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Gender Differences in Dreams: A Matching Study

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ABSTRACT – In clinical praxis, the question whether it is possible – based on a dream report – to make any inferences about the characteristics of the dreamer often arises. For the present study, gender was selected for the matching task. Two judges were able to match the dreamer's gender based on a single dream report better than chance. The rate of correct decisions (about 64%), however, was not very high, so that a reliable matching for a single case is not possible. It must be concluded that even for simple characteristics more dream material is necessary to make a valid prediction. Interestingly, the female judges have been more confident in matching women's dreams correctly than men's dreams. Qualitative studies may be able to identify the dream characteristics that enable the judges to match the dream correctly.

Keywords:
Dreams; Dream content; Gender differences; Person perception; Prediction (psychology); Judgment accuracy; Individual differences

Introduction

In clinical praxis, the question whether it is possible – based on a dream report – to make any inferences about the characteristics of the dreamer often arises. Whereas on the one hand a considerably large number of content analytic studies comparing different groups with each other (e.g., patients vs. controls) have been published (cf. Winget & Kramer, 1979; Domhoff, 1996; Schredl, 1999), matching studies that investigated the predictive value of dreams have been rarely carried out. Roussy et al. (1996, 2000), for example, instructed blind judges to match pre-sleep thought reports with corresponding dream reports. Overall, this task was in most cases not solved better than chance in contrast to the original study of Rados and Cartwright (1982). For one

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matching task, however, the findings were significant. The judges were presented one dream report and six descriptions of daily events of different persons (Roussy et al., 2000). On average, 1.4 pairs (24%) were matched correctly. Kramer, Hlasny, et al. (1976) gave the judges dream series (N = 15 dreams) of five healthy persons and dream series (N = 13 dreams) of five schizophrenic patients. The task was to group the randomly ordered dreams according to the respective dreamer. For the healthy controls, the success rate was high (78.7%, $p < .0001$), whereas the correct matching was lower for patients (48.5%, $p < .01$). This study illustrates that persons judging blindly are able to find similarities in dreams and, thus, can bring together the dreams of one person better than chance. A task including the question whether a specific dream was provided by a schizophrenic patient or a healthy person, however, was not carried out in this study. In another matching study, DeDonato et al. (1996) presented 75 judges 28 dream reports. These dreams consisted of 14 worst nightmares of women who had been sexually abused during childhood and 14 worst nightmares of age-matched controls. The authors emphasized that explicit sexual content that would allow an easy identification was scarcely present in these dreams. The matching was correct on average in 69.4% of the cases (chance probability: 50%); a highly significant finding. However, this figure does not allow a good interpretation in single cases (high rates of false positives and false negatives), though. On the other hand, the study demonstrates that persons judging blindly are able to make inferences about specific characteristics of the dreamer.

The present study focused on gender differences, i.e., the judges were asked to predict the dreamer's gender from a randomly sorted list of dream reports. This characteristic was selected because fairly consistent differences between women's dreams and men's dreams have been reported in the literature (overview: Schredl, Sahin, et al., 1998). Whereas for variables such as dream length, bizarreness, emotional tone and intensity the findings are inhomogeneous (cf. Schredl, Sahin, et al., 1998), women's dreams included more often indoor settings (Hall & Van de Castle, 1966) and interpersonal problems (Schredl, 2001) more often and men more often dream about physical aggression (d = 0.36, largest effect size in the study of Schredl, Sahin, et al., 1998) and sexuality (Hall et al., 1982). In addition, men's dreams more often included men, whereas the gender distribution of dream characters was balanced in women's dreams (Hall, 1984). It was hypothesized that persons judging blindly are able to match gender better than chance and that they are more confident in their correct decisions than in their incorrect ones.

Method

Measurement Instruments

The two judges received forms to record their decision (male or female). In addition, the judges were asked to estimate their subjective confidence in this decision on a four-point scale (0 = *very low confidence*, 1 = *low confidence*, 2 = *moderate confidence*, 3 = *high confidence*).

Procedure

The first author selected dream reports from the material of several studies (Schredl, 1991; Schredl et al., 1999; Schredl & Hofmann, 2003; Schredl et al., 2003). In the course of these

studies, the participants kept a dream diary over a two-week period and recorded their dreams on a maximum of five mornings. All dreams of one morning (if more than one dream was reported) have been used as an analysis unit.

For each participant, a dream report that fulfilled the criteria that it consisted of 30 to 300 words was randomly selected. In 26 of 200 cases (18 female dreams, 8 male dreams), the dream first selected was not included in the analysis due to explicit gender-specific content, e.g., penis, wearing a bridal dress, disguised as Queen Elizabeth, serving for the country ("Zivildienst"), painted toenails, etc. In these cases another dream of the person was again randomly selected. Seventy-three out of the 200 dreams were altered linguistically to avoid matching based on formal criteria: e.g., boyfriend or girlfriend was altered into boy/girlfriend (he/she, his/her etc.). The dream reports were randomly ordered.

First, the judges were provided with several studies on gender differences in dream content (Hall & Domhoff, 1963; Winget et al., 1972; Hall et al., 1982; Hall, 1984; Schredl & Jacob, 1998; Schredl, Loßnitzer, et al., 1998; Schredl & Pallmer, 1998; Schredl, Sahin, et al., 1998). After a training period including the independent scoring of 20 dreams stemming from other sources and discussion of the disagreements, each of the two judges rated all 200 dream reports independently with regard to the gender of the dreamer and their subjective confidence in their decisions. Statistical analyses were carried out with the SAS 8.2 software package for Windows.

Participants

One-hundred dream reports of male dreamers and the same number of dream reports from female dreamers were included in this study. Each dream report stemmed from a different person. The mean age of the male group (M = 24.2; SD = 5.2 yrs.) was slightly higher than that of the female group (M = 22.6; SD = 3.0 yrs), t = 2.7, p = .0081. The sample consisted with very few exceptions of psychology students. Mean dream length also differed between the sexes (M = 125.8, SD = 67.8 for women vs. M = 103.4, SD = 55.7 for men, t = 2.6, p = .0114). The two judges were female and also psychology students.

Results

The exact agreement between the two judges amounted to 73.5%. Judge 1 matched 64.0% of the dreams correctly (d = 0.28; χ^2 = 15.7, df = 1, p < .0001) and Judge 2 matched 64.5% of the dreams correctly (d = 0.29; χ^2 = 16.8, df = 1, p < .0001).

Whereas dream length (r = .265, p = .0002) and age (r = –.163, p = .0207) affected the correct decisions of Judge 1, these two variables were not associated with the judgments of Judge 2 (dream length: r = –.083, p = .2426; age: r = –.093, p = .1914).

Altering the dream report linguistically to ensure gender neutrality was necessary more often for women's dreams (46 women's dreams vs. 27 men's dreams, χ^2 = 7.8, df = 1, p = .0053). These alterations, however, did not affect the decisions of the two judges (Judge 1: 39.8% [correct] vs. 30.6% [incorrect], χ^2 = 1.7, df = 1, p = .1903; Judge 2: 35.7% [correct] vs. 38.3% [incorrect], χ^2 = 0.1, df = 1, p = .7391; the figures are the percentage of altered dreams in the group of correct versus

incorrect matched dreams). Similarly, more dreams of women (N = 18) had to be excluded from the analysis than men's dreams (N = 8), χ^2 = 3.8, df = 1, p = .0499 (see procedure section).

Confidence Ratings

Both Judge 1 and Judge 2 rated their confidence in their correct judgements higher than in the incorrect ones (see Table 1). If the confidence ratings were analyzed for women's dreams and men's dreams separately, an interesting result emerged: Both judges were more confident in their matching of women's dreams correctly in contrast to men's dreams (see Table 1).

Table 1: Confidence ratings of the judges in the matching task

Condition	Judge	Correct $M \pm SD$ (N)	Incorrect $M \pm SD$ (N)	d	t	p
All dreams	Judge 1	1.74 ± 0.59 (128)	1.53 ± 0.67 (72)	0.32	2.3	.0126
	Judge 2	1.72 ± 1.05 (129)	1.30 ± 1.05 (71)	0.40	2.7	.0034
Male dreams	Judge 1	1.68 ± 0.59 (63)	1.65 ± 0.59 (37)	0.05	0.3	.3910
	Judge 2	1.57 ± 1.10 (64)	1.42 ± 1.02 (36)	0.14	0.7	.3590
Female dreams	Judge 1	1.80 ± 0.67 (65)	1.40 ± 0.74 (35)	0.57	2.8	.0035
	Judge 2	1.86 ± 1.00 (65)	1.17 ± 1.07 (35)	0.67	3.2	.0009

Note: Higher values indicate greater confidence. Effect sizes (d) based on Cohen's d. One-tailed tests reported.

Discussion

The present study demonstrated that an above-chance matching of the dreamer's gender based on a single dream is possible. Effect size (small to medium according to Cohen, 1988) was comparable to that of content-analytic studies (cf. Schredl, Sahin, et al., 1998). The percentage of correct matching is also comparable with the finding of DeDonato et al. (1996) regarding nightmares of sexually abused women (69.9% correct judgments). However, if one takes into consideration that merely matching by chance yielded 50% correct judgments, it seems clear that a reliable matching is only possible for a limited number of dream reports, i.e., in a single case, the rate of false positives and false negatives will be very high.

A factor that might contribute to the accuracy of the matching is the amount of the included dream material. Kramer, Roth, et al. (1976), for example, did not obtain significant results regarding the matching of the time order using single dreams, but when presenting the judges all the REM dreams from one night, the pairs first vs. 20th night and third vs. 18th night could be matched better than chance. Similarly, Roussy et al. (1996) did not obtain successful matching for relatively short REM dreams stemming from the first REM period of the night but for the longer diary dreams, the judges were able to match these reports with corresponding descriptions of the day before above chance (between-subjects design; Roussy et al., 2000). Regarding this influencing factor, it will be promising to carry out a matching study with one, two, three or more

dream reports per person in order to determine how strongly the accuracy of the judgement is affected by the amount of given dream material.

Another factor needs to be considered. The present dream sample was provided by students, i.e., female and male students share the same environment, lectures, classes, studying at home similar subjects, etc. It might be hypothesized that gender differences in dream reports of persons with a wider age range (including working persons, housewives and men, etc.) are more pronounced and the matching regarding the gender of the dreamer would be much easier.

With regard to potential mediating variables such as dream length, dreamer's age and linguistic alteration of the dream report, it may be concluded quite safely that their influences on the present findings are rather small since they did not play a role in the judgments of Judge 2 (only for Judge 1) and the findings of the two judges are similar in every respect.

For the confidence ratings, the expected result was obtained: the confidence ratings have been significantly higher for the correct decisions than for the incorrectly matched dreams. This can be interpreted as meaning that a portion of a dream can be matched relatively easily whereas other dreams are difficult to judge with respect to the dreamer's gender. The finding regarding the differences in the confidence rating for men's and women's dreams separately is very interesting. This might be explained in two ways. First, as the judges of the present study were female, it seems plausible that women are more confident about matching women's dreams. A similar study with female and male judges will shed light on this hypothesis.

Second, women's dreams were often discarded in the selection process and subsequently altered linguistically more often, i.e., these dreams included more direct references to the dreamer's gender. Although the linguistic alterations did not affect the accuracy of the judgement, it might be that women's dreams are more characteristic of women than men's dreams are of men. In order to investigate what kind of characteristics these might be, qualitative studies have to be carried out, including the judges' decision rules in addition to the matching decision and confidence rating. If such characteristics can be identified, content-analytic studies comparing women's dreams and men's dreams along specifically constructed content scales should complement the qualitative findings.

To summarize, the judges were able to match the dreamer's gender based on a single dream report better than chance. The rate of correct decisions, however, was not extremely high, so that a reliable matching for a single case is not possible. It must be concluded that even for simple characteristics more dream material is necessary to make a valid prediction. For clinical praxis and the interpretation of dreams, the present findings indicate that attempts at inferring the dreamer's characteristics from a single dream without further information should be treated with caution.

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