Dreaming about favorite celebrities in two different cultures

Lynn McCutcheon[1], Reza Shabahang[2], Joshua L. Williams[3], Mara Aruguete[4], & Ho Huynh[5]

[1]North American Journal of Psychology
[2]University of Tehran
[3]Georgia Southern University
[4]Lincoln University of Missouri
[5]Texas A & M University - San Antonio

Summary. We administered a *Celebrity Dream Scale*, selected items adapted from Schredl's *Dream Questionnaire* (MADRE), and the *Celebrity Attitude Scale* (CAS) to university students from the United States and Iran in order to determine similarities and differences. We predicted and found a gender difference in the reporting of dreams in the U.S. sample, but not in Iran. We obtained additional evidence for the well-documented continuity hypothesis for dreams, but not for nightmares. We predicted and found that persons who were strongly attracted to their favorite celebrity would report dreaming about that celebrity more often than those who were not strongly attracted to their favorite celebrity. We did not find support for the negativity bias, either in dreams in general, or dreams involving one's favorite celebrity, romantic or otherwise. Consistent with the results of previous research, we found a few differences in dreaming between the two different cultures.

Keywords: Celebrity dreaming, Celebrity Attitude Scale, Dreams, Nightmares, Cross-culture

1. Introduction

Dreams can be defined as a reminiscence of one's subjective experiences while sleeping (Moverley et al., 2018). Nightmares are dreams that feature strong negative emotions such as fear and anxiety (Schredl et al., 2003). The purpose of this study was to examine the content of dreams and nightmares in the United States and Iran, with particular attention to dreams and nightmares that include celebrities. Over the past several decades, a large number of published studies focused on the topic of dreaming. A few generalizations emerged from this body of work. For example, women report more dreams than men (Levin & Nielsen, 2007) and people tend to dream about the situations and people they encounter during their waking lives (Moverley et al., 2018; Schredl & Hofmann, 2003). Early research on dreams tended to include a bias toward negative emotion (Domhoff, 1996), but more recent research suggests that the negativity bias disappears when dreamers are permitted to rate their own dreams (Schredl & Doll, 1998; Schredl et al., 2015; Sikka et al., 2014; Weinstein et al., 2018). In the present study, we investigate whether these findings hold true in Iran and the United States and examine whether these generalizations apply to dreams about favorite celebrities.

One generalization stemming from previous research on dreaming is that women tend to report more dreams and nightmares than men (Georgi et al., 2012; Levin & Nielsen, 2007; Schredl & Reinhard, 2008, 2011; Tribl et al., 2018). It has been suggested that the reason for this difference is that women are more likely than men to be socialized to share their dreams with others (Georgi et al., 2012; Schredl & Reinhard, 2008).

A second generalization is that waking experiences are often reflected in dreams and nightmares, known as the continuity hypothesis, because there appears to be a continuity between daily experiences and the appearance of these experiences in subsequent dream life (Schredl & Hofmann, 2003). Support for the continuity hypothesis is overwhelming (DeCicco, et al., 2013; Duke & Davidson, 2002; Hall & Nordby, 1972; Levin & Nielsen, 2007; Malinowski, 2016; Morewedge & Norton, 2009; Mota-Rolim et al., 2013; Moverley et al., 2018; Schredl, 2001, 2012; Schredl & Hofmann, 2003; Schredl et al., 2003; Selterman & Drigotas, 2009; Tribl et al., 2018; Weinstein et al., 2018). For example, Schredl and Hofmann (2003) found that waking activities like watching TV, writing, reading, spending time with a significant other, and driving a car were often incorporated into dreams. Mota-Rolim et al. (2013) found that the content of nightmares tends to be related to probable experiences in waking life, such as being chased or being involved in an

Corresponding address:
Lynn McCutcheon, North American Journal of Psychology, USA.
Email: Najp1999@yahoo.com

Submitted for publication: October 2020
Accepted for publication: March 2021
DOI: 10.11588/ijodr.2021.1.76309

accident.

A third generalization is more controversial. The "negativity bias" is based on the finding that most dreams contain a preponderance of negative emotions, such as worry, fear, and stress, compared to positive and pleasant emotions (Domhoff, 1996; Hall & Van de Castle, 1966; Malinowski, 2016; Merritt et al., 1994). However, more recent research suggests that negativity bias is an artifact, only found when independent judges rate the emotions found in dreams, but not when the dreamers themselves do the ratings (Schredl et al., 2015; Schredl & Doll, 1998; Sikka et al., 2014; Van den Bulck, 2004; Weinstein, et al., 2018). Nevertheless, a more recent study by Malinowski (2016), in which participants self-rated their emotions, found a large number of dream reports were mostly negative in tone.

There is evidence for cross-cultural differences in dream content. For example, Krippner et al. (1998) compared dream content of people from Argentina, Brazil, and the United States. Brazilian women reported more dreams about sexuality, but fewer dreams about participating in aggressive acts, as compared to their counterparts in the U.S. or Argentina. Argentine men reported more successful outcomes of their dreams than American and Brazilian men, and Brazilian men reported fewer aggressive acts and more sexuality than Argentine and American men. Tribl et al. (2018) compared the dream content of Brazilians and Germans and also found some cross-cultural differences. Specifically, Germans reported more bizarre dreams, with more aggression, more problems, fewer leisure-related activities, and more extreme emotions than their Brazilian counterparts. They inferred that cultural differences between the two countries drove differential dream content. If this generalization is valid, then we might expect to find differing dream content in a comparison of other countries that are culturally different from each other.

Two such countries are the United States and Iran. To our knowledge there has never been a study of the dream content of Iranian people, let alone an international study comparing the dream content of Americans and Iranians. In keeping with previous research, we make the following predictions:

1. Women will report more dreams and nightmares than men in both countries.
2. Participants in both countries will tend to report recurring dreams and nightmares related to situations they had experienced in waking life.
3. Participants in both countries will report having dreams with a more negative tone than a positive tone.

The continuity hypothesis suggests that people who admire celebrities will be likely to dream about celebrities because they are likely to engage with information about celebrities during their waking hours (e.g., reading, watching movies, social media). In other words, if celebrities are significant in the everyday lives of people, they will also tend to be a significant aspect of their dreams. Retrospective reports indicate that most participants have experienced dreams involving some media figure, most commonly a movie actor (Alperstein & Vann, 1997). In such dreams, the media figure may appear as a friend or acquaintance of the dreamer rather than appearing in a professional role (Alperstein & Vann, 1997). In this study, we measured attraction to favorite celebrities in addition to the content of dreams and nightmares involving favorite celebrities. Informed by the previous research on dreaming, we further expected:

4. In both countries, women will report more dreams and nightmares about their favorite celebrity than men.
5. In both countries, there will be a positive correlation between celebrity admiration and the frequency of dreams in which the favorite celebrity was present.
6. Participants in both countries will report dreams about their favorite celebrities as having a more negative tone than a positive tone.
7. Participants in both countries who reported having romantic fantasies about their favorite celebrities would report having more pleasant dreams than those who report never having romantic fantasies about their favorite celebrities.

2. Method

2.1. Participants

United States (U.S.) Sample. After we obtained permission from the institutional review boards of our respective universities, we recruited 241 participants from universities located in Georgia, Missouri, and Texas. We excluded 43 participants for failure to provide complete responses to one or more of the measures we used, or for providing answers that were contradictory. This resulted in a final sample size of 198 (M_{age} = 22.40 years, SD_{age} = 5.22; M_{men} = 23.24 years, SD_{men} = 6.39; M_{women} = 22.22, SD_{women} = 4.95). The final sample sizes for each campus were as follows: Georgia (n = 39), Missouri (n = 32), and Texas (n = 127). Our sample self-identified as 83% female and 17% male. Further, they self-identified as White (51.5%), African American/Black (22.4%), Asian American/Asian (1.5%), American Indian (1%), and other/unknown (14.8%), or multiracial (8.7%). Participants completed this study as part of a research participation module or extra credit in a psychology course (introductory to advanced level courses).

Iran Sample. We recruited 188 participants from the University of Tehran. We excluded 15 participants for failure to provide complete responses to one or more of the measures we used, or for providing answers that were contradictory. This resulted in a final sample size of 173 (M_{age} = 27.55 years, SD_{age} = 6.16; M_{men} = 27.80 years, SD_{men} = 4.79; M_{women} = 27.51, SD_{women} = 6.40). Our final sample self-identified as 84% females and 16% males.

An a priori power analysis using G*Power (Erdfelder et al., 1996) indicated that a total sample size of 128 (assuming equal group sample sizes) would be needed to detect a moderate effect size of d = 0.5 (Cohen, 1988) with 80% power using an independent t-test with alpha at .05, two tails.

2.2. Measures

Before reading the randomly assigned scales, each participant identified the gender of their favorite celebrity, the approximate age of that celebrity, and the reason why he/she is famous (e.g. sports, music, acting, politics, religion, etc.). Over the course of several years, McCutcheon and colleagues (Ashe & McCutcheon, 2001; Griffith et al., 2013; Huynh & McCutcheon, 2021; Maltby et al., 2002; Maltby &

McCutcheon, 2001; Martinez et al., 2020; McCutcheon et al., 2002; McCutcheon et al., 2004) measured admiration for celebrities, beginning with the underlying notion that admiration could be best studied by conceptualizing it in terms of degrees of admiration for a favorite celebrity. They created scale items to measure the *extent* to which individuals admired their favorite celebrities. To date, more than 80 published articles used the *Celebrity Attitude Scale* (*CAS*) in one form or another and studies validate its convergent and external validities (for example, see Griffith et al., 2013 and Brooks, 2018, for a review).

The *Celebrity Attitude Scale* (*CAS*) consists of 23 items, and has been shown to have good psychometric properties over the course of several studies (Griffith et al., 2013; Maltby et al., 2002; Maltby & McCutcheon, 2001; McCutcheon et al., 2020; McCutcheon et al., 2002; Zsila et al., 2018). Sample items include "I love to talk with others who admire my favorite celebrity" and "I am obsessed with details of my favorite celebrity's life." The response format for the *CAS* is a 5-point scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). High scores indicate a strong attachment to one's favorite celebrity. The *CAS* also measures three aspects of celebrity worship with three specific subscales (McCutcheon et al., 2004). The first subscale, *Entertainment-Social* (*ES*), consists of 10 items structured to determine if individuals have an affinity for their favorite celebrity mainly due to the celebrity providing entertainment or as a mechanism for making contact with friends. The second subscale, *Intense-Personal* (*IP*) consists of 9 items and can indicate a more problematic level of celebrity admiration (Maltby et al., 2003). Specifically, the items help identify individuals who have an intense, potentially unhealthy attraction to their favorite celebrity. The third subscale, *Borderline Pathological* (*BP*) consists of 4 items aimed at detecting pathological attitudes or behaviors as a result of celebrity admiration. Across several studies total scale Cronbach's alpha values ranged from .84 to .94 (McCutcheon et al., 2004). The *CAS* has been translated into Persian and used successfully in a study in which the Cronbach's alpha was .93 (McCutcheon et al., 2020). Cronbach's alpha for the total *CAS* in the current study was .94 for the Iranian sample and .93 for the American sample. Cronbach's alpha values for the *CAS* subscales *ES*, *IP*, and *BP* in the Iranian sample were .89, .88, and .63, respectively. For the U.S. sample they were .88, .87, and .69, respectively.

Also, we used a brief (5-item) adaptation of Schredl's *Manheim Dream Questionnaire* (MADRE; Schredl et al., 2014). We used five items drawn from the MADRE. Item 1 read, "How often have you recalled your dreams recently?" The answers ranged from "almost every morning" (scored 7), to "never" (scored 1). Item 2 read, "What is the emotional tone of your dreams on average?" The answer options ranged from "very negative" (scored 1) to "very positive" (scored 5), with an option for "I don't recall my dreams" (scored 6). Items 3 and 5 asked "How often do you experience recurring dreams (item 3) or nightmares (item 5) that relate to a situation that you have experienced in waking life?" Item 4 read "How often have you experienced nightmares recently?" The answers for items 3 to 5 ranged from "several times a week" (scored 8) to "never" (scored 1). The MADRE has been translated into Persian and found to have good test-retest and internal reliability (Shahabian et al., 2018).

Further, we developed a seven-item *Celebrity Dream Scale* specifically for this study. Participants reported the gender and approximate age of their favorite celebrity. Then, they addressed the following questions: "Do you ever have romantic fantasies about your favorite celebrity" (yes or no); "How often have you recalled a dream in which your favorite celebrity was present?" (almost every morning = 7; never = 1); "When you dream about your favorite celebrity what is the emotional tone of your dreams on average?" (very negative = 1; very positive = 5, with an option for "I don't recall any dreams about my favorite celebrity," scored 6); "How often have you experienced nightmares involving your favorite celebrity in the past year?" (several times a week = 8; never = 1).

2.3. Procedure

After obtaining permission from IRBs in the United States and comparable permission from the university in Iran, we administered the entire survey through Qualtrics to student participants in the U.S. sample. Participants completed the scales in a random order to reduce the likelihood of systematic order bias. At the University of Tehran, the English survey version was translated into Persian for those items that had not already been translated into Persian by Shahabian et al. (2018) and administered online through Google Forms to student participants.

2.4. Analysis

Decisions about statistical hypotheses testing proceeded based on a data diagnostics process that included taking into account variable scale of measurement, visual inspection of histograms, and Shapiro-Wilk normality tests. Based on this diagnostic procedure, we approached hypotheses 1-4 and 6 with ordinal regression given the ordinal scale of measurement and need to statistically control for other relevant variables. Further, per this diagnostic procedure, we determined data for hypothesis 7 to not meet assumptions for a parametric statistical approach. Therefore, we used a nonparametric approach.

3. Results

3.1. Hypothesis 1: Gender differences in dream and nightmare reporting

We expected women to report more dreams and nightmares than men in both countries. To examine this hypothesis, we used ordinal regression analyses with dream and nightmare recall frequency as the criterion variables, gender and sample as predictors, and age as a covariate. Within the Iranian sample, gender was not a significant predictor of dream recall frequency [ordered log-odds estimate = -.44, SE = .40, Wald χ^2 = 1.21, p = .27]. Also, within the Iranian sample, gender was not a significant predictor of nightmare recall frequency when controlling for age [ordered log-odds estimate = -.20, SE = .38, Wald χ^2 = 0.26, p = .61]. Within the U.S. sample, gender was a significant predictor of dream recall frequency with women tending to recall dreams at a higher frequency than men [ordered log-odds estimate = -.68, SE = .35, Wald χ^2 = 3.89, p = .048]. Also, gender was a marginally significant predictor of nightmare recall frequency with women tending to report a higher frequency of recall relative to men [ordered log-odds estimate = -.66, SE = .34, Wald χ^2 = 3.67, p = .06].

Sample was a significant predictor of dream recall fre-

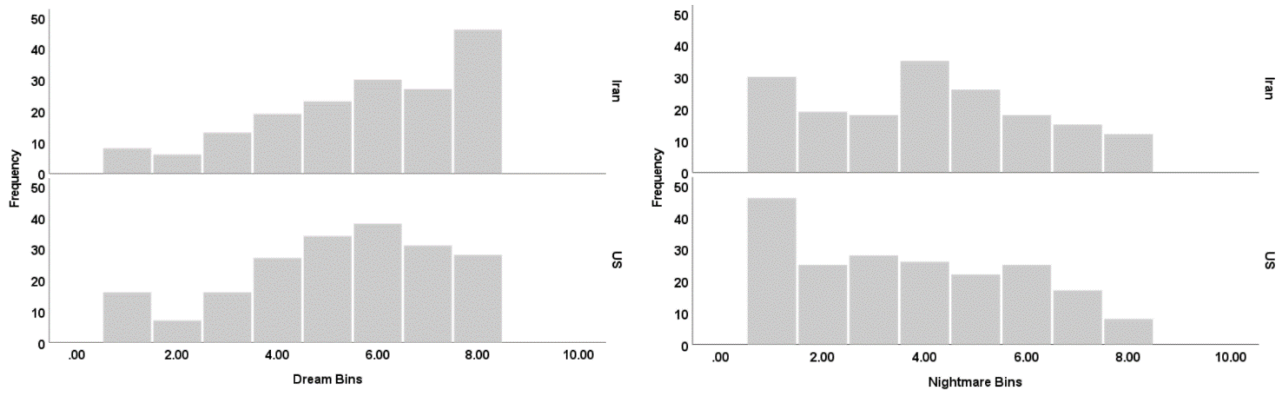

Figure 1. Histograms of responses indicating frequency of relations to waking life situations for dreams (left panel) and nightmares (right panel) for Iranian and U.S. samples.

quency, with men in the Iranian sample reporting a higher frequency of dream recall than men in the U.S. sample [ordered log-odds estimate = 1.34, *SE* = .53, Wald χ^2 = 6.32, *p* = .01] and with women in the Iranian sample reporting a higher frequency of dream recall than women in the U.S. sample [ordered log-odds estimate = -.95, *SE* = .24, Wald χ^2 = 15.76, *p* <.001]. Sample was, however, not a significant predictor of nightmare recall frequency for males [ordered log-odds estimate = -.05, *SE* = .50, Wald χ^2 = 0.01, *p* = .93] or females [ordered log-odds estimate = -.30, *SE* = .23, Wald χ^2 = 1.76, *p* = .19].

3.2. Hypothesis 2: Dreams and nightmares in relation to waking life

We expected participants in both Iran and the U.S. to select responses indicating a high frequency of both dreams and nightmares relating to waking life situations. Figure 1 shows the distributions of frequency ratings for dreams and nightmares relating to waking life for Iranian and U.S. participants. Ordinal regression with dreams and nightmares related to waking life as the criterion, sample as the predictor, and age, gender, and dream recall frequency as covariates revealed sample as a significant predictor of nightmares relating to waking life frequency with those in the Iranian sample reporting a higher frequency relative to those in the U.S. sample [ordered log-odds estimate = .55, *SE* = .22, Wald χ^2= 6.57, *p* = .01]. Sample was not a significant predictor of dreams relating to waking life frequency [ordered log-odds estimate = .15, *SE* = .21, Wald χ^2 = 0.51, *p* = .48].

3.3. Hypothesis 3: Emotional tone of dreams

In terms of reported emotional tone of dreams, we predicted participants in both Iran and the U.S. to select ratings indicating a negative tone more often than a positive tone. Figure 2 shows the distributions of responses for the Iranian and U.S. samples. Ordinal regression with dream emotional tone as the criterion, sample as the predictor, and age, gender, and dream recall frequency as covariates revealed that sample was a significant predictor of emotional tone of dreams. The Iranian sample reported a more positive emotional tone relative to those in the U.S. sample [ordered log-odds estimate = .47, *SE* = .22, Wald χ^2 = 4.69, *p* = .03].

3.4. Hypothesis 4: Celebrity dream and nightmare reporting between males and females

We expected women in both countries to report more dreams and nightmares in which their favorite celebrity was

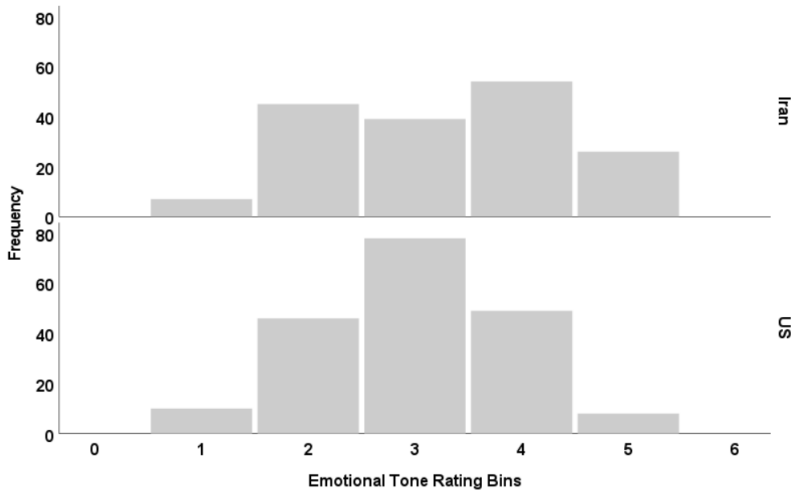

Figure 2. Histograms of ratings of emotional tone of dreams for Iranian and U.S. samples.

Table 1. Pearson's correlation values between frequency of celebrity dreams recalled and CAS scores.

	CAS Total	*CAS* – ES	*CAS* – IP	*CAS* - BP
Celebrity dream frequency				
Iran	.190*	.062	.278**	.228**
U.S.	.374**	.319**	.351**	.338**

Note. *p < .05, **p < .001

present than men. Here, we used ordinal regression analyses with celebrity dream and nightmare recall frequency as the criterion variables, gender and sample as predictors, and age as a covariate. Within the Iranian sample, gender was not a significant predictor of celebrity dream recall frequency [ordered log-odds estimate = -.27, *SE* = .46, Wald χ^2= 0.35, *p* =.55]. Also, within the Iranian sample, gender was not a significant predictor of celebrity nightmare recall frequency when controlling for age [ordered log-odds estimate = .08, *SE* = .59, Wald χ^2 = 0.02, *p* = .90]. Within the U.S. sample, gender was not a significant predictor of celebrity dream recall frequency [ordered log-odds estimate = .63, *SE* =.37, Wald χ^2 = 3.01, *p* = .08]. Also, gender was not a significant predictor of celebrity nightmare recall frequency [ordered log-odds estimate = .97, *SE* =.54, Wald χ^2 = 3.22, *p* = .07].

Within men, sample was neither a significant predictor of celebrity dream recall frequency [ordered log-odds estimate = -.50, *SE* = .58, Wald χ^2 = 0.74, *p* = .39] nor of celebrity nightmare recall frequency [ordered log-odds estimate = -.20, SE = .75, Wald χ^2 = 0.07, *p* = .80]. Within women, sample was not a significant predictor of celebrity dream recall frequency [ordered log-odds estimate = .33, *SE* = .26, Wald χ^2 = 1.63, *p* = .20]. Sample was, however, a significant predictor of celebrity nightmare recall frequency for women, with women in the Iranian sample reporting a higher frequency of recall than women in the U.S. sample [ordered log-odds estimate = .90, *SE* = .42, Wald χ^2 = 4.64, *p* = .03].

3.5. Hypothesis 5: Celebrity dreaming and relationship to *CAS* scores

Within both countries, we expected there to be a positive correlation between *CAS* scores and the frequency of dreams in which the favorite celebrity was present. Table 1 shows the bivariate correlations for frequency of dreams in which the favorite celebrity was present and *CAS* scores (total and subscales *ES*, *IP*, and *BP*) for the Iranian and U.S. samples. As can be seen within the Iranian sample, all relationships were positive but weak. Within the U.S. sample, all correlations were again positive but transitioned into the moderately weak strength category. Using a Fisher's *r*-to-*z* transformation, we examined the difference between the correlation coefficients of the Iranian and U.S. samples. The correlation coefficient for the U.S. sample's relationship between the ES subscale scores and frequency of celebrity dreaming was significantly higher than the coefficient of the Iranian sample, *z* = -2.49, *p* = .013. All other coefficient comparisons between the Iranian and U.S. samples were not significant (*p* > .05).

3.6. Hypothesis 6: Emotional tone of celebrity dreams

We hypothesized that participants in both countries would report having dreams with a more negative tone than a positive tone. Figure 3 shows the distributions of responses for the Iranian and U.S. samples, both of which indicated more positive tone in their celebrity dreams. Ordinal regression with celebrity dream emotional tone as the criterion, sample as the predictor, and age, gender, and celebrity dream recall frequency as covariates revealed that sample was a significant predictor of emotional tone of celebrity dreams with the Iranian sample reporting a less positive emotional tone relative to those in the U.S. sample [ordered log-odds estimate = -.64, *SE* = .23, Wald χ^2 = 7.34, p = .007].

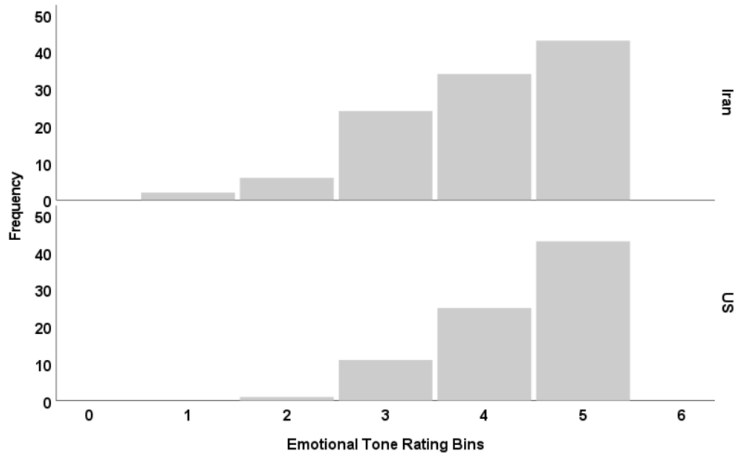

Figure 3. Histograms of ratings of emotional tone of celebrity dreams for Iranian and U.S. samples.

3.7. Hypothesis 7: Romantic fantasies and celebrity dream tone

We expected participants in both countries who reported having romantic fantasies about their favorite celebrities to report having more pleasant dreams than those who report never having romantic fantasies about their favorite celebrities. In the Iranian sample, there was no significant difference in emotional tone of celebrity dream ratings between those who reported having romantic fantasies about their favorite celebrities (M = 3.87, Mean Rank = 51.18) and those who did not (M = 4.10, Mean Rank = 57.06, U = 1589.50, p = .308). In the U.S. sample, we discovered a similar pattern. There was no difference between those who reported having romantic fantasies about their favorite celebrities (M = 4.38 Mean Rank = 40.62) and those who did not (M = 4.38, Mean Rank = 40.42, U = 764.00, p = .965).

4. Discussion

In this work, we examined generalizations about dreaming that emerged from prior research. One generalization was that women tend to report more dreams and nightmares relative to men. A second generalization was that there is continuity in dream content and waking life experiences, the so-called continuity hypothesis. A third generalization was that dreams contain, to a large degree, a negativity bias in which dreams consist of a great deal of negative emotional content. One unique aspect of this study was that we extended the prior work beyond just regular dreaming to dreaming about celebrities, specifically, and how such generalizations related to dreamers' admiration and attitudes toward their favorite celebrities. Another unique aspect was that we examined such generalizations across two different cultures: Iran and United States. This particular extension, to our knowledge, is a first of its kind in terms of not only examining the reported dream content of Iranian people, but comparing that to a culturally-different sample of dreamers from the United States. We tested seven different hypotheses and found partial support on most with interesting differences between cultures.

First, based on prior research, we expected women to report more dreams and nightmares than men in both countries (Georgi et al., 2012; Levin & Nielsen, 2007; Schredl & Reinhard, 2008, 2011; Tribl et al., 2018). Here we found only partial support. Within the Iranian sample, we discovered no significant difference in reported frequency of dreams and nightmares between women and men. However, within the U.S. sample, women reported significantly more dreams and nightmares than men. Further, in comparing the Iranian sample with the U.S. sample, we found that Iranian men reported a higher frequency of dreams than U.S. men, with no difference in nightmare frequency. Within women, Iranian women reported a higher frequency of dreams than U.S. women, but we found no difference in frequency of nightmares. There is evidence of a link between need experiences and daily and recurring dreams (Weinstein et al., 2018). Emotional selection theory describes dreams as modifiers and tests of mental schemas to better meet waking human needs (Coutts, 2008). Perhaps due to the reported lower quality of life in Iran and the greater existence of unmet needs (Kazemi Karyani et al., 2019; Menati et al., 2017), dreaming is an indirect attempt to meet the needs of the Iranian sample.

Second, we found some support for the continuity hypothesis (DeCicco, et al., 2013; Duke & Davidson, 2002; Hall & Nordby, 1972; Levin & Nielsen, 2007; Malinowski, 2016; Morewedge & Norton, 2009; Mota-Rolim et al., 2013; Moverley et al., 2018; Schredl, 2001, 2012; Schredl & Hofmann, 2003; Schredl et al., 2003; Selterman & Drigotas, 2009; Tribl et al., 2018; Weinstein et al., 2018) in terms of dreams but not nightmares within both the Iranian and U.S. samples. Specifically, both the Iranian and U.S. samples reported a high frequency of dreams relating to waking life experiences whereas both samples reported a lower frequency of nightmares relating to waking life experiences. Iranian participants reported a higher occurrence of nightmares relating to waking life than U.S. participants. Arguably, due to the more prominent challenges in the daily lives of Iranians, the continuity between nightmares and waking life is even greater for Iranians than for Americans.

Third, in terms of reported emotional tone of dreams, we did not find support within either sample for the negativity bias (Domhoff, 1996; Hall & Van de Castle, 1966; Malinowski, 2016; Merritt et al., 1994). Specifically, those in the Iranian sample reported a more positive emotional tone of dreams while those in the U.S. sample reported neither a positive nor negative emotional tone, overall. The Iranian sample reported a more positive emotional tone than those in the U.S. sample. In the introduction we noted that the negativity bias is controversial, likely to be found only when independent judges rate the emotions found in dreams, but not when the dreamers themselves do the ratings (Schredl & Doll, 1998; Sikka et al., 2014). Thus, our research tends to support that of Schredl and Doll (1998), and Sikka and colleagues (2014). Further research is needed to clarify this issue.

Fourth, in extending the work on gender differences in dream and nightmare reporting to celebrity dreams and nightmares, we expected to see women report a higher frequency of dreams and nightmares with their favorite celebrity present than men in both countries, consistent with prior work on the subject (Georgi et al., 2012; Levin & Nielsen, 2007; Schredl & Reinhard, 2008, 2011; Tribl et al., 2018). Overall, there was a low reported occurrence of dreams and nightmares in both women and men. Within the Iranian sample, we detected no difference between men and women in reported frequency of dreams or nightmares with a favorite celebrity present. Similarly, within the U.S. sample, we discovered no difference between women and men in frequency of dreams and nightmares with a favorite celebrity present. When we compared between the countries, men in the Iranian sample did not differ in reported celebrity dreams or nightmares from men in the U.S. sample. Women from the Iranian and U.S. samples did not differ in terms of reported celebrity dream frequency, although Iranian women did report significantly more celebrity nightmares relative to the U.S. women. This difference may reflect the greater vulnerability of Iranian women as compared to American women. Despite the detected differences, as mentioned, the overall frequency of such dreams and nightmares was very minimal and thus, such differences should be cautiously interpreted.

Fifth, we expected positive relationships between reported celebrity dream frequency and CAS scores in both samples. We did find positive relationships on total CAS scores and reported celebrity dream frequency, albeit a bit stronger for the U.S. sample than for the Iranian sample. In an attempt to examine such relationships a bit more carefully, we correlated reported celebrity dream frequency with the three

CAS subscales (Entertainment-Social (ES), Intense Personal (IP), and Borderline Pathological (BP). Here, again, we found positive relationships for each sample between reported celebrity dream frequency and subscale scores. These, too, tended to be stronger within the U.S. sample with the only significantly stronger correlation coefficient being on the ES subscale. We assumed that persons who had high CAS scores would spend more waking time thinking about their favorite celebrities that those with low CAS scores. According to the continuity hypothesis, waking time activities are frequently continued at night in the form of dreams. Thus, the results of our fifth hypothesis provide unique support for the continuity hypothesis and offer additional support for the validity of the CAS.

Sixth, we expected that participants in both countries would report dreams about their favorite celebrities as having a more negative tone than a positive tone. We again did not find support for a negativity bias. Specifically, in both the Iranian and U.S. samples, participants reported the emotional tone of such dreams to be more positive than negative. It is possible that interest in celebrities as a leisurely activity may correlate to more positive emotions, similar to positive emotions being associated with music dreams (König et al., 2018). Overall, we did discover that the emotional tone of those in the Iranian sample was more positive than that of those in the U.S. sample.

Seventh, we expected to see a more positive emotional tone for such celebrity dreams if individuals reported having had romantic fantasies about their favorite celebrity relative to those who did not reporting having such fantasies. This hypothesis was not supported. Specifically, there was no difference in emotional tone of celebrity dreams between those who reported having had romantic fantasies about their favorite celebrities and those who reported not having such fantasies. This result was also consistent with the results stemming from our third hypothesis, namely the lack of support for the negativity bias.

Our study had several limitations. First, research on dreaming necessarily involves retrospective reporting about dream content. Such data collection relies heavily on memory, which can be easily distorted. Second, our participant pool consisted of college students who may not be representative of adults in general. Further, while participants in the United States were sampled from three locations, participants in Iran were all recruited from a single institution. Finally, translation of the instruments from English to Persian was necessary to collect data in Iran. Nuanced differences in meaning that occur during translation may affect participant interpretation of questions and subsequent responses. To summarize, we found the expected gender difference in the reporting of dreams in the U. S. sample, but not in Iran. We obtained additional evidence for the well-documented continuity hypothesis for dreams, but not for nightmares. We did not find support for the negativity bias, either in dreams in general, or dreams involving one's favorite celebrity, romantic or otherwise. Consistent with the results of previous research (DeCicco et al., 2013; Tribl et al., 2018), we found a few differences in dreaming between the two different cultures that we studied. We challenge future researchers to resolve the negativity bias controversy, and further our understanding about how cultural differences shape dream content.

References

Alperstein, N.M. & Vann, B.H. (1997). Star gazing: A socio cultural approach to the study of dreaming about media figures. Communication Quarterly, 45(3), 142-152, DOI: 10.1080/01463379709370057

Brooks, S. K., (2018). FANatics: Systematic literature reviews of factors associated with celebrity worship, and suggested directions for future research. Current Psychology. [on-line]. Available: https//DOI.org/10.1007/s12144-018-9978-4

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

Coutts, R. (2008). Dreams as modifiers and tests of mental schemas: An emotional selection hypothesis. Psychological Reports, 102(2), 561-574. https://doi.org/10.2466/pr0.102.2561-574

DeCicco, T. L., Zanasi, M., Dale, A. L., Murkar, A., Longo, G., & Testoni, F. (2013). A cultural comparison of dream content, mood and waking day anxiety between Italians and Canadians. International Journal of Dream Research, 6(1), 8-12.

Domhoff, G. W. (1996). Finding meaning in dreams: A quantitative approach. New York: Plenum Press.

Duke, T. & Davidson, J. (2002). Ordinary and recurrent dream recall of active, past and non-recurrent dreamers during and after academic stress. Dreaming, 12(4), 185-197. https://doi.org/10.1023/A:1021152411010

Erdfelder, E., Faul, F., & Buckner, A. (1996). GPower: A general power analysis program. Behavior Research Methods, Instruments and Computers, 28, 1-11. https://doi.org/10.3758/BF03203630

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(2), 125-129. https://doi.org/10.11588/ijodr.2012.2.9433

Griffith, J., Aruguete, M., Edman, J., Green, T., & McCutcheon, L. E. (2013). The temporal stability of the tendency to worship celebrities. SAGE Open, April-June, 3, 1-5. Doi: 10.1177/2158244013494221

Hall, C. S. & Nordby, V. J. (1972). The individual and his dreams. New York: New American Library.

Hall, C. & Van de Castle, R. (1966). The content analysis of dreams. New York: Appleton-Century-Crofts.

Huynh, H. P., & McCutcheon, L. E. (2021). Humility is inversely related to celebrity interest and admiration. North American Journal of Psychology, 23(1), 95-104.

Kazemi Karyani, A., Rezaei, S., Karami Matin, B., & Amini, S. (2019). Poor health-related quality of life in Iran: Decomposition analysis of affecting factors. International Journal of Human Rights in Healthcare, 12(1), 28-37. https://doi.org/10.1108/IJHRH-05-2018-0036

König, N., Fischer, N., Friedemann, M., Pfeiffer, T., Göritz, A. S., & Schredl, M. (2018). Music in dreams and music in waking: An online study. Psychomusicology: Music, Mind, and Brain, 28(2), 65-70. https://doi.org/10.1037/pmu0000208

Krippner, S., Winkler, M., Rochlen, A., & Yashar, B. (1998). Gender, national, and regional differences in a content analysis of 799 dream reports from research participants in Argentina, Brazil, and the United States. Interamerican Journal of Psychology, 32, 71-79.

Levin, R. & Nielsen, T. A. (2007). Disturbed dreaming, posttraumatic stress disorder, and affect distress: A review and cognitive model. Psychological Bulletin, 133(3), 482-528. Doi: 10.1037/0033-2909.133.3.482

Malinowski, J. E. (2016). Themes in participants' understandings of meaning in their most recent dream: Worries, relationships, and symbolism. International Journal of Dream Research, 9(2), 115-123. https://doi.org/10.11588/ijodr.2016.2.29405

Maltby, J., Houran, J., Lange, R., Ashe, D., & McCutcheon, L. E. (2002). Thou shalt worship no other gods – unless they are celebrities: The relationship between celebrity worship and religious orientation. Personality and Individual Differences, 32, 1157-1172. https://doi.org/10.1016/S0191-8869(01)00059-9

Maltby, J., Houran, J., & McCutcheon, L. E. (2003). A clinical interpretation of attitudes and behaviors associated with celebrity worship. Journal of Nervous and Mental Disease, 191, 25-29. https://doi.org/10.1097/00005053-200301000-00005

Maltby, J., & McCutcheon, L. E. (2001). Correlations between scores on attitudes toward celebrities an authoritarianism. Psychological Reports, 88, 979-980. https://doi.org/10.2466/PR0.88.4.979-980

Martinez-Berman, L., McCutcheon, L., & Huynh, H. P. (2020). Is the worship of celebrities associated with resistance to vaccinations? Relationships between celebrity admiration, anti-vaccination attitudes, and beliefs in conspiracy. Psychology, Health & Medicine, 1-10. https://doi.org/10.1080/13548506.2020.1778754

McCutcheon, L. E., Green, T. D., Besharat, M. A., Edman, J. L., Wenger, J. L., & Shabahang, R. (2020). Values of college students in Iran and the United States who admire celebrities. Psychological Reports, DOI: 10.1177/0033294119898119

McCutcheon, L. E., Lange, R., & Houran, J. (2002). Conceptualization and measurement of celebrity worship. British Journal of Psychology, 93, 67-87. https://doi.org/10.1348/000712602162454

McCutcheon, L. E., Maltby, J., Houran, J., & Ashe, D. D. (2004). Celebrity worshippers: Inside the minds of stargazers. Baltimore: PublishAmerica.

Menati, W., Baghbanian, A., Asadi-Lari, M., Moazen, J., Menati, R., Sohrabivafa, M., Sadeghi Moghaddam, A., Kassani, A. (2017). Health-related quality of life and socioeconomic status: inequalities among adults in West of Iran. Iran Red Crescent Medical Journal, 19(7), e55571. doi: 10.5812/ircmj.55571

Morewedge, C. K., & Norton, M. I. (2009). When dreaming is believing: The (motivated) interpretation of dreams. Journal of Personality and Social Psychology, 96(2), 249-264. DOI: 10.1037/a0013264

Mota-Rolim, S. A., Togino, Z. H., Souza, B. C., Blanco, W., Araujo, J. F., & Ribeiro, S. (2013). Dream characteristics in a Brazilian sample: An online survey focusing on lucid dreaming. Frontiers in Human Neuroscience, 7. Doi.org/10.3389/fnhum.2013.00836

Moverley, M., Schredl, M., & Goritz, A. S. (2018). Media dreaming and media consumption – An online study. International Journal of Dream Research, 11(2), 127-134. https://doi.org/10.11588/ijodr.2018.2.46416

Schredl, M. (2001). Dreams of singles: Effects of waking-life social contacts on dream content. Personality and Individual Differences, 31, 269-275. https://doi.org/10.1016/S0191-8869(00)00135-5

Schredl, M. (2012). Continuity in studying the continuity hypothesis of dreaming is needed. International Journal of Dream Research, 5(1), 1-8. https://doi.org/10.11588/ijodr.2012.1.9306

Schredl, M., Berres, S., Klingauf, A., Schellhaas, S., & Goritz, A. (2015). Factors affecting the frequency of music dreams: An online study. International Journal of Dream Research, 8(2), 139-146. https://doi.org/10.11588/ijodr.2015.2.23473

Schredl, M., Berres, S., Klingauf, A., Schellhaas, S., & Goritz, A. (2014). The Manheim Dream Questionnaire (MADRE): Retest reliability, age, and gender effects. International Journal of Dream Research, 7(2), 141-147. DOI:http://dx.doi.org/10. 11588/ijodr.2014.2,16675

Schredl. M. & Doll, E. (1998). Emotions in diary dreams. Consciousness and Cognition, 7(4), 634-646. https://doi.org/10.1006/ccog.1998.0356

Schredl, M., & Hoffman, F. (2003). Continuity between waking activities and dream activities. Consciousness and Cognition, 12, 298-308. https://doi.org/10.1016/s1053-8100(02)00072-7

Schredl, M., Landgraf, C., & Zeiler, O. (2003). Nightmare frequency, nightmare distress, and neuroticism. North American Journal of Psychology, 5(3), 345-350.

Schredl, M., & Reinhard, I. (2008). Gender differences in dream recall: A meta-analysis. Journal of Sleep Research, 17, 125-131. https://doi.org/10.1111/j.1365-2869.2008.00626.x

Schredl, M., & Reinhard, I. (2011). Gender differences in nightmare frequency: A meta-analysis. Sleep Medical Review, 115-121. Doi:10.1016/j.smrv.2010.06.002

Selterman, D., & Drigotas, S. (2009). Attachment styles and emotional content, stress, and conflict in dreams of romantic partners. Dreaming, 19, 135-151. https://doi.org/10.1037/a0017087

Shahabian, M., Kargar, E., Ferdosi, N. S., Tajik, F., Sorayani, F. J., Moghadam, S. A., Rad, M. E., Jahantiq, H., & Gholamalizade, V. (2018). Validity, reliability and factor analysis the Persian adaptation of Mannheim Dream Questionnaire (MADRE). International Journal of Dream Research, 11(2), 135-140. https://doi.org/10.11588/ijodr.2018.2.46446

Sikka, P., Valli, K., Virta, T., & Revonsue, H. (2014). I know how you felt last night, or do I? Self-and external ratings of emotions in REM sleep dreams. Consciousness and Cognition, 25, 51-66. https://doi.org/10.1016/j.concog.2014.01.011

Tribl, G. G., Beuerle, F., Trindade, M. C., Lorenzi-Filho, G., Pires, J., Barbosa, E. R., & Schredl, M. (2018). Dream reflecting cultural contexts: Comparing Brazilian and German diary dreams and most recent dreams. International Journal of Dream Research, 11(2), 160-171. https://doi.org/10.11588/ijodr.2018.2.48406

Van den Bulck, J. (2004). Media use and dreaming: The relationship among television viewing, computer game play, and nightmares or pleasant dreams. Dreaming, 14(1), 43-49. https://doi.org/10.1037/1053-0797.14.1.43

Weinstein, N., Campbell, R., & Vansteenkiste, M. (2018). Linking psychological need experiences to daily and recurring dreams. Motivation and Emotion, 42, 50-63. Doi: org/10.1007/s11031-017-9656-0

Zadra, A., & Donderi, D. C. (2000). Nightmares and bad dreams: Their prevalence and relationship to well-being. Journal of Abnormal Psychology, 109(2), 273-281. Doi: 10.1037/0021-843x.109.2.273

Zsila, A., McCutcheon, L. E., & Demetrovics, Z. (2018). The association of celebrity worship with problematic Internet use, maladaptive daydreaming, and desire for fame. Journal of Behavioral Addictions. Doi: 10.1556/2006.7.2018.76