

Factors Affecting the Gender Difference in Dream Sharing Frequency

Imagination, Cognition and
Personality: Consciousness in
Theory, Research, and Clinical
Practice

2015, Vol. 34(3) 306–316

© The Author(s) 2015

Reprints and permissions:
sagepub.com/journalsPermissions.nav

DOI: 10.1177/0276236614568640

ica.sagepub.com



Michael Schredl¹, Eugenia Kim¹, Sarah Labudek¹,
Anna Schädler¹, and Anja S. Göritz²

Abstract

Numerous studies have shown that women tend to share dreams more often than men. However, research looking at factors that might explain this gender difference is scarce. The present online study ($N = 1,808$) clearly showed that gender differences in frequency of sharing emotional experiences and sex role orientation (femininity/expressivity) did affect the gender difference in dream sharing whereas dream-related variables such as dream recall frequency and attitude towards dreams did not. Many of the factors associated with dream sharing indicate that the socialization processes might have an effect on dream variables in adulthood. To pursue this line of research, it would be fruitful to study dream sharing within the family.

Keywords

dream sharing, dream recall, attitude towards dreams, sex role orientation, gender differences

Although dreams are very personal experiences, most people share some of them with others (Kuiken & Sikora, 1993; Schredl, 2000; Vann & Alperstein, 2000). The motives for sharing dreams are manifold, ranging from relief (recounting a

¹Central Institute of Mental Health, Medical Faculty Mannheim, Heidelberg University, Germany

²Psychology Department, University of Freiburg, Germany

Corresponding Author:

Michael Schredl, Schlaflabor, Zentralinstitut für Seelische Gesundheit, Postfach 12 21 20, Mannheim 68072, Germany.

Email: Michael.Schredl@zi-mannheim.de

nightmare) to entertainment of others by sharing funny dreams and increasing intimacy in relationships by sharing personal experiences (Duffey, Wooten, Lamadue, & Comstock, 2004; Ijams & Miller, 2000; Olsen, Schredl, & Carlsson, 2013). The present research focused on the question as to what factors are related to dream sharing frequency. The most obvious factor, of course, is dream recall frequency: If you cannot recall any dreams or very rarely, you have nothing to share. Several studies (Herman & Shows, 1984; Pagel & Vann, 1993; Schredl, 2000; Schredl & Schawinski, 2010) found correlation coefficients from $r = .40$ up to $r = .65$ between dream sharing frequency and dream recall frequency. There are other dream-related factors, such as dream intensity, that are related to whether a dream is shared or not; usually, a greater number of intense dreams are shared than mundane ones (Curci & Rime, 2008). Only one study (Schredl & Schawinski, 2010) looked into the relationship between dream sharing and personality and found that extroversion, as expected, was related with increased dream sharing. The second trait associated with dream sharing was Hartmann's thin boundaries construct (Hartmann, 1991). The size of these effects (association with emotional intensity and personality) was relatively small compared with the gender differences found for dream sharing in samples with mean ages from the age of 10 to late adulthood (Curci & Rime, 2008; Georgi, Schredl, Henley-Einion, & Blagrove, 2012; Keßels, 2004; Olsen et al., 2013; Robbins & Tanck, 1988; Schredl, 2009; Schredl & Pallmer, 1998; Schredl & Schawinski, 2010; Szmigielska & Holda, 2007) with effect sizes from .46 (Schredl & Pallmer, 1998) to .79 (Curci & Rime, 2008). These are considerably larger than the effect sizes for the gender difference in dream recall frequency (about .20 to .30; Schredl & Reinhard, 2008). Despite this marked gender difference, empirical studies trying to explain this gender difference are scarce. Factors that might help to explain the gender difference have to fulfill two criteria: First, they should significantly correlate with dream sharing frequency and, second, they should show a significant gender difference themselves.

The most obvious factor meeting these criteria is, of course, dream recall frequency. However, two studies (Georgi et al., 2012; Schredl & Schawinski, 2010) have shown that partialling out dream recall frequency does not affect the gender difference in dream sharing frequency in a marked way. In similar way, positive attitudes towards dreams do not influence the gender difference in dream sharing frequency (Schredl & Schawinski, 2010). Because Georgi et al. (2012) found a significant increase regarding the gender difference in dream sharing from the age of 10 to late adolescence, they speculated that gender-specific dream socialization might play a role, that is, boys and girls might be differentially encouraged to talk about dreams.

The present study was conducted to investigate other plausible candidates for explaining the gender difference in dream sharing frequency. The first variable is the frequency of sharing personal experiences in general—a comprehensive meta-analysis (Dindia & Allen, 1992) has demonstrated that women share

personal experiences more often than men. As dreams are personal experiences, it was expected that statistically controlling the frequency of sharing personal experiences should reduce the effect of gender on dream sharing frequency. The second variable that was studied was sex role orientation. Femininity/Expressivity was positively related to dream recall frequency (Schredl, Lahl, & Göritz, 2010), so it was hypothesized that it might also be related to dream sharing frequency and might explain gender differences in dream sharing frequency—a line of thinking based on the increasing gender difference in dream sharing from childhood throughout adolescence (Georgi et al., 2012).

Method

Research Instruments

For eliciting dream frequency, a 7-point scale (coded as 0 = *never*, 1 = *less than once a month*, 2 = *about once a month*, 3 = *about 2 to 3 times a month*, 4 = *about once a week*, 5 = *several times a week*, and 6 = *almost every morning*) was presented. High retest reliability has been shown for this scale ($r = .85$; Schredl, 2004). To obtain units of mornings per week, the scale was recoded using the class means (0 → 0, 1 → 0.125, 2 → 0.25, 3 → 0.625, 4 → 1.0, 5 → 3.5, and 6 → 6.5). If the person checked “once a week,” the value of the recoded variable was 1 (morning with dream recall per week). If (s)he checked “several times” a week, the recoded variable was set to 3.5 mornings with dream recall (possible range from 2 to 5). The category “almost every morning” was recoded as 6.5 mornings with dream recall per week because it could be every morning (7) or almost every morning (6). A scale with similar 7-point scale was used for measuring dream sharing frequency. Attitude towards dreams were measured by 10 items (Schredl, Brenner, & Faul, 2002); the scale showed high internal consistency ($r = .905$) and high retest reliability ($r = .73$). An example item is: “A person who reflects about her/his dreams learns a lot about himself/herself.”

In addition to eliciting age and gender, the participants were asked to complete the “Skalen zur Erfassung der Geschlechtstypizität” (Scales measuring gender stereotypes; GTS+), a questionnaire based mainly on the items of the Bem Sex Role Inventory (Bem, 1974) and sex role orientation was measured along two dimensions: expressivity/femininity and instrumentality/masculinity (Altstötter-Gleich, 2004). For each dimension, eight 4-point items with the answering categories *rarely*, *sometimes*, *often*, and *almost always* were presented. Examples for the expressivity/femininity scale are “Typically I am empathic.” or “Typically I am sensitive.” Items for the instrumentality/masculinity scale are “Typically I am assertive.” or “Typically I am self-confident.” The eight items—coded from 1 = *rarely* to 4 = *almost always*—were averaged for each scale. The reliabilities of the scales are high (Cronbach’s $\alpha = .79$ [expressivity] and Cronbach’s $\alpha = .83$ [instrumentality]), and the construct

validity was demonstrated by confirmatory factor analyses (Altstötter-Gleich, 2004).

A 9-point scale was used for measuring frequency of sharing personal experiences (0 = *never*, 1 = *less than once a year*, 2 = *about once a year*, 3 = *about 2 to 4 times a year*, 4 = *about once a month*, 5 = *about 2 to 3 times a month*, 6 = *about once a week*, 7 = *several times a week*, and 8 = *almost every day*). A brief definition was provided: “For estimating the frequency, a situation should be considered in which you talk about your emotions, about experiences that touched you currently or in the past. It should be an encounter that goes more deeply into your personal experiences (no small talk). Such an interaction should last at least several minutes and could be face-to-face or by phone.” To obtain units per month, the scale was recoded using the class means of the nine categories (0 → 0, 1 → 0.042, 2 → 0.083, 3 → 0.25, 4 → 1.0, 5 → 2.5, 6 → 4.0, 7 → 12.0, and 8 → 25.0). For examples of the recoding procedure, see above; however, the units for this recoded scale were occurrences per month. Lastly, the participants were asked whether they live in a stable partnership (Yes/No).

Procedure and Participants

Overall, 1,808 persons (1,110 women and 698 men) completed the online survey between April 5, 2013 and April 14, 2013. The mean age of the sample was 45.64 ± 15.33 years (range: 14–91 years). The mean age of the male participants (49.88 ± 16.24 years) differs significantly from the average age of the female participants (42.98 ± 14.10 years, $t = -9.3$, $p < .0001$), so age was entered into the analysis in order to control for this difference. The percentage of the women who reported living in a stable partnership was 70.5; the figure was similar for men (70.8%) with no statistically significant difference ($\chi^2 = 0.0$, $p = .8853$).

The link for the study was posted on the online panel www.wisopanel.net. Within this panel, persons with an interest in online studies and with heterogenic demographic backgrounds are registered. For some surveys, prizes or money are offered for study participation, but this study was completely voluntary and unpaid.

Statistical procedures were carried out with the SAS 9.2 software package for Windows. Ordinal regressions (cumulative logit analyses) were used for analyzing the effect of different predictors on dream sharing frequency.

Results

The mean dream recall frequency (recoded scale) for the total sample was 1.94 ± 2.04 mornings per week; the dream sharing frequency average was 0.61 ± 1.12 per week. The exact distribution of the participants' responses is depicted in Table 1. The gender difference in dream sharing frequency (effect size) as depicted in Table 2 was highly significant ($p < .0001$; ordinal regression

Table 1. Dream Sharing Frequency.

Category	Total sample (%) (<i>N</i> = 1,808)	Women (%) (<i>N</i> = 1,110)	Men (%) (<i>N</i> = 698)
Almost every morning	1.22	1.17	1.29
Several times a week	7.58	8.56	6.02
About once a week	12.94	15.41	9.46
About 2 to 3 times a month	12.22	12.88	11.17
About once a month	6.58	7.03	5.87
Less than once a month	36.17	36.49	35.67
Never	23.29	18.74	30.52

Table 2. Means and Standard Deviations of the Sex Role Orientation Questionnaire GTS+ and Dream Variables.

Variable	Women (<i>N</i> = 1,110)	Men (<i>N</i> = 698)	Effect size	Correlation with dream sharing
Dream sharing frequency (per week)	0.67 ± 1.14	0.52 ± 1.08	0.297 ^a	–
Dream recall frequency (per week)	2.05 ± 2.08	1.75 ± 1.98	0.186 ^a	.512 (<i>p</i> < .0001)
Frequency of sharing personal experiences (per month)	8.07 ± 8.29	5.58 ± 7.60	0.424 ^a	.344 (<i>p</i> < .0001)
Expressivity/femininity	2.87 ± 0.52	2.64 ± 0.53	0.438	.184 (<i>p</i> < .0001)
Instrumentality/masculinity	2.51 ± 0.57	2.64 ± 0.58	–0.226	–0.010 (<i>p</i> = .6690)
Attitude towards dreams	3.67 ± 0.80	3.38 ± 0.87	0.347	.253 (<i>p</i> < .0001)

^aEffect sizes for ordinal variables were obtained by using R^2 of the ordinal regression with gender as predictor.

with gender and age). Similarly, all other gender differences depicted in Table 2 were significantly less than $p = .0001$, except for masculinity/instrumentality ($p = .0006$). All variables were significantly correlated with dream sharing frequency, except for masculinity/instrumentality (see Table 2).

In Table 3, four different ordinal regressions for dream sharing frequency are depicted. The first analysis clearly indicates that attitude towards dreams and especially dream recall frequency are strongly related to dream sharing frequency; however, gender is still significant if the effect was statistically controlled for these two variables. Interestingly, age was negatively related to dream sharing frequency in all four regressions. Introducing frequency of sharing emotional experiences into the regression showed that this variable also has a strong effect on dream sharing frequency and that the gender effect decreased and was no

Table 3. Regression analyses for Dream Sharing Frequency.

Variable	Regression 1 (Dream-related variables)			Regression 2 (Adding emotional sharing)			Regression 3 (Adding sex role orientation)			Regression 4 (Complete model)		
	β	χ^2	<i>p</i>	β	χ^2	<i>p</i>	β	χ^2	<i>p</i>	β	χ^2	<i>p</i>
Age	-.103	17.4	.0001	-.055	4.8	.028	-.1182	22.3	.0001	-.0682	7.1	.008
Gender	.068	7.5	.0062	.033	1.7	.191	.0411	2.6	.1059	.0112	0.2	.663
Dream recall frequency	.582	417.5	.0001	.562	333.1	.0001	.5848	419.4	.0001	.5651	386.0	.0001
Attitude towards dreams	.142	30.8	.0001	.099	14.2	.0002	.1100	17.6	.0001	.0728	7.4	.002
Frequency sharing personal experiences				.292	114.8	.0001				.2801	104.8	.0001
Femininity/expressivity							.1467	32.6	.0001	.1244	22.9	.0001
Masculinity/instrumentality							.0092	0.1	.7043	-.0048	0.0	.846

Note. β = Standardized estimates, for each ordinal regression; all the variables for which SEs are depicted were entered simultaneously.

longer significant (regression 2 in Table 3). A similar effect was observed if sex role orientation scales (femininity/expressivity and masculinity/instrumentality) were introduced: Femininity/expressivity showed a marked relationship (masculinity/instrumentality not) and the gender difference was no longer significant (regression 3 in Table 3). As femininity/expressivity was significantly related to the frequency of sharing emotional experiences ($r = .180, p < .0001$), a fourth analysis was conducted in order to compare the size of the standardized estimates of these variables entered into the analysis simultaneously (dream-related variables, frequency of sharing emotional experiences, and sex role orientation). In all four regressions, the strongest relationship was for dream recall frequency, but regression 4 clearly indicated that frequency of sharing emotional experiences was more closely related to dream sharing frequency when compared with femininity/expressivity (see Table 3). Interestingly, if relationship status was also added into the regression equation, this variable also showed an effect (standardized estimate: .2069, $\chi^2 = 67.9, p < .0001$) while not affecting the coefficients of the other variables in a marked way.

Discussion

Overall, the present findings identified a large variety of factors associated with dream sharing frequency: dream recall frequency, positive attitude towards dreams, expressivity, frequency of sharing emotional experiences, living in a partnership, and gender. Because gender was no longer significant if frequency of sharing emotional experiences and sex role orientation (femininity/expressivity)

were introduced into the regression analyses, the ideas that these two variables “explain” at least partly the gender difference in dream sharing frequency was supported.

Comparing mean dream recall frequency with representative samples (Schredl, 2008a, 2010) indicates that high dream recallers are overrepresented in this online sample; a problem not particular to an online survey but for every dream study not based on random sampling strategies. Although the gender difference in dream recall frequency was comparable with previous findings (Schredl & Reinhard, 2008), the effect size for dream sharing frequency ($d=0.297$) was considerably lower compared with previous studies (Bartnicki, 1997; Curci & Rime, 2008; Georgi et al., 2012; Schredl, 2000; Schredl & Schawinski, 2010; Szmigielska & Holda, 2007), with effect sizes ranging from 0.50 to 0.79. As these studies were based mainly on self-selected student samples, it is not possible to decide which findings are more valid. The only representative study (Schredl, 2009) found an effect size of 0.43 even though a binary item “I speak quite often about my dreams with relatives or friends (Yes/No)” was provided (using binary items usually yield smaller effect sizes for differences due to the limited variance). One possible explanation for this reduced effect size might be that self-selection biases might be stronger in online samples—a hypothesis which has never been tested explicitly.

How does this smaller effect size regarding the gender difference in dream sharing frequency affect the findings of the present study? One might speculate that if the gender difference was larger in the beginning, the introduction of the two variables (frequency of sharing emotional experiences and expressivity) into the regression equation might not completely erase the gender difference; hence, they may “explain” the gender difference in dream sharing frequency only partly. With regard to the other findings, the relationship between influencing factors and dream sharing frequency might even be stronger as the self-selection bias very likely reduced the variance within in the samples. An argument for the validity of this online study is the fact that the means of the expressivity and instrumentality scales of the GTS+ are comparable with the figures of the validation sample of the test author who used paper questionnaires.

In line with previous studies (Herman & Shows, 1984; Pagel & Vann, 1993; Schredl, 2000; Schredl & Schawinski, 2010), it was demonstrated that dream recall is the strongest factor related to dream sharing frequency. This makes, of course, sense because one cannot share dreams if one has not anything to share. However, the well-documented gender difference in dream recall frequency (Schredl & Reinhard, 2008) did not “explain” the gender difference in dream sharing, that is, reduce the gender difference if statistically controlled. The present findings also indicate that a variety of factors are also related to dream sharing frequency even if the analyses are controlled for dream recall frequency.

The second largest effect (see the magnitudes of the χ^2 coefficients in the ordinal regression 4) was due to the sharing emotional experiences variable

which also is very plausible because dreams are often very personal and emotional (Schredl, 2008b). This variable had a strong effect on the gender difference in dream sharing frequency which means that women tend to share dreams more often than men because, in general, they share emotional experiences more often. The finding that relationship status had also a marked relationship with dream sharing frequency can also be easily understood: Persons with an intimate relationship share dreams more often than persons without a partner (cf. Olsen et al., 2013)—moreover, relationship intimacy was related to dream sharing frequency (Olsen et al., 2013). In other types of relationships (father, mother, and friends), relationship intimacy was related to dream sharing frequency (Bachner, Raffetseder, Walz, & Schredl, 2012), a finding clearly indicating that dreams are mostly shared with close persons.

In regard to sex role orientation, femininity/expressivity was related to dream sharing frequency—even if dream recall frequency which is also related to femininity/expressivity (Schredl et al., 2010) and frequency of sharing emotional experiences were statistically controlled. As the sex role orientation is associated with socialization, it would be very interesting to study dream-specific socialization in a more detailed way, that is, the question as to how children learn their attitudes about dreaming (e.g., whether thinking about dreams is beneficial), dream sharing and so on, for example, by eliciting frequency of dream sharing within the family. The finding that attitude towards dreams is also related to dream sharing frequency (again, dream recall frequency is statistically controlled for) would support this line of thinking. These studies might also help to explain why dream sharing is more frequent in persons with lower educational levels (Schredl, 2009) or why dream sharing frequency decreases with age (even if dream recall frequency and all other variables are statistically controlled).

Even though the present study showed that gender differences in frequency of sharing emotional experiences and sex role orientation “explain” the gender difference in dream sharing frequency, there might be additional factors that also affect the gender difference in dream sharing. For example, Levin and Nielsen (2007) suggested that the gender difference in nightmare frequency (Schredl & Reinhard, 2011) might be partly explained by self-report biases. Even though this is unlikely for the dream sharing frequency measure—as children reported that mothers share their dreams more often than fathers (a third-person perspective) with an effect size for this difference of 0.737 (Bachner et al., 2012)—more detailed research into the validity of measuring dream sharing frequency would be desirable. Although the present study focused on gender differences, it should be noted that dream sharing decreased with age—even if the analyses were controlled for the other dream-related variables, frequency of sharing emotional experiences, and sex role orientation. The comparison between retrospective data (Schredl, Schröder, & Löw, 1996) with cross-sectional data (Schredl, 2008a) regarding dream recall frequency suggests that this might reflect

cohort effects. But longitudinal studies into the change of dream recall and dream sharing frequency over the life span are needed to verify this hypothesis.

Another factor which is likely to affect dream sharing is the extent of the social network (partner, family, friends, and colleagues), especially in the light of social networking on the Internet. Persons with many close relationships have more opportunities to share dreams (cf. the finding of relationship status). A study (Schredl, Buscher, Haaß, Scheuermann, & Uhrig, 2013) showed that in children gender differences in dream sharing were much larger within the peer group compared with dream sharing within the family. Up to now, there is no study investigating the frequency of dream sharing in the Internet in a systematic way. Future research can elicit dream sharing frequency in different types of social interactions to explore this issue in a more detailed way. For example, it may be rare when dreams are shared at work or a job site compared with outings with friends or at the home with family members.

To summarize, the findings of the study clearly indicate that gender differences in frequency of sharing emotional experiences and sex role orientation (femininity/expressivity) do affect the gender difference in dream sharing, but research regarding the underlying factors of dream sharing and how these gender differences develop is still in its infancy. The most promising approach would be to study dream sharing within the family.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

References

- Altstötter-Gleich, C. (2004). Expressivität, instrumentalität und psychische gesundheit [Expressivity, instrumentality, and mental health]. *Zeitschrift für Differentielle und Diagnostische Psychologie*, 25, 123–139. doi:<http://dx.doi.org/10.1024/0170-1789.25.3.123>
- Bachner, J., Raffetseder, P., Walz, B., & Schredl, M. (2012). The effects of dream socialization in childhood on dream recall frequency and the attitude towards dreams in adulthood: A retrospective study. *International Journal of Dream Research*, 5, 102–107.
- Bartnicki, K. J. (1997). *An exploration of life experiences, personality traits and sleep habits in relation to dream recall and dream content* (Master Thesis). California State University, Sacramento.
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 42, 155–162. doi:<http://dx.doi.org/10.1037/h0036215>

- Curci, A., & Rime, B. (2008). Dreams, emotions, and social sharing of dreams. *Cognition and Emotion*, 22, 155–167. doi:<http://dx.doi.org/10.1080/02699930701274102>
- Dindia, K., & Allen, M. (1992). Sex differences in self-disclosure: A meta-analysis. *Psychological Bulletin*, 112(1), 106–124. doi:10.1037/0033-2909.112.1.106
- Duffey, T. H., Wooten, H. R., Lamadue, C. A., & Comstock, D. C. (2004). The effects of dream sharing on marital intimacy and satisfaction. *Journal of Couple and Relationship Therapy*, 3, 53–68. doi:http://dx.doi.org/10.1300/J398v03n01_04
- Georgi, M., Schredl, M., Henley-Einion, J., & Blagrove, M. (2012). Gender differences in dreaming in childhood and adolescence: The UK library study. *International Journal of Dream Research*, 5, 125–129.
- Hartmann, E. (1991). *Boundaries in the mind*. New York, NY: Basic Books.
- Herman, S., & Shows, W. D. (1984). How often do adults recall their dreams? *International Journal of Aging and Human Development*, 18, 243–254. doi:<http://dx.doi.org/10.2190/A3R8-C69H-13X5-P5V0>
- Ijams, K., & Miller, L. D. (2000). Perceptions of dream-disclosure: An exploratory study. *Communication Studies*, 51, 135–148. doi:<http://dx.doi.org/10.1080/10510970009388514>
- Keßels, T. (2004). Angstträume bei neun- bis elfjährigen Kindern [Anxiety dreams of nine to eleven-year-old children]. *Praxis der Kinderpsychologie und Kinderpsychiatrie*, 53, 19–38.
- Kuiken, D., & Sikora, S. (1993). The impact of dreams on waking thoughts and feelings. In A. Moffitt, M. Kramer, & R. Hoffmann (Eds.), *The functions of dreaming* (pp. 419–476). Albany: State University of New York Press.
- Levin, R., & Nielsen, T. A. (2007). Disturbed dreaming, posttraumatic stress disorder, and affect distress: A review and neurocognitive model. *Psychological Bulletin*, 133, 482–528. doi:<http://dx.doi.org/10.1037/0033-2909.133.3.482>
- Olsen, M. R., Schredl, M., & Carlsson, I. (2013). Sharing dreams: Frequency, motivations, and relationship intimacy. *Dreaming*, 23(4), 245–255.
- Pagel, J. F., & Vann, B. H. (1993). Cross-cultural dream use in Hawaii. *Hawaii Medical Journal*, 52, 44, 46.
- Robbins, P. R., & Tanck, R. H. (1988). Interest in dreams and dream recall. *Perceptual and Motor Skills*, 66, 291–294. doi:<http://dx.doi.org/10.2466/pms.1988.66.1.291>
- Schredl, M. (2000). The effect of dreams on waking life. *Sleep and Hypnosis*, 2, 120–124.
- Schredl, M. (2004). Reliability and stability of a dream recall frequency scale. *Perceptual and Motor Skills*, 98, 1422–1426. doi:<http://dx.doi.org/10.2466/PMS.98.3.1422-1426>
- Schredl, M. (2008a). Dream recall frequency in a representative German sample. *Perceptual and Motor Skills*, 106, 699–702. doi:<http://dx.doi.org/10.2466/pms.106.3.699-702>
- Schredl, M. (2008b). *Traum* [Dream]. München, Germany: Reinhardt/UTB.
- Schredl, M. (2009). Sharing dreams: Sex and other sociodemographic variables. *Perceptual and Motor Skills*, 109, 235–238. doi:<http://dx.doi.org/10.2466/pms.109.1.235-238>
- Schredl, M. (2010). Nightmare frequency and nightmare topics in a representative German sample. *European Archives of Psychiatry and Clinical Neuroscience*, 260, 565–570. doi:<http://dx.doi.org/10.1007/s00406-010-0112-3>

- Schredl, M., Brenner, C., & Faul, C. (2002). Positive attitude toward dreams: Reliability and stability of a ten-item scale. *North American Journal of Psychology*, 4, 343–346.
- Schredl, M., Buscher, A., Haaß, C., Scheuermann, M., & Uhrig, K. (2013). Gender differences in dream socialisation in children and adolescents. *International Journal of Adolescence and Youth*, 1–8. doi:<http://dx.doi.org/10.1080/02673843.2013.767211>
- Schredl, M., Lahl, O., & Göritz, A. S. (2010). Gender, sex role orientation, and dream recall frequency. *Dreaming*, 20, 19–24. doi:<http://dx.doi.org/10.1037/a0018578>
- Schredl, M., & Pallmer, R. (1998). Geschlechtsunterschiede in Angstträumen von SchülerInnen [Gender differences in anxiety dreams of school-aged children]. *Praxis der Kinderpsychologie und Kinderpsychiatrie*, 47, 463–476.
- Schredl, M., & Reinhard, I. (2008). Gender differences in dream recall: A meta-analysis. *Journal of Sleep Research*, 17, 125–131. doi:<http://dx.doi.org/10.1111/j.1365-2869.2008.00626.x>
- Schredl, M., & Reinhard, I. (2011). Gender differences in nightmare frequency: A meta-analysis. *Sleep Medicine Reviews*, 15, 115–121. doi:<http://dx.doi.org/10.1016/j.smrv.2010.06.002>
- Schredl, M., & Schawinski, J. A. (2010). Frequency of dream sharing: The effects of gender and personality. *American Journal of Psychology*, 123, 93–101.
- Schredl, M., Schröder, A., & Löw, H. (1996). Traumerleben von älteren Menschen—Teil 2: Empirische Studie und Diskussion [Dreaming in the elderly—Part 2: Empirical study and discussion]. *Zeitschrift für Gerontopsychologie und -psychiatrie*, 9, 43–53.
- Szmigielska, B., & Holda, M. (2007). Students' views on the role of dreams in human life. *Dreaming*, 17, 152–158. doi:<http://dx.doi.org/10.1037/1053-0797.17.3.152>
- Vann, B., & Alperstein, N. (2000). Dream sharing as social interaction. *Dreaming*, 10, 111–119. doi:<http://dx.doi.org/10.1023/A:1009452822669>

Author Biographies

Michael Schredl has been a dream researcher since 1990 and head of research of the sleep laboratory of the Central Institute of Mental Health, Mannheim, Germany. He teaches at the University of Mannheim and is also the editor of the online journal *International Journal of Dream Research*.

Eugenia Kim is a bachelor student of psychology at the University of Mannheim.

Sarah Labudek is a bachelor student of psychology at the University of Mannheim.

Anna Schädler is a bachelor student of psychology at the University of Mannheim.

Anja S. Göritz is a full professor of Occupational and Consumer Psychology at the University of Freiburg in Germany.