged 7 to 8, dreamt significantly more of dead and imaginary characters ($h = +.41, p = 0.009$).

In terms of social interactions, a small number of dream reports written by both females aged 7 to 8 and 9 to 11 contained sexual interactions (5% per age group). The dreams of females aged 7 to 8 contained significantly more physical aggression than the females aged 9 to 11 ($h = +.87, p = 0.005$). However, the females aged 7 to 8 reported being the aggressor (13%) less frequently than the older female participants (26%). Although it did not achieve a statistically significant result, the younger females also reported slightly more negative emotions (33%) than the older females (27%).

Comparison of males aged 7 to 8 and 9 to 11. As there was only one male participant in the 7-8 age group, it is not possible to draw any conclusions from comparison with the four boys in the 9-11 age range. However, it is worth noting that the male participant aged 8 dreamt significantly more of animal characters than the 9 to 11 year old males ($h = +1.10,$

$p = 0.001$), demonstrating tentative support for one of the study's hypotheses. Similarly to the females' results, the male participant aged 8 dreamt significantly more of dead and imaginary characters than the older males ($h = +.78, p < 0.05$). The results also show that the male participants aged 9 to 11 dreamt significantly more of familiar characters ($h = -2.12, p = 0.001$) and family members ($h = -1.27, p < 0.05$) than the females.

No male participants in either of the age groups reported any sexual interactions in their dreams, supporting one of the study's hypotheses. In addition, results show that reports of negative emotion increased with age. However, it should be noted that only two male participants (aged 8 and 11) reported any emotions in their dreams.

Comparison of females aged 9 to 11 and males aged 9 to 11. Table 4 and Figure 2 show the results obtained from DreamSAT (Schneider and Domhoff, 2009) in a comparison of dream content between female participants aged 9 to 11 and male participants aged 9 to 11. These results demonstrate gender differences between the dreams reported by participants within the same age group (9 to 11).

The results show that the male participants aged 9 to 11 dreamt significantly more of male characters than the female participants ($h = -1.11, p = 0.002$), supporting previous

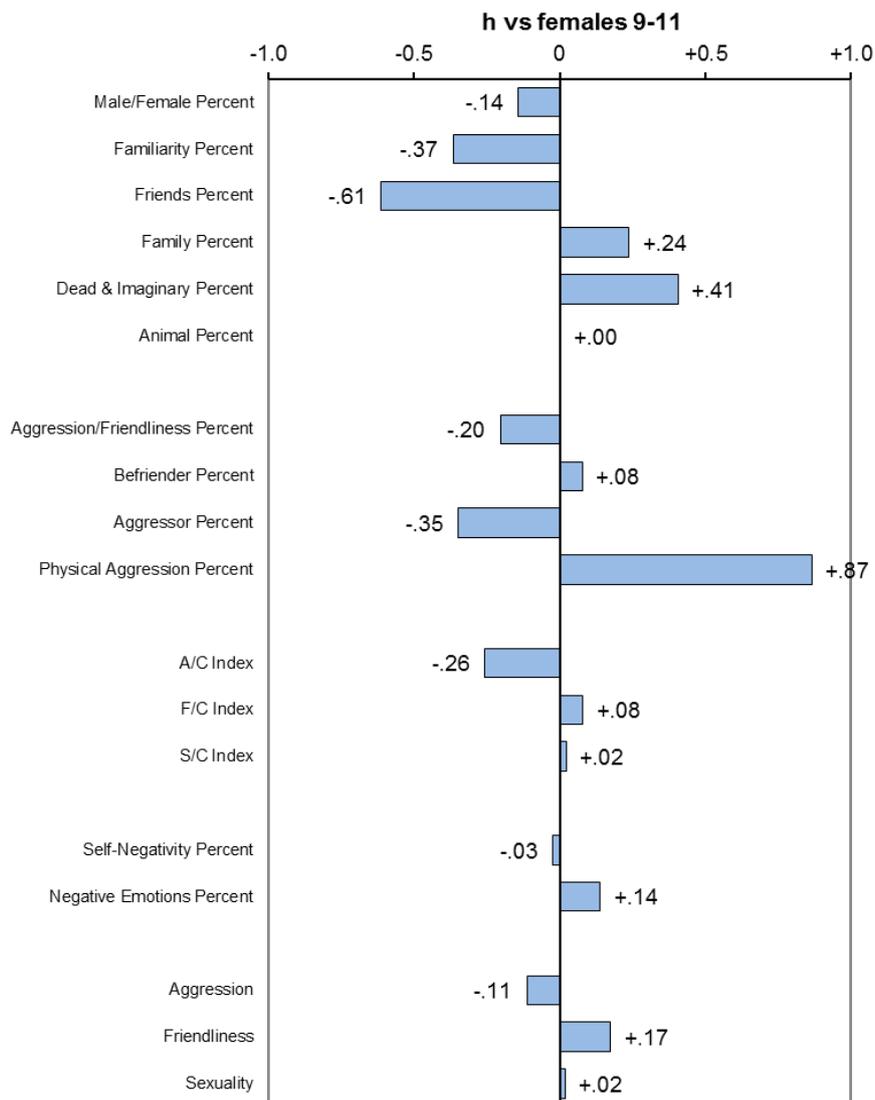


Figure 1 The h-profile of females aged 7 to 8 compared to the 'norms' of the females aged 9 to 11.

Table 4. Percentages, h statistics, p values and frequencies of each category showing a comparison of male participants aged 9 to 11 and female participants aged 9 to 11.

	Females 9-11	Males 9-11	h vs males	p vs males	N for fe- males 9-11	N for males 9-11
Characters						
Male/Female Percent	39%	89%	-1.11	.002**	61	9
Familiarity Percent	84%	76%	+.19	.466	86	17
Friends Percent	48%	29%	+.39	.145	86	17
Family Percent	21%	35%	-.32	.234	86	17
Dead & Imaginary Percent	07%	09%	-.06	.804	108	22
Animal Percent	19%	14%	+.12	.600	108	22
Social Interaction Percents						
Aggression/ Friendliness Percent	46%	73%	-.55	.058	52	15
Befriender Percent	32%	25%	+.16	.773	25	4
Aggressor Percent	26%	10%	+.43	.267	19	10
Physical Aggression Percent	39%	83%	-.94	.005**	36	12
Social Interaction Ratios						
A/C Index	.33	.55	-.51	-	108	22
F/C Index	.29	.18	+.25	-	108	22
S/C Index	.02	.00	+.04	-	108	22
Self-Concept Percents						
Self-negativity Percent	45%	75%	-.62	.068	31	12
Negative Emotions Percent	27%	60%	-.69	.183	15	5
Dreams with at least one:						
Aggression	35%	56%	-.43	.128	43	18
Friendliness	40%	22%	+.38	.172	43	18
Sexuality	05%	00%	+.43	.121	43	18

research. The results also demonstrate that whilst both the male and female participants frequently dreamt of characters that were familiar to them (76% and 84%), the male participants dreamt more of family (35%) and the female participants dreamt more frequently of friends (48%).

The dream content of the male participants contained significantly more physical aggression than the females ($h = -.94$, $p = 0.005$), supporting previous research. However, female participants reported being the aggressor in their dreams (26%) more frequently than the males (10%). The comparison also shows that the female participants dreamt more frequently of sexual interactions between characters (5%) compared to the male participants (0%).

Although a statistically significant difference was not discovered for emotion, the males aged 9 to 11 reported a much higher frequency of negative emotion (60%) in comparison to the females aged 9 to 11 (27%).

Emotions. A nominal frequency count was used to establish how many dream reports contained an expressed emotion. When the male and female dream reports were combined, with the exception of a slight 2% decrease between the ages of 9 and 10, the frequency of reported emotions increased with age, as demonstrated in Figure 8.

Self-representation. A content analysis system was developed in order to calculate the frequency of self-representation in the children's dream reports. 'Self-representation' was counted as any direct reference to the dreamer being actively present in the dream. As predicted, with the exception of a 2% decrease between the ages of 7 and 8, the frequency of self-representation increased with the age of the participants.

3.2. Qualitative part: Thematic analysis

Initial qualitative analysis illuminated several themes. For the purposes of this paper, two foci are examined. First, given that animals are a common feature of children's dreams compared to those of adults, the analysis considers the roles that the animals played in the dreams. Second, given the concerns in sociological literature that many children in technologically advanced countries are over-exposed to visual media and celebrity culture, the analysis explores the potential influence of media on dream content.

Animal characters. The types of animals reported varied from domestic pets to mythical creatures. Specifically, they were:

- *Domestic pets (excluding birds)*: dogs (n=7), cats (n=4), guinea pigs (n=2), hamster (n=1);
- *Sea creatures*: fish (n=1), octopus (n=1), dolphin (n=1);
- *Birds (including domestic pets)*: penguins (n=4), parrot (n=1), budgerigar (n=1), pigeon (n=1), seagull (n=1);
- *Wild/undomesticated animals*: horses (n=4), monkeys (n=2), reindeer (n=2), tiger (n=1), snake (n=1), lion (n=1), elephant (n=1), hyena (n=1), wolf (n=1), zebra (n=1), wildebeest (n=1), bear (n=1), mouse (n=1);
- *Mythical creatures*: dragons (n=3).

The roles which the animals adopted were categorised as being friendly/vulnerable (9%); playing a neutral role (56%); and being aggressive (35%). Despite the wild animals comprising the largest group (n=18; 39%), the animals were not always playing the role of aggressor as might have been expected. In the majority of cases, the animal's role was relatively neutral, being part of the observed dream narrative. For example:

under the sea there was an octopus, a dolphin and some other types of fish. They were talking about work and drinking tea with scones. They were doing this while knitting and rocking in rocking chairs on the sea bed (Participant 8, aged 9).

The example was typical of several dreams in which children attributed human characteristics to the animals. Such anthropomorphism (the attribution of human characteristics and abilities to animals or inanimate objects) was more confined to the dreams in which the animals were behaving in a friendly or neutral manner. In contrast, anthropomorphism was less evident in dreams where animals were behaving aggressively. In such cases, the animals' roles were more related to the creatures' instinctive, natural behaviour. For example, a 9 year old girl reported that 'an evil tiger came along and roared'. A girl aged 7 described how 'two cats... were spitting and biting each other' whilst a 10 year old girl dreamt that 'lions and zebras were fighting'.

Media influences. There were 26 direct references to media and celebrity which broke down as follows: fictional characters, either named such as Harry Potter or more generic such as princes and princesses (n=15); being extremely rich (n=5); real life celebrities such as pop group One Direction (n=3); and the dreamer being on television (n=3). The popularity of fictional characters included them appearing in the dreams but in some cases, the children became the character and inhabited their lifestyle. A 12 year old girl stated: 'I did have a dream that I was a princess and I lived in a castle with the Queen and King and I lived in the biggest bedroom and I never went to school and I had my

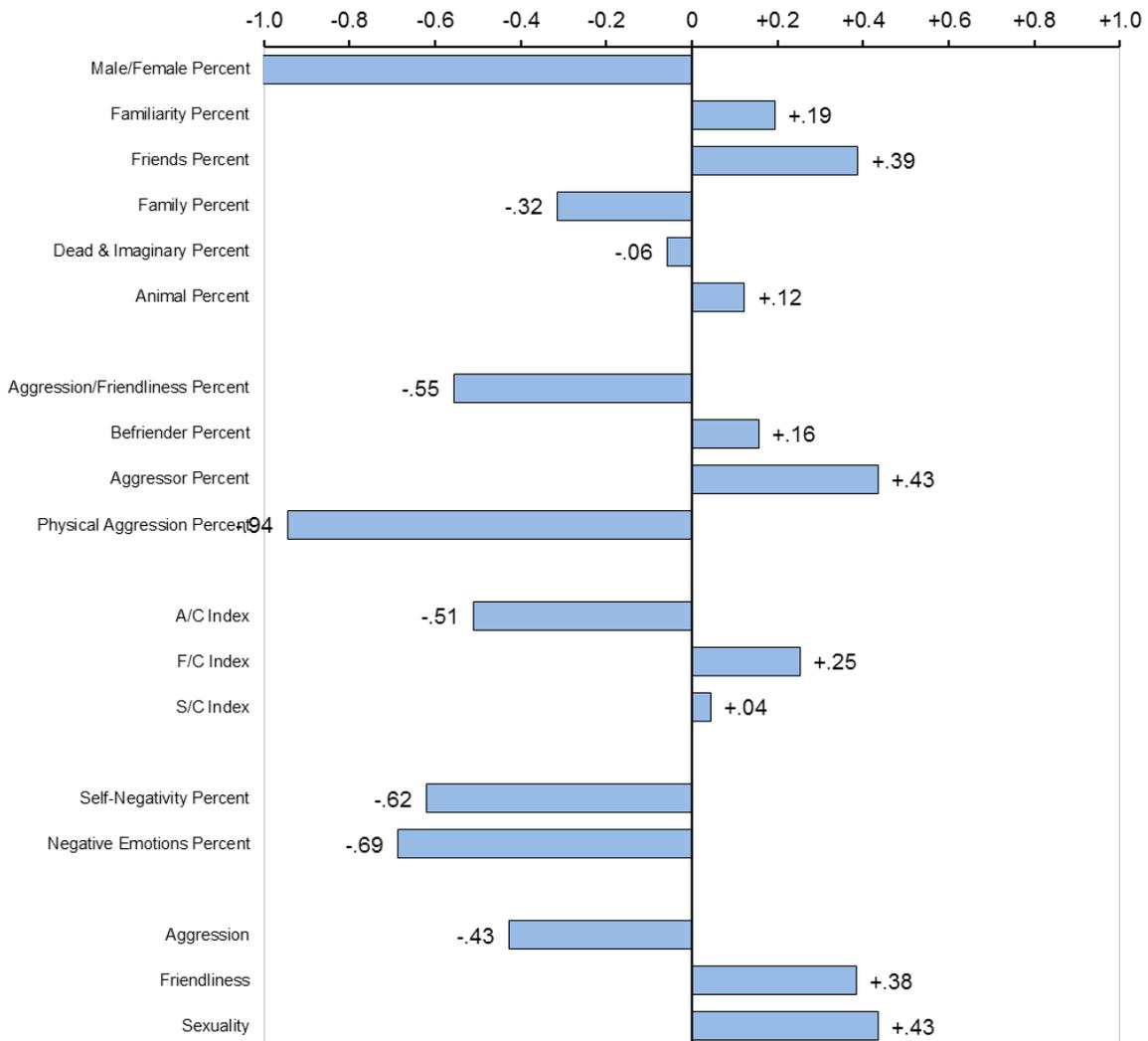


Figure 2. The h-profile of females aged 9 to 11 compared to the 'norms' of the males aged 9 to 11.

own horse and painting set'.

Overall media-related content appeared in 20% of the dream reports, making it an area worthy of further discussion.

4. Discussion

Whilst the majority of the results were consistent with previous research and demonstrate developments in dream content with age, some findings were unanticipated and these form the basis of this discussion section. Specifically, the themes focussed on are the number of animal characters, social interactions, media influences and possible cross-cultural differences in aggression

4.1. Animal characters

The findings show that the number of animal characters in the females' dreams did not decrease with age, but remained the same across both age groups. Due to a lack of male participants aged 7 to 8, the majority of the discussion is based on the female participants' results. The discussion focuses on the unanticipated results with the observation that where results contradict those of Foulkes (1999) this may be due to differences in data collection methods. Whilst Foulkes (1999) maintains that the laboratory is the only means of gathering systematic, reliable empirical evidence, the counter argument is that the unnatural setting of the laboratory inhibits natural patterns of dreaming (Hunt, 1989; Van de Castle, 1994).

Contrary to previous research (e.g. Foulkes, 1999) and the anticipated findings of the study, the frequency of animal characters in the female participants' dreams did not decrease but remained the same across both age groups. Saline (1999) suggested that the frequency of animal characters in dreams decreases between the ages of 10 and 11 and the lack of female participants representing this age bracket in this study could explain why the results were not as expected. If the number of female participants aged 9 to 11 had been larger, it is possible that the results would have supported the hypothesis and shown a decrease in the number of animal characters in dreams with age. Whilst this study cannot compare the dreams of the one young male with the older boys, it is interesting to note that his dreams relied heavily on animal characters - more so than the older males, offering tentative support for the study's hypothesis.

Supporting the hypothesis that differences in dream characters would be apparent between the two age groups, the older participants dreamt significantly more of familiar characters than the younger participants. This finding demonstrates the opposite to Foulkes' (1999, p.82) theory that younger children dream more of familiar characters due to a lack of "dream distortion" abilities. This suggests that children may develop the ability to dream of the unfamiliar from a much younger age than Foulkes (1999) suggested. Further supporting this idea, both male and female 7 to 8 year olds dreamt significantly more of dead and imaginary characters than the older participants, demonstrating the ability to use a great deal of imagination and creativity in order to distort their dreams to a very complex extent.

Whilst dead, imaginary and animal characters frequently appeared in the children's dream reports, the overall majority of characters were familiar to the dreamer. As theorised by Resnick et al (1994), these findings can be explained by the high exposure that children have to familiar characters

in their waking lives, which is also consistent with the continuity hypothesis. The anthropomorphism in the dreams was unsurprising given that children's capability to anthropomorphise is related not only to the development of their cognitive abilities but is also influenced by cultural factors (Povinelli, 1997). In western media and literature, animals are regularly assigned human characteristics and children's regular interactions with fictional characters via electronic media understandably translate into children's dreams (Siegel and Bulkeley, 1998; Mallon, 2002).

Foulkes (1999) suggested that as self-representation in children's dreams increases with age, the use of animal characters decreases due to a diminishing reliance on animals representing the dreamer. In this study, there was some evidence to support this theory, as, unlike the older participants, the 7 to 8 year olds often observed animals in their dreams rather than interacted with them, suggesting that the animal characters may have been representative of the dreamer. However, contrary to Foulkes' (1999) theory, this is not necessarily the result of a cognitive deficit as the younger children frequently evidenced the ability to actively participate in their dreams. Bulkeley (2008) observes that children in industrial cultures dream more of animals than their adult counterparts which may be due to the more intense and personalised relationships they have with animals compared to adults. The often aggressive nature of the dream characters, he suggests, may relate to the children's waking life concerns and anxieties.

4.2. Social interactions

As anticipated, there were differences between the 7 to 8 and 9 to 11 year olds' dream reports regarding social interactions. A key gender difference between the dream reports was the frequency of sexual interactions. Whilst none of the male participants reported any sexual interactions in their dreams, a small percentage of female participants did. All reports of sexual interactions involved one character, often the dreamer, kissing another dream character. The presence of sexual interactions in dreams was neither anticipated nor consistent with previous research such as that conducted by Crugnola et al (2008) and Strauch (2005), perhaps demonstrating a cultural difference in the children's dreams. The findings are however, consistent with Foulkes' (1999) theory that sexual interactions are more likely to appear in female than male dreams.

In the 4 out of 5 instances of sexual interactions in the females' dreams, the dreamer kissed a fictional character such as 'Superman' or a popular teen icon that frequently appears on television or in the media. This shows a media influence on the appearance of such interactions in children's dreams. Often, the television programmes, films and music videos that portray these fictional or popular characters, involve romance or love interests and frequent exposure to these mediums could explain the sexual interactions that appeared in the children's dream reports. This idea is supported by Mallon's (2002) suggestion that romance, particularly in the dreams of young girls, may be inspired by books and television.

4.3. Media influences

Schredl, Anders, Hellriegel and Rehm (2008) note that data are scarce on the question of whether TV viewing and engagement with computer games influences sleep patterns

and dreaming, particularly in relation to negative effects. Certainly, the appearance in dreams of characters from the media are regularly reported in studies of children's dreams (e.g. Siegel and Bulkeley, 1998; Mallon, 2002). However, as Schredl et al (2008) note, empirical data on the question of effects on dreaming are scarce. Their study of 250 children aged 9 to 13 showed no effect of TV films viewed the evening before completing the questionnaire influencing dream content. Such background data were not requested in this study so no direct correlation can be made. However, media did influence some dream content.

Whilst the continuity hypothesis may account for some of the dreams involving media influences, so Freud's (1900/1999) theory of wish fulfilment may also apply to some. He maintained that wish fulfilment was often transparent in children's manifest dream content and this may apply to those dreams involving enjoying celebrity lifestyles and interacting with media characters.

4.4. Cross-cultural differences in aggression

The female participants' results demonstrated that physical aggression was significantly higher in the younger females' dreams, consistent with Oberst et al (2005). These findings demonstrate that whereas the younger females predominantly expressed aggression in overt forms such as physical fighting, aggression in the older females' dreams manifested itself in other forms such as shouting, name-calling and threats. This may be representative of the form of aggression or conflict resolution that the older and younger children are more likely to use in their waking lives. Overall, the results are consistent with Saline's (1999) findings that children are more likely to be victims than aggressors and more likely to be recipients of friendliness than befrienders in their dreams.

Victimisation in dreams was particularly frequent for the younger females, suggesting that other dream characters were regularly the initiators of physical aggression which was often directed at the dreamer. This could be evidence of the younger females expressing an awareness of their vulnerability and this idea is supported by Oberst et al (2005). The physical nature of the aggression and the frequency of being victimised also explain why, despite a lower overall frequency of aggression compared to the older females, the dreams of the younger females contained slightly more negative emotion.

However, there are possible cross-cultural differences in the children's dream content, particularly with regards to aggression. Males aged 9 to 11 in this study dreamt of being the aggressor in their dreams (10%) far less frequently than the males aged 8 to 11 in Saline's (1999) study (33%). Females in this study also dreamt of physical aggression (39%) far less frequently than the American females (84%). The same differences in aggression are also evident when comparing the results of this study to the findings of Avila-White et al (1999) who investigated the dream content of American children aged 12 to 13. In order to investigate cross-cultural differences in dreams further, a larger UK sample would be necessary. However, these preliminary findings do suggest that norms discovered in America, particularly in relation to aggression in dreams, may not be universal to all children.

4.5. Means for dream report lengths

Finally, it is worth noting the word count means of the dream reports detailed in Table 2. Of particular interest is that the 8 year old boy's mean was 38.5 compared to the 9-11 year old boys' mean of 17.3. According to the diary submitted, the younger boy's parent assisted him in completing the diary. A similar pattern was observed in other children who offered longer dream reports. It is likely that longer dream reports demonstrate children's ability to describe dreams but when adults assist them, they may be further scaffolding their ability to recall detail and record it.

4.6. Limitations and future research

One of the predominant advantages of this study was its ecological validity. Allowing the children to record their own dreams in their own words gave insight into not only their dream content, but what the children chose to record and how they described their dreams. This method also reduced the risk of parental suggestion (assuming that parents did not support the children in recording them or, if they did, did not influence what was recorded) and valued the communicative function of children's dreams.

Research into children's dreams has rarely involved both qualitative and quantitative components, allowing an exploration of both the frequency of themes alongside a more in-depth analysis of the children's dream content. However the qualitative component of this analysis provided is not as complete as it could be due to the number of words available. Finally, this study has provided an accurate 'snapshot' containing the dream content of a group of children living in the UK; a geographical area that has received little attention before in the content analysis of children's dreams.

One of the main disadvantages of this study was its small sample size. The small sample size was due to a range of reasons. Lack of consent reduced the possible number of completions. Three parents did not give their consent for their children to participate and some children who obtained parental permission made the decision not to take part. However, the majority of those children who initially agreed to take part did not do so, manifesting as forgetting to complete their diaries or forgetting to bring them into school. This apparent lack of engagement is not uncommon when diary-based research methods are utilised with children; as other researchers have found (e.g. Avila-White, Schneider and Domhoff, 1999; Domhoff, 1999), children rarely sustain them.

The participation of only one male aged 7 to 8 was a significant disadvantage in this study and meant that few conclusions could be made from the male participants' results overall. Further, there were not male and female participants of every age between 7 and 11 years. In order to gain a true representation of children's dream content in the UK, it would be necessary to include a significant number of male and female participants at every age in the age range. Further research is necessary to investigate the possible cross-cultural differences in children's dream content between the UK and America, particularly in relation to aggression. It would also be valuable to replicate this study in different areas of the UK.

4.7. Conclusion

The results of this study demonstrate that despite a small sample size, significant differences were discovered between the dream reports of 7-8 and 9-11 year old children. Many of the findings, significant and non-significant, were consistent with previous research and demonstrate clear developments in dream content with age. As anticipated, significant differences were discovered between characters, social interactions and gender. Also supporting the study's hypotheses, self-representation increased with age, alongside the frequency of reported emotions. Some unanticipated results were also discovered, including the finding that the number of animal characters in the females' dreams did not decrease with age, contrary to the hypothesis, and that sexual interactions were present. These preliminary findings suggest that norms discovered in America, particularly in relation to aggression in dreams, may not be universal to all children and require further research. The mixed methods approach facilitated greater depth in analysis than content analysis alone can achieve.

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