

Color Reported in Dreams in the First and Second Half of the 20th Century: a Content Analysis

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ABSTRACT

There has been speculation at times that the color in our dreams may have changed over time from earlier parts of the century until now, based partly on observations of earlier dream studies which contained less color reports than more recent studies. Explanation for this has ranged from a change in research methodology, to attitudes about color in the psychological community or the culture at large, to possible influences of color in media. A content analysis of color terms in spontaneously recalled dream reports was performed on a database of 25,222 dreams, containing 55% male and 45% female reports, spanning a time period of from the early 1900's through the present. Comparing samples from this database containing earlier reports (prior to 1950) to samples containing later reports, indicates no appreciable difference in the percentage of recall of color nor in the specific colors reported over these two time periods. The samples in this database indicate that color patterns in dreams across the century seem to have remained relatively constant.

INTRODUCTION

There has been speculation at times that the color our dreams may have changed over time from earlier parts of the century until now. Eric Schwitzgebel (2002) observed that in 1950's, dream researchers commonly thought that dreams were predominantly a black and white phenomenon, although both earlier and later treatments of dreaming assert that dreams have color. He speculated that the view that dreams are black and white was somehow connected with a change in media technology. Murzyn (2008) observed that research on dreams earlier in the 20th century resulted in low color counts in the 9% to 20% range (Bentley, 1915; Knapp, 1956; Middleton, 1942; and Tapia et. al., 1958 in Murzyn 2008), perhaps leading researchers and study participants to agree that non-color or "black and white" dreams were the norm. She stated that this begin to change after 1960 when researchers began reporting a higher percentage of dreams containing color "with careful interrogation closer to the time of dreaming" (citing studies by Kahn, 1962; Herman et al, 1968; Berger, 1963; Jankowski et al, 1977; Snyder et al, 1968) noting that many of the earlier studies relied on the subject answering a questionnaire about how they dreamed long after the dream itself. After REM was discovered in 1953, research methods changed, and awakenings during REM produced results of from 69% of the dreams containing color (Herman et.al.,1968) to 83% (Kahn et. al., 1962). Schredl (2008b) notes that if dreams are interrogated immediately upon awakening and dreamers asked explicitly about color, the percentage of dream reports containing color increased to about 80% (citing Kahn et al.,1962 and Snyder, 1970). Furthermore a study by Schredl et. al. (2008b), where the dreamer was asked immediately upon waking up to record the color of all dream elements, resulted in 100% of the dream reports containing some color.

The dominant variable in the existence of color in dream reports before and after the 1960 time period therefore appears to be the change in research method. There continued to be speculation, however, as to whether factors such as media change from black and white to color about that time may have had subliminal effects on dream color, as well as whether attitudes among the psychological community and the general public about color in dreams effected the earlier reporting by subjects as well as researchers. Exposure to media has been shown to affect dream content in early stages of sleep or when it contains emotional scenes (Van de Castle, 1994, p. 257). Intense exposure, where there is a personal emotional

affect such as threat simulation, has been shown to become incorporated in dream scenes and scenarios in video gaming studies (Gackenbach, 2008). Studies using colored goggles to alter the waking experience (Roffwarg et.al., 1978) demonstrated definite influence in early REM stages, but this diminished over the night giving way to other internal determinants of dream color. Murzyn (2008) pursued the question posed by Schwitzgebel with a study that found an interesting correlation between dream color recall and exposure to black and white media with some of the 55 and older subjects in her 60 person study, when they were asked about their degree of exposure to black and white media when they were younger. In the discussion there remained a question of how much of the effect might be due to a subliminal media effect on the dream itself or to a belief about dreams or dream color or other memory related factors. I was curious as to whether the effect of long term exposure to black and white media, or to the attitudes about dream color, prior to 1960 was strong enough to have an effect on the general population to a degree that might show up in a large database of spontaneously recalled dreams.

OBJECTIVES

If indeed there was an attitude that prevailed in the general population prior to 1960, that dreams were mostly in black and white, and if that attitude in any way influenced the reporting of color in dreams, then the evidence should show up in a content analysis of a large database of dreams collected pre and post 1960. Also if the influence of black and white media prior to 1950 had a direct influence on the amount of black and white or grey scale color incorporated in dreams, then it should have an additive effect on the color content of dreams before and after that period. Prior to 1950 only 12% of movies were made in color (Wikipedia) and there was no color TV. Color TV appeared in 1954 and by the early 1970s most homes had color TV. By 1980 the media (including movies, TV and digital displays) was well saturated with color. The objective therefore was to determine if there is any noticeable change in the colors reported in dreams prior to 1950 and after 1980, within the limits of the available database of 25,222 dreams in the DreamBank.net database which contained a collection of dreams across this period.

METHOD

The content analysis was performed on 25,222 dream reports within the DreamBank.net database (Schneider & Domhoff, 1999). The database consists of a large population of male and female dreamers of varied demographics primarily from the US, but also samples from Europe and South America. This study looked at two parameters: 1) percentage of explicitly named colors recalled (using a standard set of dominant colors); and 2) the pattern (relative frequency) of specific colors recalled. These specific results were initially reported in the International Journal of Dream Research Volume 3, No. 1 (Hoss, 2010).

The effort was aimed at looking for apparent differences in the presence or absence, as well as the relative color pattern, of dominant colors including black and white. Therefore comparing results against a consistent standard for dominant color naming was important. Since color names can vary by culture, gender and personal experience the database was first searched for dominant color names, which would consistently appear at the greater frequencies, for comparative purposes, rather than trying to collect every possible color related term. The result was that “minor” or color “mix” term occurred very infrequently (typically much less than 1%) relative to the more primary terms. With the exception of two terms (violet and blond which were seen to be commonly interchanged with purple and yellow), trying to collect those minor terms under more primary or dominant terms added as much subjective error as accuracy, so only the 13 most dominant color terms were used as a “standard set” to measure relative recall. The most dominant ten (10) terms are plotted in the graphs herein.

The database was primarily populated with spontaneously recalled dreams recorded in journals after waking, but also contained reports from laboratory and research studies. Spontaneous reports typically result in a reduction in color recall in the range of 25% (25% according to Kahn, 1962; and 11% to 47%

according to Schredl, 2008a) as opposed to the 80% or greater recall rate obtained by interrogating the dreamer regarding color immediately upon waking, so a typical rate of recall in this range was anticipated from the analysis.

RESULTS

Figure 1 illustrates the dominant colors recalled based on the composite population of the DreamBank.net database. It provided a count of 4,555 of the dominant color terms in 25,222 dreams. This database represented a broad, but primarily US base with some samples from Europe and Latin America, and included dreams of all age groups spanning dreams from 1912 to the present. It contained 55% reports from males and 45% from females. The analysis found that on average black and white (as colors) are reported most often (approximately 20% each) and with approximately equal frequency. This is followed by the next dominant frequency grouping (at approximately 10%) of the colors red, blue, yellow and green. Within this grouping, red tended to appear a larger percentage of the time in comparison to the other three colors. Other colors were reported less than 5% of the time with the possible exception of brown, which was reported in the 6-7% range. This color pattern was found to be significant since it was observed to exist in some form in a majority of the large and many small data sets (individual journals as well as groups) that made up the database.

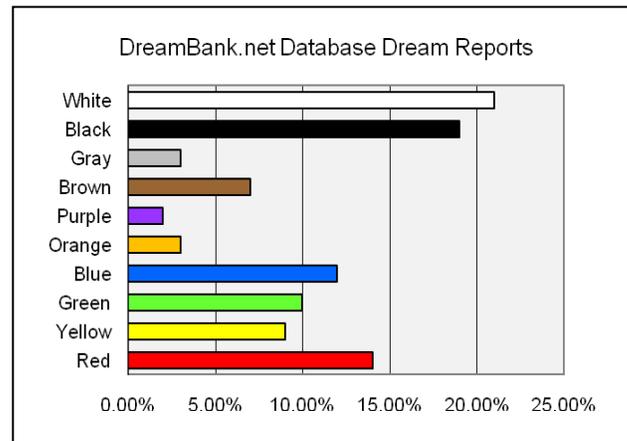


Figure 1. Color recall from spontaneous dream reports in the DreamBank.net database, n = 25,222 dreams (Hoss, 2010)

The next trial was to compare dreams from the pre-1950 time period with reports post-1980, to determine if dreams recorded pre-1950 contained less color recall or more black and white or gray than those in more recent times. Female dreamers were compared in order eliminate any imbalance between gender effect in the data sets. The results for 500 dreams collected between 1945 and 1950 (later published as the Hall Van de Castle norms) are shown in figure 2(a). Figure 2(b) compares this with a group of 3,900 dreams from females recorded post 1980. Color recall (standard color set), for the late 1940's college students, was quite typical at 25.3% for spontaneous recall. This was not significantly different than the 26.9% color recall rate for the post 1980 females. Comparing figure 2(a) with 2 (b) it can be seen that the specific colors recalled for the 1940's dream subjects was similar to that of the post 1980 group and was also the same dominant pattern as in figure 1 for the composite database of dreams covering both periods. Curiously there is actually less black and white (reported as colors) in the pre-1950 data than there is in the post 1980 reports. This set of data therefore, does not show a significant difference in either dream color recall or the specific colors recalled, in dream reports from the 1940's and dream reports from the post 1980's.

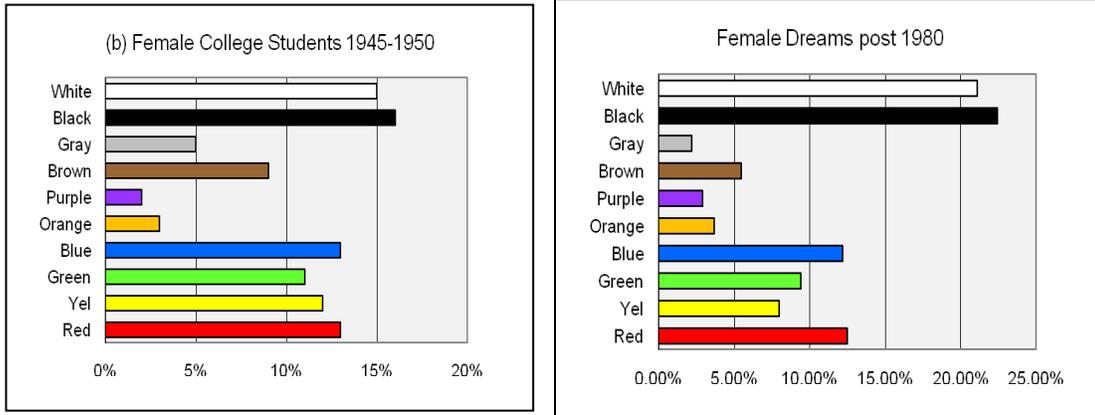


Figure 2: (a) Color recall from of Females collected between 1945 – 1950, 25.3% recall; (b) Color recall from of Females recorded post 1980, n = 3900 dreams, 26.9% recall. (Hoss, 2010)

Next the dream colors recalled by older persons, who grew up with black and white media during the 1930s and 1940s, were compared with those born after 1960. There was no way to control for specific attitude or media exposure for each subject as Murzyn was able to do, but I was interested in whether a more general exposure to black and white media at the time might show up in the spontaneously reported dreams of the older subjects in comparison to younger subjects. Figure 3 compares the data-sets of older persons (2458 dreams from 2 males and 3 females born prior to 1940) against younger persons born after 1960 (1584 dreams of males and females from age 12 through late 20’s). The overall recall of dream color, as well as the relationship between black and white to color, between the two groups was again similar (note: the older persons in the database actually demonstrated in a higher percentage of color and less black, but that difference may not be significant considering the different sample sizes). This data therefore does not show any relative decrease in dream color recall, or increase in black and white in relationship to the primary color hues, for those in the sample who were exposed earlier in life to a general environment of black and white media.

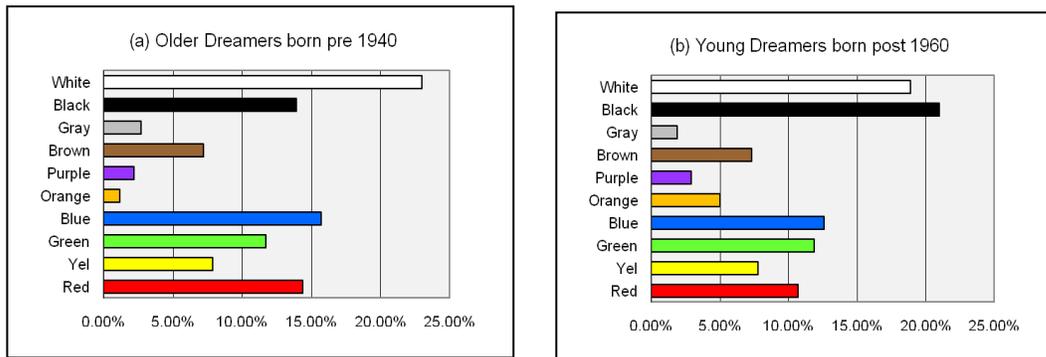


Figure 3. Dream color recall for dreamers living pre and post 1950 time period, male and female dreamers: (a) born pre-1940, n = 2458 dreams, recall = 26%; (b) born post 1960, n = 1584 dreams, recall = 22.5% (Hoss, 2010)

CONCLUSIONS

Various studies have shown that media exposure prior to dreaming appears to influence dreams, particularly when it contains emotional content important to the dreamer. Studies using colored goggles to alter perception of the color environment for a period prior to dreaming has shown the effect to be incorporated in dreams during early REM cycles but gives way to other internal factors in later REM periods. Studies where subjects were asked to reflect on specific exposure to black and white media at an early age have also shown some interesting correlations with the reporting of color versus “black and white” or grey scale dreams later in life, indicating the possibility that long term exposure or early attitudes toward color within our culture, might alter the color or recall of color from dreams. This study was aimed at determining whether those media and belief factors were strong enough to have had a noticeable effect across a more general segment of the population. The results on the samples in this database did not show any notable differences in the spontaneous reports of colored dreams, or in the colors reported versus black and white, between the pre-1950 and post-1960 periods. The data actually trended toward less black and white (as a color) and more color hues being reported from the earlier period, but not to a significant degree considering different sample sizes. This result does not necessarily contradict a more controlled study with individually solicited dreams, where belief and exposure to media can be specifically questioned, but it does indicate that these factors may not have had a dominant effect on the general population to a degree that might show up in a large database of spontaneously recalled dreams. The color patterns in dreams across the century seem to have remained relatively constant.

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