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# The Assertive/Vulnerable Dimension of Dreaming Style

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The Assertive/Vulnerable Dimension

of Dreaming Style

(TITLE)

BY

William Andrew Peters

**THESIS**

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
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of Dreaming Style  
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### Abstract

This study involved the exploration of the Assertive/Vulnerable dimension of dreaming style. Assertiveness and Vulnerability, as characteristics of dreaming experience, were measured using the Dreaming Style Questionnaire-Revised that was derived from a revision of Gruber's 1988 Dreaming Style Questionnaire (DSQ.) For this study, the DSQ-R was administered to approximately 2500 participants. The structure, reliability, validity and waking correlates of the Assertive/Vulnerable scale of the DSQ-Revised was explored. Factor analysis replicated the Assertive/Vulnerable dreaming dimension, first uncovered by the original DSQ, as predicted, with the ten Assertive and Vulnerable items loading together to form one bi-polar factor. The exploration of sub-scales of the Assertive and Vulnerable dimensions were also replicated. The Assertive items formed sub-scales labeled Control, Power, Positive Emotion, and Success; while the Vulnerable items formed sub-scales labeled Lack of Control, Fear, Negative Emotion, and Failure. The results of test-retest procedures indicated a moderately high level of reliability (correlation's between .81 and .85.) Additionally, Alpha coefficients indicated good internal consistency for both Assertive and Vulnerable scales (.81 and .86 respectively.) Finally, an investigation of waking personality traits of groups of Assertive and Vulnerable dreamers revealed very similar findings to that of Gruber (1988.) Discriminant analyses identified significant differences between groups of both men and women at  $p < .0001$ . The resulting personality profiles provide support for the continuity of waking and dreaming experiences, as well as further supporting the validity of the Assertive/Vulnerable scale.

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### The Assertive/Vulnerable Dimension of Dreaming Style

Throughout history human beings have been fascinated with questions concerning the meaning and function of their dreams. Until recently, this interest focused almost entirely on the attention to individual dream content. With the discovery of REM sleep in the late 1950's the examination of the processes of dreaming, in contrast to dream content, experienced a significant increase in research interest. With the knowledge that people dream periodically throughout each night, researchers postulated that REM sleep served some vital adaptive or developmental function. Some of the adaptive processes thought to occur during REM are "the consolidation of new experiences into permanent memory" (Kramer 1990), "defensive operations to protect against an overload of affect" (Palombo 1978), "the maintenance, organization, and development of self-image" (Cartwright 1991), and "solving problems from waking life" (Cartwright 1992). Individual differences in dreaming experiences, aside from symbolic meaning, were viewed as related to the efficiency and effectiveness of these processes, thought to be carried out during REM sleep (Ichiyama & Gruber 1992).

Researchers now began to search for coherent, persisting, individual differences in dreaming patterns that might be related to waking variables. In this regard, Foulkes (1985) referred to the "formal organization" of the dream in contrast to "dream content"; Karle, Heart, Corriere, and Woldenberg (1980) contrasted "variable dream processes" with "content"; and Melstrom and Cartwright (1983) have distinguished between "content" and "structural dimensions". Referring to dimensions found to vary from person to person, reference has been made to "characteristic modes of dreaming" (Witkin, 1970),

“patterns of dreaming” (Gershman, 1983; Schwartz et al., 1978), “thematic, affective, and structural dimensions of dreaming” (Starker, 1973), and “style of dreaming” (Gruber, 1985.) Distinctions have been made between dreaming styles identified as “logical and Bizarre” (Giroa, 1981), “symbolic vs. directly expressive” (Hartshorn et al. 1977), “masochistic” (Beck, 1967), “adventuresomeness” and “personal avoidance” (Lang and O’Conner, 1984), and “assertive vs. vulnerable” (Gruber, 1985).

There are a small number of studies where the systematic investigation of dreaming experiences has been attempted using the technique of factor analysis. However in most of these studies, the generalizability of findings has been compromised due to serious methodological shortcomings, such as the initial number and choice of variables to be used in the analysis.

In 1967 Hauri, Sawyer, and Rechtschaffen used factor analysis to uncover eight summary dimensions of dreaming labeled: “Vivid Fantasy”, “Active Control”, “Pleasantness”, “Verbal Aggression”, “Physical Aggression”, “Heterosexuality”, “Perception”, and “Reference to Prior Experiences.” However, the only explanation given regarding the choice of items entered into the analysis was that 20 characteristics were considered relevant in evaluating dream content. In restricting their analysis to just 20 items, they did not provide a basis for assuming that the dimensions reported fully represent the scope of dream parameters.

In another factor analysis procedure aimed at uncovering the basic dimensions of dreaming, Lang and O’Conner (1984), identified five factors labeled: “Personal Avoidance”, “Eroticism”, “Adventuresomeness”, “Emotional Conflict” and “Satisfaction-Integration.” As with the previous example, no

explanation was proposed concerning the initial number and selection of variables analyzed.

A third factor analytic study by Rofe and Lewin (1982), focused entirely on the effects of war on the dreams of Israeli children. Due to the restricted population, this study made no claim for uncovering generalizable styles of dimensions.

A fourth exploration by Gruber (1985), used factor analytic techniques to identify four independent dreaming dimensions labeled: "Involvement", "Salience", "Vulnerability", and "Assertiveness". From these, the Assertive and Vulnerable dreamers were shown to have differences in a number of personality characteristics. Although Gruber addressed the question of how the variables were chosen for analysis, he acknowledged that his focus on nightmares and lucid dreams, as well as a desire to keep variables to a minimum, influenced the selection procedure. This, he reported, compromised the representativeness of the styles uncovered in the study. A more in depth study, by Gruber (1988), led to the formation of the Dreaming Style Questionnaire (DSQ). Gruber reported that the DSQ was formed with the purpose of comprehensively listing and describing basic stylistic and structural components of dream experience.

The focus of the present study is an exploration of the structure, reliability, validity, and waking correlates of the Assertive/Vulnerable dimension of a questionnaire derived from this original DSQ. Therefore, the next section details the formation of the original Dreaming Style Questionnaire (DSQ.) In a later section I will discuss the revisions that went into the formation of the DSQ-Revised.

### The original Dreaming Style Questionnaire

In describing the development of the Dreaming Style Questionnaire, Gruber reported that the initial variables were chosen from a thorough review and content analysis of existing questionnaires and rating scales. Over 300 studies using over 100 separate rating scales and 50 different questionnaires, measuring various aspects of dream experience, were reviewed to insure comprehensiveness and content validity. A total of 1,775 students, 796 men and 979 women, filled out the questionnaire. From this group, 28 participants filled out the dreaming style questionnaire for a second time following a two week interval for an estimation of test-retest reliability. Along with the DSQ, Form A of the 16PF (Cattell, Eber, and Tatsuoka, 1970) was administered as a measure of waking personality. One hundred sixty-one participants were removed from analysis because of low dream recall possibly resulting in difficulty in responding to the DSQ. Another 318 participants were removed from analysis because they showed response set distortions.

Data from the remaining 1,289 respondents DSQ was factor analyzed. The resulting seven factors were labeled as "Negative/Vulnerable", "Positive/Assertive", "Waking Interaction", "Bizarre/Realistic", "Vividness", "Active Participation", and "Eroticism." The close congruence between males and females made it possible to simplify procedures by analyzing men and women together. The results of the combined analyses revealed 67 items that loaded .30 or higher on at least one factor.

Each participant had factor scores computed for them by summing DSQ item scores for each of the seven factors. In order to uncover the styles of dreaming, the factor scores were used as variables in a cluster analysis procedure. Based on the overall similarities of their DSQ factor score profiles,

participants were group into clusters. Cluster analyses were performed on men and women separately providing an opportunity for the examination of potential sex differences in dreaming profiles.

An analysis of the mean, standardized, factor score profiles, representing each of the resulting clusters was performed, with the factor score or scores furthest from the overall factor mean used to define each profile. With this procedure, six clearly identifiable patterns were found for both males and females. These patterns were labeled "Positive/Assertive", "Negative/Vulnerable", "Realistic", "Bizarre", "High-Involvement", and "Low-Involvement."

Due to the proportion of variance accounted for in the factor analysis solution, the Positive/Assertive and Negative/Vulnerable factors were examined further. The items that made up each of these two factors were factor analyzed independently to explore for sub-scales. The Negative/Vulnerable factor was found to be divisible into four sub-scales. These were labeled "Negative Self-Image", "Vulnerable/Afraid", "Threatened", and "Loss." The Positive/Assertive factor was shown to be comprised of three sub-scales, identified as "Assertion/Control", "Accomplishment/Adventure", and "Lucidity."

The next phase of the analysis used discriminant analysis to uncover waking personality variables characteristic of each individual dreaming style. When comparing the six male and six female dreaming style groups with reference groups composed of all participants not in a particular style, all but two were significant at a level of  $p < .01$ . The remaining two groups (male and female Bizarreness styles) were significant at  $p < .05$ . The strongest discrimination between dreaming style groups and reference groups occurred while investigating the Assertive/Vulnerable dimension. Further, direct

comparison of Assertive and Vulnerable dreamers produced very similar profiles to those from reference group comparisons, but showed a distinguishable increase in power of discrimination. Gruber's results of the personality variables that distinguished between the Assertive and Vulnerable styles can be found in Appendix A. The analyses between these two styles were all significant at the  $p < .0001$  level for both male and female groups. Canonical correlation's (the square of these indicates the percent of variance accounted for by the discriminant function) revealed that approximately five times the variance was accounted for when comparing these two groups directly for both males and females. This was considered by Gruber to be strong evidence for conceptualizing extreme Assertive and Vulnerable dreaming experiences as divergent poles of an underlying dream dimension.

#### The formation of the Dreaming Style Questionnaire-Revised (DSQ-R)

Following the analysis of the DSQ, a revised version was formulated by Gruber in 1990. This revision was intended to focus on and improve the measurement of the three bi-polar dreaming style dimensions uncovered by the original DSQ. Six scales comprising the opposing poles of the three dimensions were created. The Assertive and Vulnerable scales each contained 10 questions, while the Realistic, Bizarre, High-Involvement, and Low-Involvement scales were comprised of six items each.

The original DSQ items, with the highest factor loadings, were used in the new questionnaire. Additional items, needed to balanced the dimensions, were created using opposite wording of existing items. For example, Assertive item #3 "I have dreams in which I am successful at solving some problem" was used to form vulnerable item #37 "I have dreams of being unsuccessful at

solving some problems.” This eliminated response set problems, while further establishing the bi-polar format.

Overall scores for each of the three dimensions could now be easily calculated by subtracting each opposing scale from the other. For example, the sum of the Vulnerable scale is subtracted from the sum of the Assertive scale, to create an Assertive/Vulnerable dimension score. With ten items (each item scored from zero to six) in each scale, the overall score for the dimension could range from -60 to 60.

The questions in the questionnaire were arranged in a blocked counter balanced design, keeping opposite sets of questions being apart, while controlling for effects of order on responding.

The revised DSQ was made up of 63 questions, 44 of which measured the three dreaming dimensions (6 Realistic, 6 Bizarre, 6 Low-Involvement, and 6 High-Involvement, and 10 Assertive and 10 Vulnerable questions.) The remaining 19 questions included 3 questions on demographics and 16 questions devoted to different dream phenomena of interest. The DSQ-R can be found in Appendix B.

### The Present Study

The present study is concerned with the examination of the structure, reliability, validity and waking personality correlates of the Assertive/Vulnerable dimension of the Dreaming Style Questionnaire-Revised. It is expected that confirmatory factor analysis will clearly show the three bi-polar dimensions, while discriminant analyses will link these dimensions with waking traits. An exploration of sub-scales of the Assertive and Vulnerable items will also be conducted. An estimation of reliability will be assessed through test-retest analyses. Additionally, alpha coefficients for both sets of items comprising the



Assertive/Vulnerable scale will be calculated as a measure of internal consistency. The results of these procedures are expected to indicate a more than adequate level of reliability and validity.

## Methods

### Participants

A total of 2534 undergraduate students from Eastern Illinois University and the University of Cincinnati volunteered to participate to earn credit for undergraduate psychology courses (data was collected by Gruber 1990 through 1994). This sample was comprised of 991 men and 1543 women with a mean age of 19.8 years. In addition 176 participants filled out the DSQ-R for a second time, following a two week interval, to allow estimation of test-retest reliability.

### Measures

#### The Dreaming Style Questionnaire-Revised

The Dreaming Style Questionnaire-Revised, consisting of 63 Likert scale items, was used as a measure of dreaming style.

#### The 16 Personality Factor Questionnaire

The 16 Personality Factor Questionnaire (16PF, Cattell, Eber, and Tatsuota, 1970) was used as a measure of waking personality. The 16PF was chosen due to its frequent use in dream research and because of its ability to measure a wide range of predominately independent, enduring personality traits. Form A, which consists of 187 multiple choice items, was used. The 16PF's 16 primary and 9 composite scales were scored. Five of the composite scales are second order factors, derived from a factor analysis of the primary factors, while four are composite equations derived from multiple regression

procedures. Descriptions of the primary and composite scales are presented in Appendix C.

Both the test-retest reliability's and construct validities of the 16PF scales are considered to be exceptionally high. The psychometric properties of the scales can be found in the Handbook for the 16PF (Cattell et al. 1970.)

#### Procedure

The Dreaming Style Questionnaire-Revised was administered to all participants. Ninety-one percent (n = 2302) of the 2534 respondents in this study also completed the 16PF. Participants took 40 and 60 minutes to complete both questionnaires. The DSQ-R was administered first, followed by the 16PF. The Dreaming Style Questionnaire-Revised was administered first in order to avoid effects of fatigue on responding to this questionnaire, which was the primary focus of this study. This also allowed for consistent conditions for all participants when filling out the DSQ-R, regardless of whether one or both questionnaires were given. The measures were administered to groups and numeric code was used to identify each set of questionnaires and to assure anonymity.

#### Summary of Analysis

The first step was a confirmatory factor analysis of the DSQ-R data, to determine the underlying structure of the questionnaire. The Assertive and Vulnerable scales were each factor analyzed separately to determine subscales that might further define the dreaming dimensions they represented.

Continuing with analyses, participants were classified into groups of Assertive or Vulnerable dreamers. To accomplish this, an overall Assertive/Vulnerable dimension score was calculated for each participant by

subtracting the sum of their Vulnerable score from the sum of their Assertive score. A frequency distribution of this score led to the formation of five groups of dreamers labeled: "Assertive", "Moderately Assertive", "Neutral", "Moderately Vulnerable", and "Vulnerable."

In order to measure test-retest reliability, participants were placed into one of five groups based on their Assertive/Vulnerable score obtained from the first administration of the DSQ-R. As mentioned above, these groups were labeled Assertive, Moderately Assertive, Neutral, Moderately Vulnerable, and Vulnerable. After placement into one of these five groups, participants were monitored for changes between group membership from test one and test two were calculated. A further measure of test-retest reliability involved correlating initial Assertive/Vulnerable score with scores from test two. Internal consistency for the Assertive and Vulnerable scales was calculated using alpha coefficient. A series of discriminant analyses between the Assertive and Vulnerable dreaming groups determined waking correlates from scales of the 16PF.

### Results

Question 57 on the DSQ asked participants to report the frequency of their dream recall. Participants who reported recalling a dream once a month or less (a score of 5, 6, 7) were removed from analysis procedures. This is due to the likelihood that low recallers would have difficulty in responding to the DSQ. Of the original 2534 participants, 408 were set aside, leaving 2126.

#### Factor Analysis of DSQ-R Data

Data from 2126 respondents was factor analyzed using a principle components procedure followed by Varimax rotation. Eighteen items, not

related to the structure of the dream dimension scales, were not used in the analysis. To determine the number of factors to be extracted, the Scree criteria method (Cattell and Vogelmann, 1977) was employed. An examination of the Scree plot indicated that the questionnaire was composed of three or four factors. Men and women were analyzed separately to determine the similarities and differences between their factor structures. Using loadings of .30 or greater to assign items to factors, the same three factors appeared in both analyzes, with one difference in their order of extraction (factors II and III were reversed.) This close congruence in factors led to the decision to simplify procedures by factor analyzing data from all participants together. An examination of this factor structure reveals precise confirmation of the three underlying bi-polar dimensions. The three factors were labeled "Assertive/Vulnerable", "Realistic/Bizarre", and "High-Involvement/Low-Involvement." Factor one was comprised of 9 out of 10 Assertive items and 10 of 10 Vulnerable items. Factor two was comprised of 11 out of 12 of the Realistic and Bizarre items. Five High-Involvement items and five Low-Involvement items comprised factor three. The results of these three initial factor analyses (men, women, and together) are presented in Table 1.

A factor analysis extracting four factors resulted in a precise split of the Assertive items from the Vulnerable items, with the Assertive scale becoming factor three. The results of this analysis are presented in Table 2. In this

Table 1

Description of Dreaming Style Questionnaire-Revised (DSQ-R) Three Factors  
With Items Arranged in order of Factor Loading

---

Loading	DSQ-R#	Items Comprising Factors
Factor I - Assertive/Vulnerable for Men and Women		
-.67	26	positive self-image
.65	35	feel anxious or worried
-.65	2	feel happy or pleased
.63	36	feel sad or disappointed
.63	12	feel afraid or terrified
-.60	1	feel relaxed or at ease
-.58	24	feel fearless or brave
.57	16	seem to be or feel Vulnerable
-.54	28	I can strongly influence
.51	14	self-image seems very negative
-.51	27	I can do things to make my dreams turn out better
.50	15	I can't control
-.49	3	successful at solving some problem
.48	39	feelings of being rejected
-.47	4	feelings of being accepted by others
.45	37	unsuccessful at solving some problems
.41	13	dreams of being injured or hurt
-.40	25	I possess super-human strength or abilities
.33	38	dreams of losing something valuable

Note: Variance Accounted for = 15.3%

---

Table 1 (cont.)

---

Loading	DSQ-R#	Items Comprising Factors
Factor II - Realistic/Bizarre for Men and Women		
.70	20	settings seem unreal, Bizarre, or weird
.69	30	dreams seems very strange or distorted
.68	31	dreams seem to be about strange occurrences
-.62	42	settings seems very close to real life
-.60	41	settings which are familiar
.59	18	characters are often complete strangers
.59	19	settings are completely unknown
-.53	8	dream about things that could actually happen to me
-.51	40	characters are well known to me
.44	29	my dreams are bewildering
-.41	7	dreams are a direct representation of my waking life
< .3	6	dreams made up of an orderly sequence of events
< .3	32	I am an observer or bystander

Note: Variance Accounted for = 11.1%

---

Factor III - High-Involvement/Low-Involvement for Men and Women

.64	44	mood before sleep effects dreams
.63	11	upset during day/will show up in my dreams
.62	10	try to learn things from my dreams
.61	43	I make an effort to control my dreams
.60	45	mood in the morning is affected by my dreams
-.54	33	I make an effort to understand my dreams
-.48	21	not important for me to remember my dreams
-.45	34	waking life has little effect on my dreams
-.43	23	dreams have little effect on my waking emotions
-.37	22	dreams are not affected by evening mood
< .3	9	always an active participant in my dreams

Note: Variance Accounted for = 8.0%

---

Table 1 (cont.)

---

Loading	DSQ-R#	Items Comprising Factors
Factor I - Assertive/Vulnerable for Men		
-.65	26	positive self-image
.64	16	seem to be or feel Vulnerable
.64	35	feel anxious or worried
.63	12	feel afraid or terrified
.62	36	feel sad or disappointed
-.60	2	feel happy or pleased
.59	14	self-image seems very negative
.57	15	I can't control
-.56	24	feel fearless or brave
-.64	1	feel relaxed or at ease
.51	39	feelings of being rejected
.51	37	unsuccessful at solving some problems
-.50	28	I can strongly influence
-.48	27	I can do things to make my dreams turn out better
-.44	4	feelings of being accepted by others
.40	13	dreams of being injured or hurt
-.39	3	successful at solving some problem
.38	38	dreams of losing something valuable
.38	37	unsuccessful at solving some problems
< .3	4	I find valuables or money
< .3	32	I am an observer or bystander

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Note: Variance Accounted for = 14.3%

---

Table 1 (cont.)

---

Loading	DSQ-R#	Items Comprising Factors
Factor II - High-Involvement/Low-Involvement for Men		
.62	44	mood before sleep effects dreams
.61	10	try to learn things from my dreams
.61	43	I make an effort to recall my dreams
.60	11	upset during day/will show up in my dreams
-.59	33	I make an effort to understand my dreams
.57	45	mood in the morning is affected by my dreams
-.56	21	not important for me to remember my dreams
-.49	34	waking life has little effect on my dreams
-.48	23	dreams have little effect on my waking emotions
-.38	22	dreams are not affected by evening mood
< .3	9	always an active participant in my dreams

Note: Variance Accounted for = 10.1%

---

Factor III - Realistic/Bizarre for Men		
.68	20	settings seem unreal, Bizarre, or weird
.67	30	dreams seems very strange or distorted
.64	31	dreams seem to be about strange occurrences
-.63	42	settings seems very close to real life
-.62	41	settings which are familiar
.59	19	settings are completely unknown
.55	18	characters are often complete strangers
-.53	40	characters are well known to me
-.51	8	dream about things that could actually happen to me
-.40	7	dreams are a direct representation of my waking life
-.36	25	I possess super-human strength or abilities
.36	29	my dreams are bewildering
< .3	6	dreams made up of an orderly sequence of events

Note: Variance Accounted for = 8.0%

---



Table 1 (cont.)

---

Loading	DSQ-R#	Items Comprising Factors
Factor I - Assertive/Vulnerable for Women		
.70	35	feel anxious or worried
.68	36	feel sad or disappointed
-.67	2	feel happy or pleased
.66	12	feel afraid or terrified
-.66	26	positive self-image
-.66	1	feel relaxed or at ease
.59	16	seem to be or feel Vulnerable
-.56	24	feel fearless or brave
.53	14	self-image seems very negative
.52	39	feelings of being rejected
.50	15	I can't control
-.50	4	feelings of being accepted by others
.50	13	dreams of being injured or hurt
.48	37	unsuccessful at solving some problems
-.48	28	I can strongly influence
-.48	3	successful at solving some problem
-.48	27	I can do things to make my dreams turn out better
.46	38	dreams of losing something valuable

Note: Variance Accounted for = 15.8%

---

Table 1 (cont.)

---

Loading	DSQ-R#	Items Comprising Factors
Factor II - Realistic/Bizarre for Women		
.69	20	settings seem unreal, Bizarre, or weird
.69	30	dreams seems very strange or distorted
.68	31	dreams seem to be about strange occurrences
.62	18	characters are often complete strangers
-.62	42	settings seems very close to real life
-.60	41	settings which are familiar
.60	19	settings are completely unknown
-.52	8	dream about things that could actually happen to me
-.51	40	characters are well known to me
.50	29	my dreams are bewildering
-.40	7	dreams are a direct representation of my waking life
-.38	25	I possess super-human strength or abilities
< .3	6	dreams made up of an orderly sequence of events
< .3	32	I am an observer or bystander

Note: Variance Accounted for = 10.8%

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Factor III - High-Involvement/Low-Involvement for Women		
.61	44	mood before sleep effects dreams
.59	11	upset during day/will show up in my dreams
.59	10	try to learn things from my dreams
.56	43	I make an effort to recall my dreams
.56	45	mood in the morning is affected by my dreams
-.44	33	I make an effort to understand my dreams
-.37	21	not important for me to remember my dreams
-.37	34	waking life has little effect on my dreams
-.34	23	dreams have little effect on my waking emotions
-.33	22	dreams are not affected by evening mood
< .3	9	always an active participant in my dreams
< .3	38	dreams of losing something valuable

Note: Variance Accounted for = 8.4%

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Table 2

Description of Dreaming Style Questionnaire-Revised (DSQ-R) Four Factors  
With Items Arranged in order of Factor Loading

---

Loading	DSQ-R#	Items Comprising Factors
Factor I - Vulnerable for Men and Women		
.75	36	feel sad or disappointed
.70	35	feel anxious or worried
.69	12	feel afraid or terrified
.64	39	feelings of being rejected
.64	16	seem to be or feel Vulnerable
.63	37	unsuccessful at solving some problems
.62	14	self-image seems very negative
.60	13	dreams of being injured or hurt
.56	38	dreams of losing something valuable
.54	15	I can't control
< .3	32	I am an observer or bystander

Note: Variance Accounted for = 15.3%

---

Factor II - Realistic/Bizarre for Men and Women		
-.71	42	settings seems very close to real life
-.69	41	settings which are familiar
.67	20	settings seem unreal, Bizarre, or weird
.66	30	dreams seems very strange or distorted
.64	31	dreams seem to be about strange occurrences
-.61	8	dream about things that could actually happen to me
.58	19	settings are completely unknown
-.58	40	characters are well known to me
.55	18	characters are often complete strangers
-.48	7	dreams are a direct representation of my waking life
.39	29	my dreams are bewildering
.35	6	dreams made up of an orderly sequence of events

Note: Variance Accounted for = 11.1%

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Table 2 (cont.)

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Loading	DSQ-R#	Items Comprising Factors
Factor III - Assertive for Men and Women		
.67	28	I can strongly influence
.67	27	I can do things to make my dreams turn out better
.65	24	feel fearless or brave
.63	26	positive self-image
.59	25	I possess super-human strength or abilities
.57	3	successful at solving some problem
.54	2	feel happy or pleased
.51	4	feelings of being accepted by others
.50	1	feel relaxed or at ease
.49	4	I find valuables or money
< .3	32	I am an observer or bystander

Note: Variance Accounted for = 8.0%

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Factor IV - High-Involvement/Low-Involvement for Men and Women		
-.75	33	I make an effort to understand my dreams
.72	43	I make an effort to recall my dreams
-.69	21	not important for me to remember my dreams
.65	10	try to learn things from my dreams
-.56	34	waking life has little effect on my dreams
.56	45	mood in the morning is affected by my dreams
.54	44	mood before sleep effects dreams
-.54	23	dreams have little effect on my waking emotions
.53	11	upset during day/will show up in my dreams
-.50	22	dreams are not affected by evening mood

Note: Variance Accounted for = 6.1%

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solution the Assertive/Vulnerable factors did not appear bi-polar. Therefore, a correlation was performed to determine the extent of bi-polarity of these factors. The resulting correlation is considered moderate at  $-.32$ .

Finally, alpha coefficients for both sets of items comprising the Assertive and Vulnerable scales were calculated as a measure of internal consistency. The Assertive items and the Vulnerable items were found to have Alpha's of  $.81$  and  $.86$  respectively.

#### Further Exploration of the Assertive and Vulnerable Dimensions

In order to further explore the Assertive and Vulnerable factors, the ten Assertive items were factor analyzed independently, as were the ten Vulnerable items. As with the previous factor analyses performed, a principle components analysis was followed by a Varimax rotation. An exploration of numerous possible structures indicated that both the Assertive and Vulnerable questions were composed of four factors. The analysis of the Vulnerable factor showed it was clearly divisible into four sub-factors. These were labeled "Lack of Control", "Failure", "Negative Emotion", and "Fear." An analysis of the Assertive factor revealed four factors labeled "Control", "Success", "Positive Emotion", and "Power." Table 3 lists the sub-scales comprising both the Assertive and Vulnerable factors.

#### Dreaming Style Group Membership.

As mentioned above, a persons overall Assertive/Vulnerable score was calculated by subtracting their total Vulnerable factor score from their total Assertive score. This calculation would place a participant somewhere within

Table 3

Secondary Factor Analysis of DSQ-R for Men and Women combined

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Loading	DSQ-R#	Items Comprising Factors
The Four factors of the Vulnerable scale		
<u>Lack of Control</u> (Variance Accounted for = 45.3%)		
.83	15	I can't control
.75	16	seem to be or feel Vulnerable
<u>Failure</u> (Variance Accounted for = 11.1%)		
.81	14	self-image seems very negative
.76	39	feelings of being rejected
.56	37	unsuccessful at solving some problems
<u>Negative Emotion</u> (Variance Accounted for = 8.4%)		
.77	38	dreams of losing something valuable
.64	36	feel sad or disappointed
.56	35	feel anxious or worried
<u>Fear</u> (Variance Accounted for = 7.4%)		
.88	13	dreams of being injured or hurt
.67	12	feel afraid or terrified

---

Table 3 (Cont.)

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Loading	DSQ-R#	Items Comprising Factors
The Four factors of the Assertive scale		
<u>Emotion</u> (Variance Accounted for = 38.0%)		
.86	1	feel relaxed or at ease
.85	2	feel happy or pleased
.48	26	positive self-image
<u>Control</u> (Variance Accounted for = 14.0%)		
.90	28	I can strongly influence
.90	27	I can do things to make my dreams turn out better
<u>Power</u> (Variance Accounted for = 10.5%)		
.85	25	I possess super-human strength or abilities
.67	24	feel fearless or brave
<u>Success</u> (Variance Accounted for = 7.8%)		
.72	4	feelings of being accepted by others
.62	3	successful at solving some problem
.62	38	dreams of losing something valuable

---

the range of -60 (Vulnerable) to +60 (Assertive). The means and standard deviations for men, women, and all participants combined were 4.3/16.5, -2.5/17.3, and .21/17.4 respectively. It was decided that participants with scores in the top 25% the distribution would be classified as "Assertive," and those scoring in the lower 25% of the distribution would be classified "Vulnerable." The Assertive group mean and standard deviation (all participants) was 22 and 7.9 respectively. The Vulnerable group mean and standard deviation (all participants) was 22 and 9.8 respectively. Participants that scored within the next 15% were classified as "Moderately Vulnerable" or "Moderately Assertive," leaving the middle 20% as the "Neutral" group. Frequency distributions of the Assertive/Vulnerable score for men, women, and both combined, can be found in Appendix D. A frequency distribution of individual Assertive and Vulnerable item scores for men, women, and all participants combined, are in Appendix E.

Test-Retest Reliability.

The dreaming style groups were used in a measure of test-retest reliability. These groups were formed with cutoffs from the combined sexes Assertive/Vulnerable score frequency distribution. Of the 176 participants who completed the DSQ-R a second time following a two week interval, 64 fell into either the Assertive or Vulnerable group after the first administration. Following the second administration, 44 of these 64 remained in their original group, and 11 moved to their respective Moderate groups (results of this procedure are represented in Table 4). Only seven of the 64 moved to Neutral, and only 3 switched over to the opposite Moderate group. These results indicate that of the participants who were classifiable into one of the two extreme groups, 69%



Table 4

Group Membership Monitoring Procedure

	Administration 1	Administration 2
Assertive*	N = 22	N = 28 16 Ast. remained from admin. 1 (73%) 4 went to Mod. Ast. 2 went to Neutral 12 New Assertive 8 from Mod. Ast. 4 from Neutral
Vulnerable*	N = 42	N = 31 28 Ast. remained from admin. 1 (67%) 6 went to Mod. Vul. 5 went to Neutral 2 went to Mod. Ast. 3 New 1 from Mod. Ast. 2 from Neutral

\*Note: The extreme groups are comprised of the top and bottom 25% of the ast/vul distribution (men and women combined.) The 15% below both extremes are the moderate groups, and the middle 20% of this distribution is the Neutral group.

remained in the same group, with 85% scoring in the extreme or moderate direction. Less than five percent actually changed style. Within the Assertive group, the mean change of participants Assertive/Vulnerable score between the first and second administration was 6. Within the Vulnerable group, the mean change of participants Assertive/Vulnerable score between the first and second administration was 8.

Also employed in the estimation of test-retest reliability were correlation's between the first and second administration Assertive, Vulnerable, and Assertive/Vulnerable scores. The correlation between the first and second administrations Vulnerable scores was .82 ( $p < .0001$ ); the correlation between the Assertive scores was .83 ( $p < .0001$ ); and the correlation between the Assertive/Vulnerable scores was .85 ( $p < .0001$ ).

#### Discriminant Analysis

Readers attempting to interpret the results should be cautioned that careful interpretation of the 16PF is required to make subtle judgments concerning the meaning of individual scales within a given profile. Readers who want a more thorough understanding of the profile interpretation procedure, should refer to the Handbook for the 16PF (Cattell et al., 1970) or A Guide to Clinical Uses of the 16PF (Karson & O'Dell, 1976.)

Both the primary scales and the Composite scales were used in the discriminant analysis. Because the composite scales are combinations of the primary scales, these two sets of variables were analyzed separately. Refer to Appendix C for a description of the 16PF scales.

Due to the large group sizes and the use of multiple discriminant analysis procedures, an alpha level of .01 was used to determine significance. In addition, any discriminant function canonical correlation coefficient of less than .30, even if significant, was considered to be of marginal utility when discussing results (although the results are significant, the canonical correlation suggests that minimal variance is accounted for).

Individual variables were considered to be meaningful discriminators if they appeared on the discriminant function. Additionally, variables with a total structure coefficient (the product moment correlation between the individual variables and the discriminant function) above .30 and a univariate F significant at  $p < .05$  was required for a variable to be considered as a discriminator.

The discriminant analysis procedures, the Assertive group against the Vulnerable group for both sexes, were found to be significant at the  $p < .0001$  level. Table 5 presents the significant personality variables that discriminate between the Assertive and Vulnerable groups. Variables are listed in order of importance, as determined by the magnitude of their total structure coefficients.

The 16PF waking personality variables that discriminated between Assertive dreamers and Vulnerable dreamers are as follows. Males scoring in the Assertive range were found to be emotionally stable (C), dominant (H), relaxed (Q4), self-assured (O), enthusiastic (F), adjusted (VI), leaders (VII), low on anxiety (II), extroverted (I), and independent (IV). In contrast, males who scored in the Vulnerable range were found to be affected by feelings (C), shy (H), tense (Q4), apprehensive (O), sober (F), neurotic (VI), anxious (II), introverted (I), and subdued (IV). Females who scored in the Assertive area

Table 5

16PF Personality Scales Differentiating Opposing dreaming Styles


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Comparison of Male Assertive and Vulnerable Dreamers			
	Assertive Style (N = 182)	Vulnerable Style (N = 177)	TSC

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Primary Scales ( $p < .0001$ ; c.c. = .40)

C*	Emotionally Stable	Affected by Feelings	.80
H*	Dominant	Shy	.63
Q4*	Relaxed	Tense	-.58
O	self-Assured	Apprehensive	-.47
F	Enthusiastic	Sober	.36

Classification Results - Percent of "grouped" cases correctly classified: 67.69%

---

Secondary Scales ( $p < .0001$ ; c.c. = .37)

VI*	Adjustment	Neuroticism	1.00
VII	Higher Leadership	Lower Leadership	-.82
II	Lower Anxiety	Higher Anxiety	.79
I	Extroversion	Introversion	.48
IV	Independence	Subduedness	-.42

Classification Results - Percent of "grouped" cases correctly classified: 65.18%

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\* Variables on the Discriminant Function

Note: c.c. = Canonical Correlation

Table 5 (cont.)

Comparison of Female Assertive and Vulnerable Dreamers			
	Assertive Style (N = 295)	Vulnerable Style (N = 285)	TSC
Primary Scales ( $p < .0001$ ; c.c. = .49)			
C*	Emotionally Stable	Affected by Feelings	.83
O*	self-Assured	Apprehensive	-.71
Q4*	Relaxed	Tense	-.68
H	Dominant	Shy	.31
Classification Results - Percent of "grouped" cases correctly classified: 69.14%			
Secondary Scales ( $p < .0001$ ; c.c. = .48)			
II*	Lower Anxiety	Higher Anxiety	.97
VI*	Adjustment	Neuroticism	.89
VII	Higher Leadership	Lower Leadership	-.76
I	Extroversion	Introversion	-.33
Classification Results - Percent of "grouped" cases correctly classified: 70.86%			

\* Variables on the Discriminant Function

Note: c.c. = Canonical Correlation

were found to be emotionally stable (C), self-assured (O), relaxed (Q4), dominant (H), low on anxiety (II), adjusted (VI), leaders (VII), and extroverted (I). Conversely, females who were Vulnerable were found to be affected by feelings (C), apprehensive (O), tense (Q4), shy (H), anxious (II), neurotic (VI), and introverted (I).

## Discussion

### The Structure of the Assertive/Vulnerable Dimension

Confirmatory factor analysis of the Dreaming Style Question-Revised data uncovered the three expected bi-polar factors, labeled Assertive/Vulnerable, Realistic/Bizarre, and High-Involvement/Low-Involvement. The first of the three factors, accounting for the largest portion of variance, was comprised of all ten negatively loaded Vulnerable items and nine positively loaded Assertive items. The loading of these two sets of items as one factor attests the bi-polar nature of the Assertive/Vulnerable dimension. However, when a fourth factor is extracted the Assertive and Vulnerable questions split, while the two other factors, Realistic/Bizarre and High-Involvement/Low-Involvement, remained relatively unchanged. This finding, as well as the moderately low negative correlation between the Assertive and Vulnerable scale scores, may indicate that this dimension is not truly bi-polar. While bi-polarity is the case for most individuals (i.e. a low score on one scale is matched by a high score on the other), some people may score high, low, or moderately, on both scales. However, the use of extreme groups in data analyses effectively eliminates participants who's scores follow one of these "non-bi-polar" response patterns.

Overall, the factor structure and item loadings were extremely consistent on separate analyses of men and women, indicating that the DSQ-R does tap stable constructs, that underlie dreaming experiences. The very clear confirmation of this underlying structure also provides strong support for the use of self-report questionnaires in the exploration of dream experiences.

Additional factor analyses of the Assertive and Vulnerable items, revealed that both were comprised of four sub-scales. Although these sub-factors were highly correlated with each other, the high item factor loadings provide support for the existence and meaningfulness of these underlying structures. Additionally, the four sub-factors that comprise the Assertive style (Control, Success, Positive Emotion, and Power) and the Vulnerable style (Lack of Control, Failure, Negative Emotion, and Fear), appear to provide a conceptually clear division of these dimensions. Inspection of these sub-factors suggests that exploration of dreaming experience may shed light on basic underlying cognitive and personality processes common to both dreaming and waking (Gruber, Steffen, and Vonderhaar 1995).

#### The Reliability of the Assertive/Vulnerable Dimension

One of the main goals of this study is to determine whether the Assertive/Vulnerable scale can provide a reliable measure of an individual's dreaming experience. This scale reliably measures an individual's dreaming Assertiveness or Vulnerability. Monitoring change in participants' Assertive/Vulnerable scores over a two-week period, indicates this scale's reliability as well as the stability of this dreaming style over time. After the second administration of the DSQ-R, an average of 70% of participants

remained in their initial group. Of the 30% of individuals that changed dreaming style group, more than half moved into the adjacent moderate level. Additionally, the correlations between the first and second administrations of Assertive, Vulnerable, and Assertive/Vulnerable scores (.83, .82, .85, respectively), all indicate a high level of reliability. The slightly higher test-retest correlation coefficient of the Assertive/Vulnerable score, as compared to either the Assertive or Vulnerable score alone, supports the meaningfulness and utility of conceptualizing Assertive/Vulnerable as a bi-polar scale. Finally, internal consistency is supported by the high alpha coefficients (.81 through .86) obtained from the two sets of items comprising the Assertive/Vulnerable scale.

In addition to achieving the results that were predicted for this study, there was an unexpected finding worth noting. The mean score of the Assertive/Vulnerable scale -- created by removing low-recallers and then subtracting Vulnerable from Assertive factor scores for males and females combined, was about two tenths of a point away from zero, at +.21. This is somewhat unusual, as a mean so close to the center of a scale, which ranges from -60 through +60 (SD = 17.4), indicates an extremely balanced choice of items and wording.

#### The Validity of the Assertive/Vulnerable Dimension

A careful reading of both the Assertive and Vulnerable questions suggests a high level of face validity, as these questions directly address this dimension. The content validity of this scale was initially insured during Gruber's 1988 review of 300 studies, 44 questionnaires, and 100 scales. This review was followed with a second content analysis, performed by five clinical



psychology graduate students, that examined items for redundancy, clarity of meaning, directness of wording, and answerability through retrospective recall. These steps, plus the revisions that produced the DSQ-R, insure adequate content validity of the Assertive and Vulnerable scales.

Results of the discriminant analyses were all highly significant ( $p < .0001$ ). The results provide support for the concurrent or construct validity of the Assertive/Vulnerable scale. When this component of dreaming style is related with waking personality, as measured by the 16PF, there is a strong parallel between style of dreaming and waking traits. For example, Assertive dreamers are not only represented by traits that appear healthy or adaptive during dreaming (i.e. assertive, positive image, successful, in control), but they also seem to be characterized similarly in waking life (i.e. emotionally stable, relaxed, self-assured). On the other hand, Vulnerable dreamers are characterized as anxious, sad, afraid, unsuccessful, and rejected by others while dreaming and emotionally less stable, easily upset, timid, and troubled while awake. This congruence between waking and dreaming, along with the clear differences between assertive and vulnerable dreamers, provides strong evidence for both the reliability and validity of this scale.

#### Implications and Future Directions

Current findings provide support for the contention that stable styles of dreaming exist and can be accurately measured. Findings indicate that there are both consistencies within, and differences between, individuals' dreaming experiences. Further, these differences appear to be clearly related to waking personality. These findings support the continuity, or paralleling, view of

dreaming, which states that dreams most often parallel, or are continuous with waking experiences.

Along with specific findings regarding dreaming style, this study indicates that self-report retrospective recall questionnaires can be successfully used to measure dreaming experiences. These processes, thought to be inaccessible or difficult to measure at best, appear to be accessible when data has been gathered from large samples. Recent technology has provided scientists with a convenient, and often easy way, to analyze large amounts of data from thousands of participants. The development and rapid improvement of computer technology has allowed complex statistical procedures to be used in data analysis. Some advanced statistical analyses used in this study involved tens of millions of calculations. These statistical procedures, such as factor analysis, provide a means by which measurement error can be greatly reduced. It is in part this measurement error, that until recently, has made the examination of dreams, and other similar underlying processes, a very difficult task.

As with any sample that is comprised almost totally of college students, there is concern over the generalizability of the findings. Although it is my opinion that the dynamics of this dreaming dimension cross age, race, and culture, a more representative sample would benefit future research in this area.

Another direction for future research involves focus on compensators and parallelers. Individuals who are parallelers have dreams that directly represent their waking experience, compensators have dreams that compensate for missing aspects of their waking lives. Past research has indicated that most people have dreams that parallel their waking experience (Klimek, Gruber, &

Peters 1996). However, during the course of the current study, it was discovered that there appear to be greater number of individuals displaying a compensatory style than would be expected. There were as many participants who were classified as dominant while awake and vulnerable during dreaming as there were submissive (waking) vulnerable (dreaming) individuals. Likewise there were as many submissive while awake-- assertive while dreaming participants as submissive -- vulnerable individuals. Future research may indicate individual differences in patterns of compensation and continuity may be a crucial component of dream function.

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Appendix A

16PF Personality Scales Differentiating Opposing dreaming Styles from original  
DSQ, 1988

16PF Personality Scales Differentiating Opposing dreaming Styles from original DSQ, 1988

---

Comparison of Male Assertive and Vulnerable Dreamers

---

	Assertive Style	Vulnerable Style	TSC
Primary Scales ( $p < .0001$ ; c.c. = .55)			
O*	Self-Assured	Apprehensive	.80
Q4*	Relaxed	Tense	.78
Q3	Controlled	Undisciplined	-.51
C	Emotionally Stable	Affected by Feelings	-.51
G*	Conscientious	Expedient	-.48
Secondary Scales ( $p < .0001$ ; c.c. = .52)			
II	Lower Anxiety	Higher Anxiety	1.00
VI	Adjustment	Neuroticism	.83
VII	Higher Leader	Lower Leadership	-.75
V	Higher Control	Lower Control	-.39
I	Extroversion	Introversion	-.34

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\* Variables on the Discriminant Function  
Note: c.c. = Canonical Correlation



Appendix A(Cont.)

16PF Personality Scales Differentiating Opposing dreaming Styles from original DSQ, 1988

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Comparison of Women Assertive and Vulnerable Dreamers

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	Assertive Style	Vulnerable Style	TSC
Primary Scales ( $p < .0001$ ; c.c. = .52)			
C*	Emotionally Stable	Affected by Feelings	.89
N*	Forthright	Shrewd	-.48
O	Self-Assured	Apprehensive	-.44
Q4	Relaxed	Tense	-.38
H	Bold	Shy	.37
Secondary Scales ( $p < .0001$ ; c.c. = .40)			
VI*	Adjustment	Neuroticism	1.00
VII	Higher Leader	Lower Leadership	.83
II	Lower Anxiety	Higher Anxiety	.77

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\* Variables on the Discriminant Function

Note: c.c. = Canonical Correlation

Appendix B

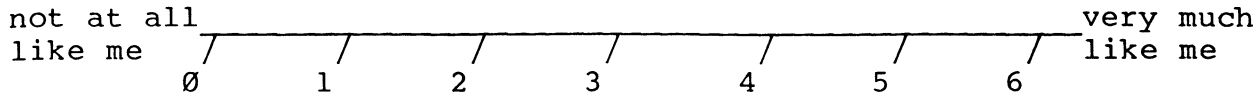
The Dreaming Style Questionnaire-Revised

## DREAMING STYLE QUESTIONNAIRE

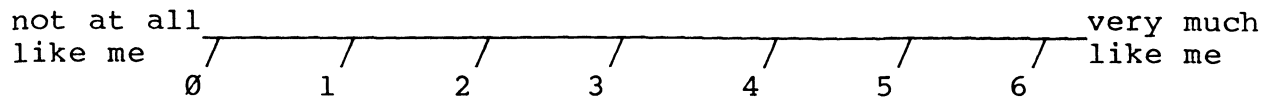
### INSTRUCTIONS:

The following questions ask you to think about your dream experiences and rate them on a seven-point scale. The questions will be answered on a scale ranging from (0) = not at all like me through (6) = very much like me. Please think carefully about what you remember of your dreaming experiences and answer the questions by filling in the circle on the separate answer sheet which corresponds to the rating you've chosen. Be careful NOT to answer the questions as you WISH your dreams to be or how you feel while awake, but rather as you ACTUALLY remember them. All questions are to be answered on the separate answer sheet. Please do not write on the questionnaire itself.

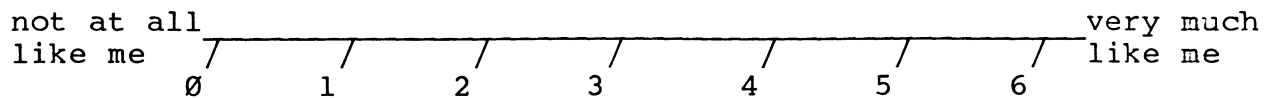
Please read each question carefully. Take your time and answer the questions as thoughtfully and honestly as possible. Thank you for the contribution you have made to our knowledge of dreaming by filling out this questionnaire.



1. I often feel relaxed or at ease in my dreams.
2. I often feel happy or pleased in my dreams.
3. I have dreams in which I am successful at solving some problem.
4. I have dreams of finding valuables or money.
5. I have feeling of being accepted by others in my dreams.
6. My dreams are often made up of an orderly sequence of events or seem to have a basic theme.
7. My dreams seem to be a fairly direct representation of my waking life.
8. My dreams seem to be about everyday things that actually could happen in reality.
9. I am always an active participant or the central character in my dreams.
10. I try to learn things about myself from my dreams (feelings, conflicts, etc.).
11. When I am upset about something during the day it often shows up in my dreams.
12. I often feel afraid or terrified in my dreams.
13. I sometimes have dreams of being injured or hurt.
14. I have dreams where my self-image seems very negative (I am unattractive, incompetent or unfortunate).



15. In my dreams things seem to happen to me that I can't control.
16. I seem to be or feel very vulnerable in my dreams.
17. I often have nightmares.
18. Characters in my dreams are often complete strangers.
19. My dreams most often seem to be taking place in settings which are completely unknown.
20. My dream settings seem unreal, bizarre, or wierd.
21. It is not important to me to recall my dreams.
22. My dreams are not affected by my evening mood.
23. My dreams have very little effect on my waking emotions.
24. I often feel fearless or brave in my dreams.
25. During a dream I have found that I possess super-human strength or abilities.
26. I have dreams where my self-image seems very positive (I am attractive, competent, or fortunate).
27. I find that while dreaming, I can do things to make my dreams turn out better.
28. In my dreams I feel that I can strongly influence what happens.

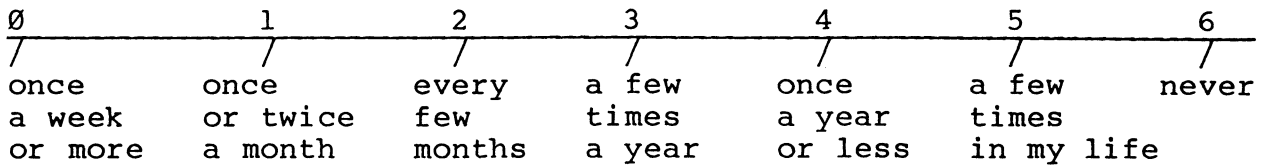


29. I feel that my dreams are bewildering and I can't imagine what they might be about.
30. My dreams seem very strange or distorted compared to waking life (filled with bizarre or impossible happenings).
31. My dreams seem to be about strange occurrences that could not actually happen in reality.
32. I seem to be an observer or bystander to events in my dreams.
33. I usually do not make an effort to understand my dreams.
34. My waking life seems to have little effect on the events in my dreams.
35. I often feel anxious or worried in my dreams.
36. I often feel sad or disappointed in my dreams.
37. I have dreams of being unsuccessful at solving some problems.
38. I have dreams of losing something valuable.
39. I have feelings of being rejected by others in my dreams.
40. Characters in my dreams are often well known to me.
41. My dreams most often seem to be taking place in settings which are very familiar.
42. My dream settings seem very close to real life.

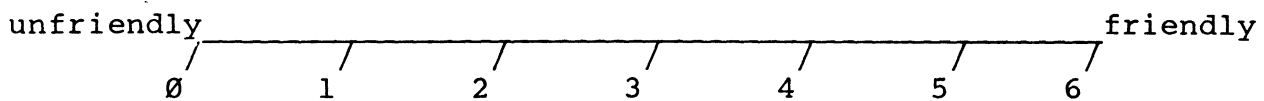
not at all  
like me 0 / 1 / 2 / 3 / 4 / 5 / 6 / very much  
like me

43. I make an effort to remember my dreams.
44. My mood before I go to sleep sometimes has an effect on what I dream.
45. My mood in the morning is sometimes affected by what I have dreamed.
46. I sometimes have dreams that seem to come true.
47. I have dreams which seem to occur again and again.
48. I often initiate sexual activity in my dreams.
49. I feel strong feelings of sexual arousal in dreams.
50. Other dream characters often initiate sexual activity with me in my dreams.
51. I have dreams in which I feel threatened by authority figures (policemen, teachers, supervisors).
52. Others are physically or verbally aggressive toward me in my dreams.
53. I am physically or verbally aggressive to others in my dreams.

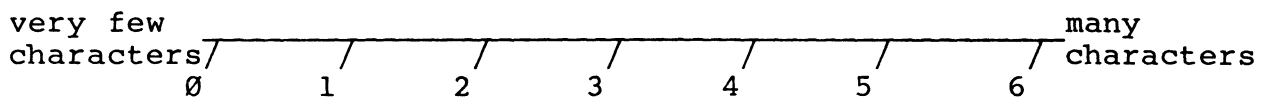
54. I have had nightmares \_\_\_\_\_.



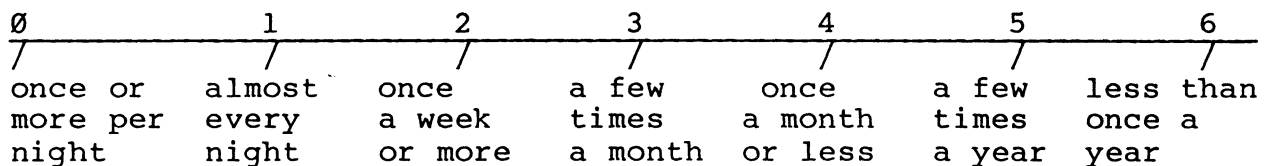
55. Characters in my dreams are most often \_\_\_\_\_.



56. My dreams most often seem to have \_\_\_\_\_.

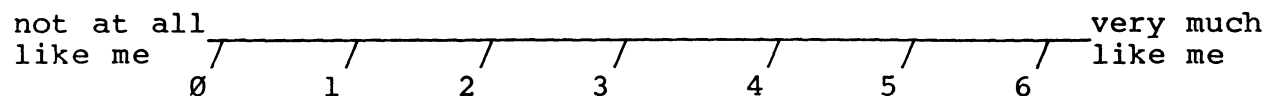


57. I remember a dream \_\_\_\_\_.



A "lucid dream" is a type of dream that while in progress a person realizes, "This is not really happening. It's only a dream." Here is a short example: "I was sitting and talking to my friend John...all of the sudden I realized this can't be...John is in California...I must be dreaming!! I knew it was a dream and that I was really asleep in bed, but the dream continued and I still talked to John even though I knew he was not real."

58. I often have lucid dreams.





59. I have "lucid dreams" \_\_\_\_\_.

0	1	2	3	4	5	6
once a week or more	once or twice a month	every few months	a few times a year	once a year or less	a few times in my life	never

60. Sex: Male - 0  
Female - 1

61. Age: 1 - 0-19  
2 - 20-21  
3 - 22-25  
4 - 26-30  
5 - 31-35  
6 - 36-40  
7 - over 40

62. Race: 1 - White  
2 - Black  
3 - Hispanic  
4 - Asian  
5 - Native American  
6 - Indian  
7 - Other

63. I am majoring in (or will probably major in) \_\_\_\_\_.

1 - Engineering  
2 - Natural Sciences  
3 - Social Science  
4 - Fine Arts or Music  
5 - Humanities  
6 - Business  
7 - Other

Appendix C  
Description of 16PF Scales

CAPSULE DESCRIPTIONS OF THE 16 PRIMARY PERSONALITY FACTORS

Low Score Direction	FACTOR A	High Score Direction
RESERVED, Detached, Critical, Cool, Impersonal	vs.	WARMHEARTED, Outgoing, Participating, Interested in People, Easy-going
(Sizothymia)		(Affectothymia)

People who score low (sten of 1 to 3) on Factor A tend to be stiff, cool, skeptical, and aloof. They like things rather than people, working alone, and avoiding compromises of viewpoints. They are likely to be precise and "rigid" in their way of doing things and in their personal standards. In many occupations, these are desirable traits. They may tend, at times, to be critical, obstructive, or hard.

People who score high (sten of 8 to 10) on Factor A tend to be goodnatured, easy-going, emotionally expressive, ready to cooperate, attentive to people, softhearted, kindly, adaptable. They like occupations dealing with people and socially impressive situations, and they readily form active groups. They are generous in personal relations, less afraid of criticism, better able to remember names of people.

FACTOR B

LESS INTELLIGENT, Concrete-thinking	vs.	MORE INTELLIGENT, Abstract-thinking, Bright
(Lower scholastic mental capacity)		(Higher scholastic mental capacity)

The person scoring low on Factor B tends to be slow to learn and grasp, dull, given to concrete and literal interpretation. This dullness may be simply a reflection of low intelligence, or it may represent poor functioning due to psychopathology.

The person who scores high on Factor B tends to be quick to grasp ideas, a fast learner, intelligent. There is some correlation with level of culture, and some with alertness. High scores contraindicate deterioration of mental functions in pathological conditions.

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FACTOR C

AFFECTED BY FEELINGS,  
Emotionally Less Stable,  
Easily Upset, Changeable

vs. EMOTIONALLY STABLE,  
Matures, Faces Reality,  
Calm, Patient

(Lower ego strength)

(Higher ego strength)

The person who scores low on Factor C tends to be low in frustration tolerance for unsatisfactory conditions, changeable and plastic, evading necessary reality demands, neurotically fatigued, fretful, easily annoyed and emotional, active in dissatisfaction, having neurotic symptoms (phobias, sleep disturbances, psychosomatic complaints, etc.). Low Factor C score is common to almost all forms of neurotic and some psychotic disorders.

The person who scores high on Factor C tends to be emotionally mature, stable, realistic about life, unruffled, possessing ego strength, better able to maintain solid group morale. This person may be making a resigned adjustment\* to unsolved emotional problems.

---

\*Shrewd clinical observers have pointed out that a good C level sometimes enables a person to achieve effective adjustment despite an underlying psychotic potential.

FACTOR E

HUMBLE, Mild,  
Accommodating, Easily  
Led, Conforming

vs. ASSERTIVE, Aggressive,  
Authoritative,  
Competitive, Stubborn

(Submissiveness)

(Dominance)

Individuals scoring low on Factor E tend to give way to others, to be docile, and to conform. They are often dependent, confessing, anxious for obsessional correctness. This passivity is part of many neurotic syndromes.

Individuals scoring high on Factor E are assertive, self-assured, and independent-minded. They tend to be austere, a law to themselves, hostile or extrapunitive, authoritarian (managing others), and disregarding of authority.

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FACTOR F

SOBER, Prudent, Serious,  
Taciturn

vs.

HAPPY-GO-LUCKY,  
Impulsively Lively,  
Enthusiastic, Heedless

(Desurgency)

(Surgency)

Low scorers on Factor F tend to be restrained, reticent, and introspective. They are sometimes dour, pessimistic, unduly deliberate, and considered smug and primly correct by observers. They tend to be sober, dependable people.

High scorers on this trait tend to be cheerful, active, talkative, frank, expressive, effervescent, and carefree. They are frequently chosen as elected leaders. They may be impulsive and mercurial.

FACTOR G

EXPEDIENT, Disregards  
Rules, Feels Few  
Obligations

vs.

CONSCIENTIOUS,  
Persevering, Proper,  
Moralistic, Rule-bound

(Weaker superego strength)

(Stronger superego strength)

People who score low on Factor G tend to be unsteady in purpose. They are often casual and lacking in effort for group undertakings and cultural demands. Their freedom from group influence may lead to antisocial acts, but at times makes them more effective, while their refusal to be bound by rules causes them to have less somatic upset from stress.

People who score high on Factor G tend to be exacting in character, dominated by sense of duty, persevering, responsible, planful, "fill the unforgiving minute." They are usually conscientious and moralistic, and they prefer hard-working people to witty companions. The inner "categorical imperative" of this essential superego (in the psychoanalytic sense) should be distinguished from the superficially similar "social ideal self" of Q<sub>3</sub>+

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SHY, Restrained, Threat-sensitive, Timid      FACTOR H vs.      VENTURESOME, Socially bold, Uninhibited, Spontaneous

## (Threctia)

Individuals who score low on this trait tend to be shy, withdrawing, cautious, retiring, "wallflowers." They usually have inferiority feelings and tend to be slow and impeded in speech and in expressing themselves. They dislike occupations with personal contacts, prefer one or two close friends to large groups, and are given to keeping in contact with all that is going on around them.

## (Parmia)

Individuals who score high on Factor H are sociable, bold, ready to try new things, spontaneous, and abundant in emotional response. Their "thick-skinnedness" enables them to face wear and tear in dealing with people and grueling emotional situations, without fatigue. However, they can be careless of detail, ignore danger signals, and consume much time talking. They tend to be "pushy" and actively interested in the opposite sex.

TOUGH-MINDED, Self-reliant, Realistic, No-nonsense      FACTOR I vs.      TENDER-MINDED, Intuitive, Unrealistic, Sensitive

## (Harria)

People who score low on Factor I tend to be tough, realistic, "down-to-earth," independent, responsible, but skeptical of subjective, cultural elaborations. They are sometimes unmoved, hard cynical, smug. They tend to keep a group operating on a practical and realistic "no-nonsense" basis.

## (Premsia)

People who score high on Factor I tend to be emotionally sensitive, day-dreaming, artistically fastidious, and fanciful. They are sometimes demanding of attention and help, impatient, dependent, temperamental, and not very realistic. They dislike crude people and rough occupations. In a group, they often tend to slow up group performance and to upset group morale by undue fussiness.

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FACTOR L

TRUSTING, Adaptable, Free vs. SUSPICIOUS, Self-  
of jealousy, Easy to Get opinionated, Hard to Fool,  
on With Skeptical, Questioning

(Alaxia)

The person who scores low on Factor L tends to be free of jealous tendencies, adaptable, cheerful, uncompetitive, concerned about others, a good team worker. They are open and tolerant and usually willing to take a chance with people.

(Protension)

People who score high on Factor L tend to be mistrusting and doubtful. They are often involved in their own egos and are self-opinionated and interested in internal, mental life. Usually they are deliberate in their actions, unconcerned about other people, and poor team members.

N.B. This factor is not necessarily paranoia. In fact, the data on paranoid schizophrenics are not clear as to typical Factor L value to be expected for them.

FACTOR M

PRACTICAL, Careful, vs. IMAGINATIVE, Careless of  
Conventional, Regulated Practical Matters,  
by External Realities Unconventional, Absent-  
minded

(Praxernia)

Low scorers on Factor M tend to be anxious to do the right things, attentive to practical matters, and subject to the dictation of what is obviously possible. They are concerned over detail, able to keep their heads in emergencies, but are sometimes unimaginative. In short, they are responsive to the outer, rather than the inner, world.

(Autia)

High scorers on Factor M tend to be unconventional, unconcerned over everyday matters, self-motivated, imaginatively creative, concerned with "essentials," often absorbed in thought, and oblivious of particular people and physical realities. Their inner-directed interest sometimes lead to unrealistic situations accompanied by expressive outbursts. Their individuality tends to cause them to be rejected in group activities.

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FACTOR N

FORTHRIGHT, Natural,  
Genuine, Unpretentious

vs. SHREWD, Calculating,  
Socially Alert, Insightful

(Artlessness)

(Shrewdness)

Individuals who score low on Factor N have a lot of natural warmth and a genuine liking for people, are uncomplicated and sentimental, and are unvarnished in their approach to people.

Individuals who score high on Factor N tend to be polished, experienced, and shrewd. Their approach to people and problems is usually perceptive, hardheaded, and efficient, an unsentimental approach to situations, an approach akin to cynicism.

FACTOR O

UNPERTURBED, Self-  
assured, Confident,  
Secure, Self-satisfied

vs. APPREHENSIVE, Self-  
reproaching, Worrying,  
Troubled

(Untroubled adequacy)

(Guilt proneness)

Persons with low scores on Factor O tend to be unruffled, with unshakable nerve. They have a mature, unanxious confidence in themselves and their capacity to deal with things. They are resilient and secure, but to the point of being insensitive of when a group is not going along with them, so that they may evoke antipathies and distrust.

Persons with high scores on factor O have a strong sense of obligation and high expectations of themselves. They tend to worry and feel anxious and guilt-stricken over difficulties. Often they do not feel accepted in groups or free to participate. High Factor O score is very common in clinical groups of all types (see Handbook).

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CONSERVATIVE, Respecting  
Established Ideas,  
Tolerant of Traditional  
Difficulties

FACTOR Q<sub>1</sub>  
vs. EXPERIMENTING, Liberal,  
Analytical, Likes  
Innovation

(Conservatism)

Low scorers on Factor Q<sub>1</sub> are confident in what they have been taught to believe, and accept the "tried and true," despite inconsistencies, when something else might be better. They are cautious and compromising in regard to new ideas. Thus, they tend to oppose and postpone change, are inclined to go along with tradition, are more conservative in religion and politics, and tend not to be interested in analytical "intellectual" thought.

(Radicalism)

High scorers on Factor Q<sub>1</sub> tend to be interested in intellectual matters and to have doubts on fundamental issues. They are skeptical and inquiring regarding ideas, either old or new. Usually they are more well informed, less inclined to moralize, more inclined to experiment in life generally, and more tolerant of inconvenience and change.

GROUP ORIENTED, A  
"Joiner" and Sound  
Follower

FACTOR Q<sub>2</sub>  
vs. SELF-SUFFICIENT, Prefers  
Own Decision, Resourceful

(Group adherence)

Individuals who score low on Factor Q<sub>2</sub> prefer to work and make decisions with other people and like and depend on social approval and admiration. They tend to go along with the group and may be lacking in individual resolution. They are not necessarily gregarious by choice; rather they might need group support.

(Self-sufficiency)

Individuals who score high on Factor Q<sub>2</sub> are temperamentally independent, accustomed to going their own way, making decisions and taking action on their own. They discount public opinion, but are not necessarily dominant in their relations with others (see Factor E); in fact, they could be hesitant to ask others for help. They do not dislike people, but simply do not need their agreement or support.

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FACTOR Q<sub>3</sub>

UNDISCIPLINED SELF-  
CONFLICT, Careless of  
Protocol, Follows Own  
Urges

(Low integration)

People who score low on Factor Q<sub>3</sub> will not be bothered with will control and have little regard for social demands. They are impetuous and not overly considerate, careful, or painstaking. They may feel maladjusted, and many maladjustments (especially the affective, but not the paranoid) shows Q<sub>3</sub>-.

CONTROLLED, Socially  
Precise, Following Self-  
image, Compulsive

(High self-concept control)

People who score high on Factor Q<sub>3</sub> tend to have strong control of their emotions and general behavior, are inclined to be socially aware and careful, and evidence what is commonly termed "self-respect" and high regard for social reputation. They sometimes tend, however, to be perfectionistic and obstinate. Effective leaders, and some paranoids, are high on Q<sub>3</sub>.

FACTOR Q<sub>4</sub>

RELAXED, Tranquil,  
Torpida, Unfrustrated

(Low ergic tension)

Individuals who score low on Factor Q<sub>4</sub> tend to be sedate, relaxed, composed, and satisfied (not frustrated). In some situations, their oversatisfaction can lead to laziness and low performance, in the sense that low motivation produces little trial and error. conversely, high tension level may disrupt school and work performance.

vs. TENSE, Frustrated, Driven,  
Restless, Overwrought

(High ergic tension)

Individuals who score high on Factor Q<sub>4</sub> tend to be tense, restless, fretful, impatient, and hard driving. They are often fatigued but unable to remain inactive. In groups they take a poor view of the degree of unity, orderliness, and leadership. Their frustration represents an excess of stimulated, but undischarged, drive.

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DESCRIPTIONS OF SECOND ORDER FACTORS

Low Score Direction      FACTOR Q<sub>I</sub>      vs.      High Score Direction  
INTROVERSION      EXTRAVERSION

The person who scores low on Factor Q<sub>I</sub> tends to be shy, self-sufficient, and inhibited in interpersonal contacts. This can either be a favorable or unfavorable finding, depending upon the particular situation in which the person is expected to function; e.g., introversion is a favorable predictor of precision workmanship.

The person who scores high on this factor is a socially outgoing, uninhibited person, good at making and maintaining interpersonal contacts. This can be very favorable in situations that call for this type of temperament, e.g., salesmanship, but should not be considered necessarily favorable as a general predictor, e.g., of scholastic achievement.

FACTOR Q<sub>II</sub>

LOW ANXIETY (Adjustment)      vs.      HIGH ANXIETY

People who score low on this factor tend to be those whose lives are generally satisfying and those who are able to achieve those things that seem to them to be important. However, an extremely low score can mean lack of motivation for difficult tasks, as is generally shown in studies relating anxiety to achievement.

Those people who score high on this factor are high on anxiety as it is commonly understood. They need not be neurotic, since anxiety could be situational, but it is probable that there are some maladjustments, i.e., they are dissatisfied with the degree to which they are able to meet the demands of life and to achieve what they desire. Very high anxiety is generally disruptive of performance, and productive of physical disturbances.

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Factor Q<sub>III</sub>

TENDER-MINDED  
EMOTIONALITY

vs.

TOUGH POISE

Individuals who score low on Factor Q<sub>III</sub> are likely to be troubled by pervasive emotionality, and may be of a discouraged, frustrated type. They are, however, sensitive to the subtleties of life, likely to be artistic and rather gentle. If they have problems, they often involve too much thought and consideration before action is taken.

Individuals who score high on this factor are likely to be enterprising, decisive, and resilient personalities. However, they are likely to miss the subtle relationships of life, and to orient their behavior too much toward the obvious. If they have difficulties, they are likely to involve rapid action with insufficient consideration and thought.

FACTOR Q<sub>IV</sub>

SUBDUEDNESS

vs.

INDEPENDENCE

People who score low on Factor Q<sub>IV</sub> are group dependent, chastened, passive personalities. They are likely to desire and need support from other persons, and likely to orient their behavior toward persons who give such support.

People who score high on this factor tend to be aggressive, independent, daring, incisive people. They will seek those situations where such behavior is at least tolerated and possibly rewarded, and are likely to exhibit considerable initiative.

Clearly, the above descriptions are not only brief suggestions as to the nature of the factors, but they should be helpful to the reader of this MANUAL. More complete discussion and consideration of research findings can be found in the HANDBOOK and its bibliography. The HANDBOOK also contains descriptions of several methods by which personality factor patterns can be converted into predictive formulas, with examples of such formulas from research involving the prediction of socially important criteria.

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FACTOR Q<sub>v</sub>

LOW CONTROL

People who score low on this factor typically do not act according to others values or out of a sense of duty. They tend to be nonconformists who do not hesitate to bend rules, or who develop their own set of rules whenever it is expedient to do so. These are flexible people, yet because they tend to follow their own impulses, they may not be self-disciplined as some situations may require. Further, they may be perceived as unreliable at times, because the rules by which they operate may not be clear to others.

vs. HIGH CONTROL

People who score high on this factor typically have strong super-ego controls; that is, they have internalized the rules of the milieu in which they function. Hence, they tend to conform to expectations that others have of them or expectations that they have of themselves. They are quite reliable because they do not bend the rules; however, they may be so controlled as to be perceived by others as rigid or moralistic.

FACTOR Q<sub>vi</sub>

NEUROTICISM

People who score low on this composite have traits that indicate the possibility of neurotic maladjustment. They tend to be apprehensive and emotionally reactive. Beyond these anxiety-related traits, however, low scorers are typically self-effacing and sensitive. This combination of attributes makes it likely that a person who gets a low score would find it difficult to cope with daily life.

vs.

ADJUSTMENT

People who score high on this composite tend to be well adjusted. They are typically self-confident and assertive; they are relaxed, adaptive, and flexible. Thus, they would be expected to have little difficulty in coping with daily life. For more detail on neuroticism, see the Handbook for the 16PF.

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FACTOR Q<sub>VII</sub>

## LOW LEADERSHIP

vs.

## HIGH LEADERSHIP

People who get a low score on this composite tend to lack the attributes typically found in good leaders. Low scorers usually are not good at asserting themselves. They tend to shy away from conflict, and may also lack the self-control needed to meet deadlines and group productivity goals.

People who get a high score on this composite tend to have the traits that are expected of leaders. These people are usually sociable, relaxed, assertive, and self-assured. Overall, they would have the emotional maturity needed to resolve conflicts while maintaining an emphasis on getting things done.

FACTOR Q<sub>VIII</sub>

## LOW CREATIVITY

vs.

## HIGH CREATIVITY

People who score low on this scale are tough-minded and practical. They tend to be strict to tried-and-true ways of doing things rather than trying new ways. They would not spend time generating new ideas, but would want workable, practical solutions. These people would be better at implementing a solution than coming up with one.

People who score high on this scale are imaginative and experimenting. Creative people are usually self-sufficient; often, though not necessarily, they are rather serious and not outgoing preferring to spend time in thought rather than with people. Sometimes high scorers are so imaginative that they cannot see the practical limitations on implementing a creative idea.

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Appendix D

Frequency Distribution for the Ast/Vul Score (sum of the Assertive DSQ-R items 1, 2, 3, 4, 5, 24, 25, 26, 27, 28 minus the sum of the Vulnerable DSQ-R items 12, 13, 14, 15, 16, 35, 36, 37, 38, 39 Using Likert Scale Scores 0-6)

Frequency Distribution for the Ast/Vul Score (sum of the Assertive DSQ-R items 1, 2, 3, 4, 5, 24, 25, 26, 27, 28 minus the sum of the Vulnerable DSQ-R items 12, 13, 14, 15, 16, 35, 36, 37, 38, 39 Using Likert Scale Scores 0-6)

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Sum of Scores	Frequency	Percent	Valid Percent	Cumulative Percent
---------------	-----------	---------	---------------	--------------------

---

Male and Female Subjects (N = 2131)

-60	2	.1	.1	.1
-59	1	.0	.0	.2
-55	1	.0	.0	.2
-54	1	.0	.0	.3
-53	1	.0	.0	.3
-52	1	.0	.0	.4
-51	2	.1	.1	.5
-50	1	.0	.0	.5
-49	3	.1	.1	.7
-47	1	.0	.0	.7
-46	2	.1	.1	.8
-45	1	.0	.0	.9
-44	2	.1	.1	1.0
-43	3	.1	.1	1.1
-42	1	.0	.0	1.2
-41	4	.2	.2	1.3
-40	3	.1	.1	1.5
-39	3	.1	.1	1.6
-38	3	.1	.1	1.8
-37	12	.6	.6	2.4
-36	6	.3	.3	2.6
-35	6	.3	.3	2.9
-34	12	.6	.6	3.5
-33	8	.4	.4	3.9
-32	6	.3	.3	4.2
-31	5	.2	.2	4.4
-30	9	.4	.4	4.8
-29	13	.6	.6	5.5
-28	11	.5	.5	6.0
-27	13	.6	.6	6.6
-26	14	.7	.7	7.3
-25	16	.8	.8	8.1

(Continued)



Appendix D (Cont.)

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Sum of Scores	Frequency	Percent	Valid Percent	Cumulative Percent
-24	16	.8	.8	8.8
-23	17	.8	.8	9.6
-22	22	1.0	1.1	10.7
-21	22	1.0	1.1	11.8
-20	26	1.2	1.2	13.0
-19	19	.9	.9	13.9
-18	29	1.4	1.4	15.3
-17	28	1.3	1.3	16.7
-16	28	1.3	1.3	18.0
-15	26	1.2	1.2	19.2
-14	29	1.4	1.4	20.6
-13	17	2.1	2.2	15.5
-12	9	1.1	1.1	16.7
-11	8	1.0	1.0	17.7
-10	14	1.8	1.8	19.5
-9	6	.8	.8	20.3
-8	19	2.4	2.4	22.7
-7	15	1.9	1.9	24.6
-6	16	2.0	2.0	26.6
-5	14	1.8	1.8	28.4
-4	12	1.5	1.5	29.9
-3	12	1.5	1.5	31.5
-2	14	1.8	1.8	33.2
-1	49	2.3	2.4	46.2
0	39	1.8	1.9	48.1
1	55	2.6	2.6	50.7
2	58	2.7	2.8	53.5
3	55	2.6	2.6	56.1
4	55	2.6	2.6	58.8
5	45	2.1	2.2	60.9
6	38	1.8	1.8	62.8
7	56	2.6	2.7	65.5
8	55	2.6	2.6	68.1
9	45	2.1	2.2	70.2
10	35	1.6	1.7	71.9
11	43	2.0	2.1	74.0

(Continued)

Appendix D (Cont.)

Sum of Scores	Frequency	Percent	Valid Percent	Cumulative Percent
12	44	2.1	2.1	76.1
13	35	1.6	1.7	77.8
14	44	2.1	2.1	79.9
15	34	1.6	1.6	81.5
16	29	1.4	1.4	82.9
17	38	1.8	1.8	84.7
18	26	1.2	1.2	86.0
19	24	1.1	1.2	87.1
20	32	1.5	1.5	88.7
21	15	.7	.7	89.4
22	25	1.2	1.2	90.6
23	23	1.1	1.1	91.7
24	19	.9	.9	92.6
25	21	1.0	1.0	93.6
26	11	.5	.5	94.1
27	16	.8	.8	94.9
28	17	.8	.8	95.7
29	10	.5	.5	96.2
30	6	.3	.3	96.5
31	11	.5	.5	97.0
32	8	.4	.4	97.4
33	7	.3	.3	97.7
34	6	.3	.3	98.0
33	7	.3	.3	97.7
34	6	.3	.3	98.0
35	7	.3	.3	98.4
36	2	.1	.1	98.5
37	5	.2	.2	98.7
38	3	.1	.1	98.8
39	1	.0	.0	98.9
40	3	.1	.1	99.0
41	4	.2	.2	99.2
42	3	.1	.1	99.4
43	4	.2	.2	99.6
44	1	.0	.0	99.6
45	4	.2	.2	99.8
46	1	.0	.0	99.9
50	2	.1	.1	100.0
60	1	.0	.0	100.0

(Continued)

Appendix D (Cont.)

Frequency Distribution for the Ast/Vul Score for Men (sum of the Assertive DSQ-R items 1, 2, 3, 4, 5, 24, 25, 26, 27, 28 minus the sum of the Vulnerable DSQ-R items 12, 13, 14, 15, 16, 35, 36, 37, 38, 39 Using Likert Scale Scores 0-6)

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Sum of Scores	Frequency	Percent	Valid Percent	Cumulative Percent
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Male Subjects (N = 796)

-60	1	.1	.1	.1
-53	1	.1	.1	.3
-51	1	.1	.1	.4
-43	1	.1	.1	.5
-41	1	.1	.1	.6
-40	1	.1	.1	.8
-37	2	.3	.3	1.0
-36	2	.3	.3	1.3
-34	1	.1	.1	1.4
-32	1	.1	.1	1.5
-31	1	.1	.1	1.7
-30	3	.4	.4	2.0
-29	4	.5	.5	2.5
-28	3	.4	.4	2.9
-27	2	.3	.3	3.2
-26	6	.8	.8	3.9
-25	4	.5	.5	4.5
-24	2	.3	.3	4.7
-23	6	.8	.8	5.5
-22	7	.9	.9	6.4
-21	3	.4	.4	6.8
-20	7	.9	.9	7.6
-19	6	.8	.8	8.4
-18	4	.5	.5	8.9
-17	8	1.0	1.0	9.9
-16	8	1.0	1.0	11.0
-15	10	1.3	1.3	12.2
-14	9	1.1	1.1	13.4
-13	17	2.1	2.2	15.5
-12	9	1.1	1.1	16.7
-11	8	1.0	1.0	17.7

(Continued)

Appendix D (Cont.)

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Sum of Scores	Frequency	Percent	Valid Percent	Cumulative Percent
-10	14	1.8	1.8	19.5
-9	6	.8	.8	20.3
-8	19	2.4	2.4	22.7
-7	15	1.9	1.9	24.6
-6	16	2.0	2.0	26.6
-5	14	1.8	1.8	28.4
-4	12	1.5	1.5	29.9
-3	12	1.5	1.5	31.5
-2	14	1.8	1.8	33.2
-1	16	2.0	2.0	35.3
0	10	1.3	1.3	36.6
1	19	2.4	2.4	39.0
2	22	2.8	2.8	41.8
3	27	3.4	3.4	45.2
4	24	3.0	3.1	48.3
5	16	2.0	2.0	50.3
6	15	1.9	1.9	52.2
7	22	2.8	2.8	55.0
8	23	2.9	2.9	58.0
9	13	1.6	1.7	59.6
10	23	2.9	2.9	62.5
11	14	1.8	1.8	64.3
12	28	3.5	3.6	67.9
13	22	2.8	2.8	70.7
14	22	2.8	2.8	73.5
15	15	1.9	1.9	75.4
16	12	1.5	1.5	76.9
17	16	2.0	2.0	79.0
18	12	1.5	1.5	80.5
19	13	1.6	1.7	82.2
20	13	1.6	1.7	83.8
21	8	1.0	1.0	84.8
22	14	1.8	1.8	86.6
23	11	1.4	1.4	88.0
24	9	1.1	1.1	89.2
25	8	1.0	1.0	90.2
26	7	.9	.9	91.1

(Continued)

Appendix D (Cont.)

Sum of Scores	Frequency	Percent	Valid Percent	Cumulative Percent
27	5	.6	.6	91.7
28	12	1.5	1.5	93.2
29	5	.6	.6	93.9
30	4	.5	.5	94.4
31	5	.6	.6	95.0
32	4	.5	.5	95.5
33	6	.8	.8	96.3
34	5	.6	.6	96.9
35	6	.8	.8	97.7
36	1	.1	.1	97.8
37	2	.3	.3	98.1
38	3	.4	.4	98.5
41	2	.3	.3	98.7
42	3	.4	.4	99.1
43	2	.3	.3	99.4
44	1	.1	.1	99.5
45	1	.1	.1	99.6
46	1	.1	.1	99.7
50	1	.1	.1	99.9
60	1	.1	.1	100.0

(Continued)

Appendix D (Cont.)

Frequency Distribution for the Ast/Vul Score for Women (sum of the Assertive DSQ-R items 1, 2, 3, 4, 5, 24, 25, 26, 27, 28 minus the sum of the Vulnerable DSQ-R items 12, 13, 14, 15, 16, 35, 36, 37, 38, 39 Using Likert Scale Scores 0-6)

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Sum of Scores	Frequency	Percent	Valid Percent	Cumulative Percent
Women Subjects (N = 1330)				
-60	1	.1	.1	.2
-59	1	.1	.1	.2
-55	1	.1	.1	.3
-54	1	.1	.1	.4
-52	1	.1	.1	.5
-51	1	.1	.1	.5
-50	1	.1	.1	.6
-49	3	.2	.2	.9
-47	1	.1	.1	.9
-46	2	.2	.2	1.1
-45	1	.1	.1	1.2
-44	2	.2	.2	1.3
-43	2	.2	.2	1.5
-42	1	.1	.1	1.5
-41	3	.2	.2	1.8
-40	2	.2	.2	1.9
-39	3	.2	.2	2.2
-38	3	.2	.2	2.4
-37	10	.8	.8	3.2
-36	4	.3	.3	3.5
-35	6	.5	.5	3.9
-34	11	.8	.9	4.8
-33	8	.6	.6	5.4
-32	5	.4	.4	5.8
-31	4	.3	.3	6.1
-30	6	.5	.5	6.6
-29	9	.7	.7	7.3
-28	8	.6	.6	7.9
-27	11	.8	.9	8.7
-26	8	.6	.6	9.4
-25	11	.8	.9	10.2

(Continued)

Appendix D (Cont.)

Sum of Scores	Frequency	Percent	Valid Percent	Cumulative Percent
-24	14	1.1	1.1	11.3
-23	11	.8	.9	12.1
-22	15	1.1	1.2	13.3
-21	19	1.4	1.5	14.8
-20	19	1.4	1.5	16.2
-19	13	1.0	1.0	17.2
-18	25	1.9	1.9	19.2
-17	20	1.5	1.5	20.7
-16	20	1.5	1.5	22.3
-15	16	1.2	1.2	23.5
-14	20	1.5	1.5	25.0
-13	28	2.1	2.2	27.2
-12	25	1.9	1.9	29.1
-11	23	1.7	1.8	30.9
-10	24	1.8	1.9	32.8
-9	24	1.8	1.9	34.6
-8	30	2.3	2.3	36.9
-7	33	2.5	2.6	39.5
-6	25	1.9	1.9	41.4
-5	36	2.7	2.8	44.2
-4	25	1.9	1.9	46.1
-3	31	2.3	2.4	48.5
-2	23	1.7	1.8	50.3
-1	33	2.5	2.6	52.9
0	29	2.2	2.2	55.1
1	36	2.7	2.8	57.9
2	35	2.6	2.7	60.6
3	28	2.1	2.2	62.8
4	30	2.3	2.3	65.1
5	29	2.2	2.2	67.3
6	22	1.7	1.7	69.0
7	34	2.6	2.6	71.6
8	32	2.4	2.5	74.1
9	32	2.4	2.5	76.6
10	12	.9	.9	77.5
11	29	2.2	2.2	79.8
12	16	1.2	1.2	81.0

(Continued)

Appendix D (Cont.)

Sum of Scores	Frequency	Percent	Valid Percent	Cumulative Percent
13	13	1.0	1.0	82.0
14	22	1.7	1.7	83.7
15	19	1.4	1.5	85.2
16	17	1.3	1.3	86.5
17	22	1.7	1.7	88.2
18	14	1.1	1.1	89.3
19	11	.8	.9	90.1
20	19	1.4	1.5	91.6
21	7	.5	.5	92.1
22	11	.8	.9	93.0
23	12	.9	.9	93.9
24	10	.8	.8	94.7
25	13	1.0	1.0	95.7
26	4	.3	.3	96.0
27	11	.8	.9	96.8
28	5	.4	.4	97.2
29	5	.4	.4	97.6
30	2	.2	.2	97.8
31	6	.5	.5	98.2
32	4	.3	.3	98.5
33	1	.1	.1	98.6
34	1	.1	.1	98.7
35	1	.1	.1	98.8
36	1	.1	.1	98.8
37	3	.2	.2	99.1
39	1	.1	.1	99.1
40	3	.2	.2	99.4
41	2	.2	.2	99.5
43	2	.2	.2	99.7
45	3	.2	.2	99.9
50	1	.1	.1	100.0



Appendix E

Frequency distribution of DSQ responses for men, women, and both combined

Appendix E

Frequency distribution of DSQ responses for men and women

		Likert Scale Score						
DSQ-R Question #	0	1	2	3	4	5	6	
Assertive Items								
1	69	178	350	638	420	306	166	
2	38	105	305	636	521	370	151	
3	182	286	446	470	374	251	115	
4	592	454	392	229	182	172	101	
5	106	175	265	466	445	454	213	
24	125	219	381	559	395	301	140	
25	496	422	346	299	242	186	134	
26	74	152	204	541	484	446	221	
27	308	307	281	374	353	292	209	
28	296	325	331	398	340	270	163	
Vulnerable Items								
12	85	273	361	448	411	335	206	
13	173	306	367	430	386	295	164	
14	395	479	456	363	196	150	83	
15	58	115	200	385	489	501	368	
16	93	233	324	517	432	344	179	
35	71	230	280	413	430	444	249	
36	120	352	473	528	323	208	117	
37	234	431	441	507	283	161	67	
38	277	394	367	342	337	258	144	
39	297	483	452	374	244	164	96	

(Continued)

Appendix E (Cont.)

Frequency distribution of DSQ responses for men

DSQ-R Question #	Likert Scale Score						
	0	1	2	3	4	5	6
Assertive Items							
1	25	69	139	220	161	115	66
2	8	33	116	213	197	170	57
3	57	91	148	185	149	105	60
4	199	144	137	90	91	78	54
5	41	71	100	179	163	154	87
24	25	43	103	190	192	167	73
25	100	131	130	134	130	96	74
26	20	55	77	197	185	177	85
27	89	107	94	136	150	121	96
28	82	111	111	143	146	123	79
Vulnerable Items							
12	54	144	147	162	134	105	48
13	63	130	142	157	137	112	53
14	171	196	170	122	56	56	24
15	29	46	78	148	181	195	116
16	44	110	146	193	146	112	45
35	28	113	140	141	149	159	65
36	52	175	196	189	99	53	31
37	93	167	177	175	101	57	25
38	114	161	164	127	107	81	40
39	136	199	193	113	82	48	21

(Continued)