

THE IMAGING PROCESS
OF CHRONIC PAIN PATIENTS

by

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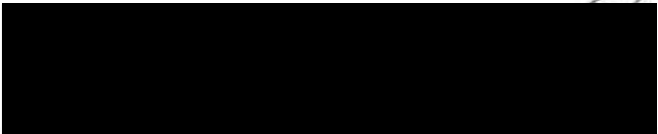
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CHAPTER I

INTRODUCTION

The problem of chronic pain management is one that is coming increasingly to the attention of health care professionals and laymen alike. Recent estimates conclude that patient complaints of chronic pain account for more than 18,000,000 physician office visits a year, while those of migraine and other headaches take up 12,000,000 more hours of doctors' time. The cost of analgesic drugs and surgical procedures to relieve chronic pain is estimated to be at least \$10,000,000,000 per year (Bonica, 1981). The psychological "cost" to pain sufferers and their families cannot be measured in terms of dollars or office visits, but is perhaps the costliest area of all. Chronic pain patients typically get caught in a progression that starts with medication, rest and sympathy, and ends with total dependence, self-deprecation and invalidism. The typical chronic pain patient's life literally revolves around the doctor's office, the pharmacy and bed. Feelings of worth to self and to family are extremely low. Suicidal ideation is frequent.

The traditional medical approach to the treatment of pain has been to start conservatively -- usually with bed rest and muscle relaxants (Fordyce, Fowler, Lehmann, Delateur, Sand, & Treischmann, 1973). If this approach does not alleviate the problem, progressively more dramatic measures are taken, culminating in the use of narcotic analgesics and surgery. Prior to the advent of pain rehabilitation programs, the above procedures constituted the entire medical armamentarium for the treatment of chronic pain. If these measures failed, the only recourse

was to start once again with more muscle relaxants, more narcotics and more surgery. Indeed, it is not unusual to see a chronic back pain sufferer who has been on narcotic medication for 10 years and who has undergone five or more surgical procedures.

Needless to say this approach is frequently less than maximally effective. First, "rest", is often taken to excess, allowing muscles to atrophy, exercise tolerance to decrease, etc., causing increased muscle pain on exertion. Patients frequently confuse this increased muscle pain with an exacerbation of the original problem and continue resting when the opposite would be the treatment of choice. Second, narcotic medication may lead to paradoxical increases in pain. Third, it is not uncommon for chronic pain patients to have experienced numerous surgeries in their quest for pain relief. This is despite all the evidence that the probability of lasting relief declines dramatically with each subsequent surgery (Fordyce, 1976).

The inadequacy of traditional methods sets the stage for the development of new methods to treat chronic pain. Methods that have been tried and in some cases found to be at least partially effective are numerous, and will not be detailed here. One method that has not yet been adequately tried, but is certainly suggested by recent discoveries in the neurochemistry of pain, is the systematic manipulation of psychological states, particularly "expectations", through the use of visualization. It has been recently discovered that there are naturally occurring opiates, called endorphins, in the brain and these naturally occurring opiates may be 100 times stronger than morphine (Restak, 1979). These endorphins can be released in the brain in the presence of powerful expectations. In short, if a person expects pain relief, endorphins

will be released.

The idea that expectations may result in "true" pain relief is relatively new. In the past, a person was often assumed or suspected to be faking if his condition improved solely as a function of his expectations that he would get better. This has been called the placebo response which many believe can occur only if the pain was not real in the first place. More recently, however, images and expectations have been manipulated in an attempt to change the course of several medical conditions. Perhaps the best known of these projects is the one by Simonton, Matthews-Simonton and Creighton (1978). These authors have reported changing the course of cancer in "incurable" patients by manipulating expectations and beliefs through visual imagery. They reported progressing growth in only 32% of cases thus treated, regressed tumor or no evidence of disease in 41% of treated cases, and no change in 27%. They concluded that a "positive attitude toward treatment was a better predictor of response to treatment than was the severity of the disease" (1978, p. 11). Controlled studies have not yet been reported; however Simonton et al. state "a matched control population is being developed and preliminary results indicated survival comparable with national norms and less than half the survival time of our patients" (p. 11).

Manipulating expectations through visual imagery is a potentially powerful technique which deserves full and careful examination. It is the assumption of the present investigator that a person's expectations are mirrored in the imaging process; one's fantasies, daydreams and self-generated images portray the expectations one has about the world. It will be the long range goal of the investigator to attempt to reduce subjectively experienced pain by manipulating the expectation of pain

through imagery. Prior to this, it seems necessary to determine and describe the existing imaging processes of chronic pain patients. If there is a recognizable, unique pattern of imagery typical of pain patients, then perhaps it may be systematically manipulated and its effect on the pain experience determined.

Review of the Literature

This review of the literature is organized in the following way: First, the term daydreaming is defined, and the history of the study of daydreams is presented. Second, the relation of sociodemographic characteristics of the individual to the frequency and content of daydreams is summarized. Third, the relationship of daydreaming to physical problems will be discussed.

Daydreaming

Daydreaming may be conceptualized as ongoing thought, with its constantly fluctuating content and intensity, described by William James's phrase, "stream of consciousness" (Huba, 1976). It involves a shift from a primary physical or mental task to a sequence of private responses made to internal stimuli. Included within definitions of daydreaming are: 1) emotional reactions to the content of one's stream of consciousness, 2) awareness of one's bodily sensations, 3) monologues with one's self, 4) inner voices and imaginary conversations, 5) visual and auditory images, 6) imagining of sequences of events that have taken place or have varying probability of taking place (Singer, 1966; Huba, 1976). The terms daydreaming, stream of consciousness and fantasy, will be used interchangeably in this paper.

The first references within psychology indicating an interest in the individual's inner experience and images occur in William James's

descriptions of stream of consciousness in the late nineteenth century. In the early part of the twentieth century, the clinical investigations of Freud (1962) and Jung (1968) greatly expanded theory about daydreams. Freud, from his psychoanalytic work with patients, realized the importance in daily life of one's fantasies and night dreams. His method incorporated the use of stream of consciousness in the treatment process. Freud combined his own self analysis and material from his patients to attempt a comprehensive view of the private experience of man. Jung's study of consciousness and man's use of symbols expanded theory further in man's intrapsychic processes, their origins and uses. The first efforts at the use of a systematic approach to establish a baseline for understanding daydream phenomena using large numbers of persons was by Green (1923, cited in Huba, 1976) who attempted to tabulate the fantasies of British school children. This was followed by Schaffer's study in 1936 (cited in Singer, 1966) of uniformities in daydreams across large samples of college students. A hiatus followed, until within the past two decades empirical research was resumed into such private subjective experiences as daydreams and the broader realm of "state of consciousness".

The major impetus of the investigation of daydreams was brought about by the publication in 1966 of Jerome Singer's work, entitled Daydreaming, which outlined normative studies and methodologies used in gaining access to waking spontaneous fantasy (Starker & Hasenfeld, 1976). Research to confirm and add to the findings of Singer and his co-workers has continued. These normative studies have examined the characteristics of daydreams of thousands of people. Singer (1966) describes the following four points: First, almost all subjects report experiencing

and enjoying daily daydreaming. Large numbers report daydreams as clear images of people, objects or ongoing events. Second, visual imagery seems to be the predominant modality for experiencing fantasy. Third, daydreaming occurs most often when alone, the most common time reported being right before sleeping. The least common time reported is at meals and in the morning. Fourth, daydreams frequently concern plans for the future, actions and ways to make relationships. Most occur around practical, immediate concerns of daily life. Many subjects studied also recounted daydreams of a sexual nature, altruistic attitudes, unusual good fortune, and magical possibilities (McCraven & Singer, 1961).

At the present time, the only multidimensional and relatively complete method of assessing daydreaming is through the Imaginal Processes Inventory (IPI) developed by Singer and Antrobus in 1963. The 28 self report IPI scales sample items from interlocking areas of styles of thinking (e.g., tendency to become bored, distractibility, and use of visual and auditory imagery), attitudes toward daydreaming (absorption in daydreaming, acceptance of daydreaming as a "normal" adult activity), and the content of spontaneous thought (guilt daydreams, hostile daydreams, curiosity about the lives of other people and how mechanical devices work).

Relation of Sociodemographic Characteristics to Daydream

Frequency and Content

Normative studies using the Imaginal Process Inventory have been conducted by Giambra (1974, 1977), Haritan and Singer (1974), Singer (1966, 1974a, 1974b, 1974c, 1975a, 1975b), Singer and Antrobus (1970) and Starker (1974). Reyker (1963) and Reyker and Smeltzer (1968) have also conducted normative studies but did not use the IPI in their

research. They asked individuals to generate imagery which they then evaluated as to motivation and content. Their findings support those of studies using the IPI in providing the following information relating background characteristics of the individual to the frequency and content of daydreams.

Sex - There seem to be major differences between men and women in the pattern and frequency of daydreams. Women still reflect in daydreams the cultural stereotypes of greater passivity and nurturing tendencies, more interest in their bodies and in fashion. Women report very few heroic achievement or athletic feat daydreams, while men indicate that they have many. There seems to be more speculation about human relationships in women's reported daydreams, and less direct aggressiveness (Singer, 1966; McCraven & Singer, 1961).

Age - Results from questionnaires indicate late adolescence is the peak period for reported daydream frequency, with a gradual decrease with increasing age through the 50's. Questionnaires to the elderly (including those in their 80's) indicated daydream activity still evident and not very different in its patterning for even the very old. Elderly people have more reminiscent types of daydreams, reliving the past. Research by Giambra (1974) indicates there are less unpleasant fantasies among the elderly than among the young. Studying people 70 years of age and over, he found "happy" daydreams to be most frequent with a decrease in fantasies of guilt, aggression and anxiety. There were fewer future oriented daydreams and fewer sexual fantasies reported (Giambra, 1974).

Education and Socioeconomic Status - Research indicates the frequency and content of daydreams is similar across different educational

and socioeconomic groups (Singer, 1966; Singer, 1974a).

Rural-Urban Residence - The highest frequency in daydreaming is in persons reared in large cities. People from rural areas rank in the middle, and people reared in suburbs report daydreaming least (Singer, 1966).

Sociocultural Background - Striking differences are seen in normative studies of daydreams according to sociocultural factors. One study ranked six groups from highest to lowest in daydream frequency. The subjects were American-born, with both parents belonging to the ethnic group studied. Italians were found to daydream most, Negroes second, then Jewish, Irish, Anglo-Saxon and German-Americans (Singer, 1966; McCraven & Singer, 1961).

Intelligence - There does not appear to be much difference in frequency according to intelligence. The work of Sarason (Singer, 1966) provides evidence that moderately mentally retarded children and adults engage in a considerable amount of fantasy. Whenever intelligence tests have been employed in daydream studies, the degree of intelligence does not appear to influence reported frequency of any special pattern of fantasy.

Daydreaming and Physical Problems

Huba in his chapter on daydreaming in the Encyclopedia of Clinical Assessment (1976) gives an overview of work done thus far delineating different patterns and styles of daydreaming. He points to the fact that no studies have attempted to link the IPI to physical disorders. He states that one might hypothesize that individuals with certain physical disorders might compensate by frequent and vivid daydreams such as of physical activity or being healthy, but this has never been tested.

At present, treatment plans for various physical illnesses and problems frequently use relaxation - visualization techniques. Simonton et al. (1978) describe particular imagery patterns in persons with cancer and relate cancer growth to psychological factors. Barber and Chaves (1974) teach patients techniques to reduce their perception of pain by imaging pleasant events. In the same vein, chronic pain programs often include work with visualization and imagery patterns. The rationale for this is that the person's imaging process probably needs changing (Achterberg & Lawlis, 1980; Gawain, 1978). However, no hard data exist at present to indicate the nature of the imaging patterns and daydreams of persons with physical disorders.

Leshan (1964) from his studies of patients with unremitting pain likens the pain experience to a nightmare in which 1) terrible things are being done to the person and worse are threatened; 2) others, or outside forces, are in control and the will is helpless; 3) there is no time-limit set, one cannot predict when it will be over. He states that the goals of persons with chronic pain change, that they no longer look to the future, but focus on the past, especially the time before the pain problem began. Pain becomes the major focus of life, and positive experiences become fewer and fewer. Sternbach (1974) concurs with Leshan's view of the change in focus in persons with chronic pain.

Sternbach and Rusk (1973) also discuss the change in the perspective of patients with chronic pain. As their ability to work diminishes and they become unemployed, their relationships with others change to greater and greater dependency and hostility. Sternbach and Rusk describe pain patients in general as losing all goals and hopes for the future, feeling guilty, suffering low self-esteem, and being bored.

Holden (1977) states that pain patients as a group have given up on life. Bond (1978), Crown (1978) and Sternbach (1974) all describe pain patients as typically depressed and unable to focus or find positive aspects of living. Elton, Burrows and Stanley (1978) discuss the lessening of responsibility in those persons who have chronic pain, with resultant depression and feelings of failure. With their life experiences so limited by pain, it would be expected that the daydreams of such persons would also change to reflect their negative situations.

Statement of the Problem

As outlined above, various programs exist today that use visual imagery as part of their treatment regimen. It is an assumption of persons working in this area that visual imagery is subject to experimental manipulation and that said manipulation will benefit the patient's condition. More and more writers are proposing ways in which imagery can be used to facilitate the healing process to cure disease (Gawain, 1978; Achterberg & Lawlis, 1978, 1980) and to promote general health (Gawain, 1978). However, as previously stated, until now there has been little attempt to describe the visual imagery or daydreaming patterns of medical patients in general, or of individuals with specific diseases or physical disorders in particular.

The purpose of this study is to compare the imagery patterns of a sample of the general medical population, with those of a group of medical patients with a well-defined syndrome, namely, chronic pain syndrome.

It is hypothesized that chronic pain patients, in comparison to general medical patients will experience: 1) more imagery that is rooted in the past (a focus on life prior to injury) than on the future,

2) a lower frequency of achievement oriented daydreams, 3) a higher incidence of failure oriented daydreams, 4) fewer positive daydreams, and 5) more guilt oriented daydreams.

The ultimate goal of this line of inquiry will be to establish treatment approaches based on the manipulation of what is considered to be maladaptive mental imagery patterns and to assess the effect of this manipulation on the overall functioning of the patient. This paper will focus on the preliminary aspects of this research.

CHAPTER II

METHOD

Subjects

Two samples were drawn for this study. One sample which served as a comparison group consisted of 56 patients chosen arbitrarily from the inpatient population of the general medical services of the Portland Veterans' Administration Medical Center and the Oregon Health Sciences University. The only screening criteria were that they could be classified with an International Classification of Disease (ICD) medical diagnosis, the medical condition was essentially benign, a psychiatric diagnosis was absent, and a willingness to spend approximately one hour filling out the Imaginal Process Inventory (IPI).

The second sample consisted of 46 persons with chronic pain who were referred by their physicians for treatment at the Portland Veterans' Administration Medical Center Pain Program during the period from January, 1981 to August of 1981. The following are the criteria for acceptance in this program. Persons must have chronic pain which has persisted for more than one year's duration. This problem must be one for which further medical interventions or surgeries are no longer possible or feasible. Persons must indicate some motivation for learning ways to cope with pain, and agree upon reading a description of the program to participate in activities and assignments. Persons must also name a "significant other" (preferably a close family member) willing to participate with them in certain activities in the program.

Persons referred to the pain program present a wide variety of types of pain problems including back pain, constant headaches, tinnitus, phantom limb pain, and other combinations of pain problems. Most patients range in age from 25 to 55, have not worked for more than a year, have had at least two surgeries and have experienced chronic pain problems for at least three years' duration.

This sample was not representative of the total population of chronic pain patients in that it was selected from VA patients, predominantly males of a relatively low socioeconomic status. Moreover, these patients may also differ from the general population of patients with chronic pain in that they indicated a willingness to change their lifestyle by entering the VA program. Should the results of this preliminary research be fruitful, a subsequent project should attempt to sample a truer cross-section of chronic pain patients.

Setting

The chronic pain program at the VA is designed to help persons improve their functional activity level and to discontinue taking addictive and abusable medications. The program encourages activity, time structuring, exercise, relaxation, improvement of communication skills, increased assertiveness, and improvement of family relationships. Patients have assignments aimed at increasing self-esteem. There are groups for patients with their significant others, and counseling is performed both individually and with the family members to improve communication.

The program requires a four-week inpatient stay, with patients being required to go home on weekends to try their new skills in their home environments. Many behavioral concepts are incorporated.

Patients attend one group during which they show graphs of their pain experiences, and discuss how the pain is affecting them. Pain is not to be mentioned at any other time. Staff is trained to ignore "pain" behavior and to reinforce "healthy" behaviors. All medications are given at four fixed times per day, with no PRN medications permitted.

Instrument

Each subject was administered the Imaginal Process Inventory (IPI). This instrument by Singer and Antrobus (1970) presently provides the only multidimensional and relatively complete method of assessing daydreaming (see Appendix A). The IPI is a 344-item instrument consisting of 28 scales that sample broad thinking styles, attitudes toward daydreaming, and content of spontaneous thought. All of the scales are in a Likert format, offering five response choices. Twenty-seven of the scales have 12 items each, while one, Absorption in Daydreaming, has 20 items. To control for an acquiescent response set, half of the items within each scale are keyed in the opposite direction. The scales are independent of each other and do not yield a total score, but are scored individually. (See scoring key, Appendix C.)

In general, the internal consistencies as measured by Cronbach's alpha are quite satisfactory for all scales in the IPI. Only three fall below .75 and most are .80 and higher.

The following is a list of the specific scales of the Imaginal Processes Inventory. It should be noted that the items from these scales are not presented in order within the inventory itself. Items are randomized and spread through the instrument and later assembled by a scoring key.

- Scale #1: Daydreaming Frequency
- Scale #2: Night Dreaming Frequency
- Scale #3: Absorption in Daydreaming
- Scale #4: Acceptance of Daydreaming
- Scale #5: Positive Reactions in Daydreams
- Scale #6: Frightened Reactions to Daydreams
- Scale #7: Visual Imagery in Daydreams
- Scale #8: Auditory Images in Daydreams
- Scale #9: Problem-Solving Daydreams
- Scale #10: Present-Oriented Daydreams
- Scale #11: Future in Daydreams
- Scale #12: Past in Daydreams
- Scale #13: Bizarre Improbable Daydreams
- Scale #14: Mind Wandering
- Scale #15: Achievement-Oriented Daydreams
- Scale #16: Hallucinatory-Vividness of Daydreams
- Scale #17: Fear of Failure Daydreams
- Scale #18: Hostile Daydreams
- Scale #19: Sexual Daydreams
- Scale #20: Heroic Daydreams
- Scale #21: Guilt Daydreams
- Scale #22: Curiosity: Interpersonal
- Scale #23: Curiosity: Impersonal-Mechanical
- Scale #24: Boredom
- Scale #25: Mentation Rate
- Scale #26: Distractibility

Scale #27: Need for External Stimulation

Scale #28: Self-Revelation Scale

Obviously, an instrument attempting to assess unobservable psychological processes can be validated only indirectly. Huba (1976) states that a detailed inspection of the items of the IPI suggests it possesses face validity. One source of indirect validation is the replication of the inner structure of the instrument demonstrated by factor analyses. Huba (1976) concludes that while additional sources of data are needed to fully support claims for validity, current data support the view that the instrument measures the domain properly, and thus, in some measure, it possesses content validity.

Six scales were expected to be especially useful in testing the hypotheses. The scales listed below are especially pertinent:

Scale #5: Positive Reactions in Daydreaming

Scale #11: Future in Daydreams

Scale #12: Past in Daydreams

Scale #15: Achievement Oriented Daydreams

Scale #17: Fear of Failure in Daydreams

Scale #21: Guilt in Daydreams

Each of these scales has 12 items and each has a Cronbach alpha of more than .75. (See Appendix C.)

Procedure

Data needed for this study were collected for ongoing research conducted by Dr. Richard Cornish at the Veterans Administration Hospital. Control group subjects were obtained from inpatient medical services of the Portland VA and the Oregon Health Sciences University Hospital.

Actual administration of the instrument was by the present investigator who approached prospective subjects in their hospital rooms. The study was explained to the subjects and informed consent was obtained. Subjects were asked to complete the IPI as well as a cover sheet requesting some demographic data.

Similarly, patients in the VA pain program were asked to participate during the four weeks of treatment. The first 46 persons agreeing to serve as subjects comprised the chronic pain sample. Data for this sample collected in the manner described were used for this study.

Analysis

The data obtained from chronic pain patients were compared to those obtained from medical patients to see what differences, if any, existed. In that the scales are all independent of one another, comparisons were made between mean scores of chronic pain patients and general medical patients on each scale using a simple t test for independent data.

Certain scales were expected to be especially useful in testing the hypotheses. The hypothesis that patients with chronic pain will have more imagery rooted in the past than will general medical patients was tested by examining scores on Scale 12, (Past in Daydreams) and Scale 11, (Future in Daydreams). That persons with chronic pain would show a lower frequency of achievement oriented daydreams than other medical patients was tested by comparing the differences in the mean scores of the two groups on Scale 15, (Achievement Oriented Daydreams). The third hypothesis, that there would be a higher incidence of failure oriented daydreams for the chronic pain patients was tested by comparing mean scores on Scale 17, (Fear of Failure in Daydreams). Fourth, the hypothesis that pain patients would have fewer positive daydreams

was tested by comparing scores on Scale 5, (Positive Reactions in Daydreaming). The fifth hypothesis, that pain patients would have more guilt oriented daydreams involved examining responses to Scale 21, (Guilt in Daydreams). The accepted level of significance was .05, using a two-tailed test. All the scales were examined and compared to determine other relationships that were not specifically hypothesized.

CHAPTER III

RESULTS

The results of this study will be presented in the following manner. First, the sample is described. Then, findings related to the tests of the five hypotheses of the study are analyzed. Finally, the scores of pain and medical patients on the remaining IPI scales are compared.

The Sample

Subjects were selected and administered the Imaginal Processes Inventory over a period of eight months in accordance with the guidelines outlined in the previous chapter. There is no reason to surmise that patients seen in the pain clinic or on general medical wards during those months should differ systematically from patients seen in other months. There was a difference between the two groups in willingness to participate by filling out the questionnaire. Patients on the chronic pain unit were routinely given the questionnaire during their first week of hospitalization. Only four persons refused to fill it out. Thus, 50 persons were asked to complete the questionnaire, and 46 completed the forms. The response rate was 92%. Hence it is assumed that this sample is fairly representative of the clinic's patients. Of the medical patients approached, approximately one in three completed the questionnaire. This high rate of refusal is not surprising considering the length of the questionnaire (344 questions), and the fact that the investigator was a stranger to the patients approached. It is reasonable to conclude that the 56 respondents comprise a somewhat biased sample of medical patients.

Data on sex, age, education, and length of illness of the two samples are presented in Table 1. Both samples were predominantly male and similar in racial composition. The median number of years of education was 12 for both groups. The samples differed in length of illness and in age. The median length of illness in the chronic pain sample was 7 years as compared to 6 months in the general medical sample. The median age for the chronic pain patients was 48 years compared to a median age of 56 years for general medical patients. This difference between the two groups is statistically significant, according to the median test (Chi-square = 4.54, $p < .05$). These differences in age and illness might account for differences in responses of the two groups to certain categories of the IPI.

Table 2 indicates the categories of general medical patients included in this research. It may be seen that 22 (39%) of the 56 patients have a cardiovascular problem. The high proportion of such patients in this sample reflects the proportion of cardiovascular patients seen in the hospitals studied. The bias within the sample raises questions concerning generalization of the findings to medical patients in other settings.

Tests of the Hypotheses

The first hypothesis stated that chronic pain patients, when compared to general medical patients, experience more imagery rooted in the past and less imagery referenced in the future. As may be seen from Table 3, the mean scores of the two groups did not differ significantly on either Scale 11 (Future Oriented Daydreams), with means of 2.36 and 2.33 for the pain and medical patients, respectively; or on Scale 12 (Past Oriented Daydreams) with means of 2.32 and 2.24 for

TABLE 1

Characteristics of Medical Patients and Chronic Pain Patients
by Sex, Age, Education, and Length of Illness (N = 102)

Characteristics	Chronic Pain Patients (N = 46)		General Medical Patients (N = 56)	
	Number	Percent	Number	Percent
Sex				
Male	43	93%	54	96%
Female	3	7	2	4
Age (Years)				
24-29	8	17.4	6	10.7
30-39	11	23.8	6	10.7
40-49	8	17.4	10	17.9
50-59	13	28.1	18	32.1
60-69	4	8.7	12	21.4
70-75	2	4.3	4	7.1
Median	48 years		56 years	
Education				
Did not graduate from high school	14	30.4	2	3.5
High School graduate	20	43.5	32	57.1
College	10	21.7	10	17.9
College graduate	2	4.3	9	16.1
Post graduate	0	0	3	5.4
Median	12 years		12 years	
Length of Illness				
Less than 1 mo.	0	0	16	28.6
1 mo. - 5 mos.	0	0	12	21.4
6 mos. - 1 yr.	2	4.3	6	10.7
2 yrs. - 4 yrs.	16	34.4	14	25.
5 yrs. - 9 yrs.	19	41.3	3	4.4
10 yrs. -19 yrs.	8	17.4	4	7.1
20 yrs. -25 yrs.	1	2.2	2	3.6
Median	7 years		6 months	

TABLE 2

Type of Illness of General Medical Patients (N = 56)

Diagnosis	Number
Heart problems	19
Gastrointestinal problem	9
Headaches, vertigo, seizures	6
Diabetes	4
Lung problem	3
Hypertension	3
Arthritis	2
Hepatitis	1
Urinary retention	1
Dental problem	1
Pancreatitis	1
Guillain Barré Syndrome	1
Diagnostic-blood problem	1

pain and medical patients.

The second hypothesis stated that chronic pain patients, when compared to general medical patients, exhibit a lower frequency of achievement-oriented daydreams. Not only was the hypothesis not upheld, but the opposite was supported. As measured by Scale 15 (Achievement Oriented Daydreams) pain patients showed a significantly higher frequency of achievement oriented daydreams (means of 1.84 versus 1.25, $t = 2.95$, $p < .004$).

The third hypothesis, that the incidence of failure oriented daydreams is higher for the chronic pain patients, was upheld. On Scale 17 (Fear of Failure in Daydreams) the mean for the pain patients was 1.59 and .78 for the medical patients ($t = 4.81$, $p < .001$).

The fourth hypothesis, that chronic pain patients, when compared to general medical patients have fewer positive daydreams, was not upheld. On Scale 5 (Positive Reactions in Daydreams) the mean for pain patients was 2.48 compared to a mean for medical patients of 2.31, ($t = .97$, $p = .335$, ns.).

The fifth hypothesis, that chronic pain patients, when compared to general medical patients, have more guilt-oriented daydreams, was upheld. Pain patients obtained a mean score of 1.11 on Scale 21 (Guilt in Daydreams) and medical patients obtained a mean score of .64 ($t = 2.6$, $p < .01$).

In summary, there were no differences between the two groups with regard to past or future orientation, or positive reactions in daydreams. Pain patients differed from the medical patients in exhibiting more fear of failure and more guilt in daydreams. Pain patients also had more achievement-oriented daydreams (see Table 3).

TABLE 3

Comparison of Pain Patients and Medical Patients on the
Six Imaginal Processes Inventory (IPI) Scales Related to the Hypotheses.

Scale and Number	Pain Patients (N = 46)		Medical Patients (N = 56)		<u>t</u>
	Mean	S.D.	Mean	S.D.	
5 Positive Reactions in Daydreams	2.48	.77	2.31	.97	.97
11 Future Oriented Daydreams	2.39	.66	2.33	.86	.19
12 Past Oriented Daydreams	2.32	.85	2.24	.84	.46
15 Achievement Oriented Daydreams	1.84	.99	1.27	.98	2.95*
17 Fear of Failure in Daydreams	1.59	.93	.78	.76	4.81*
21 Guilt Daydreams	1.11	.96	.65	.85	2.60*

* $p < .05$

Comparison of Samples on Additional Scales

Looking at the other 22 scales of the IPI, the pain patients and medical patients obtained significantly different scores as determined by t tests on 8 scales (see Table 4). Pain patients scored higher on Scale 6 (Frightened Reactions in Daydreams), Scale 13 (Bizarre, Improbable Daydreams), Scale 16 (Hallucinatory Vividness of Daydreams), Scale 18 (Hostile Daydreams), Scale 20 (Heroic Daydreams), Scale 23 (Curiosity: Impersonal Mechanical), and Scale 24 (Boredom), Medical patients scored higher only on Scale 10 (Present Oriented Daydreams).

TABLE 4
 Comparison of Pain Patients and Medical Patients
 on Remaining 22 Imaginal Processes Inventory
 (IPI) Scales not Included in the Hypotheses

Scale and Number	Pain Patients (N = 46)		Medical Patients (N = 56)		<u>t</u>
	Mean	S.D.	Mean	S.D.	
1. Daydreaming Frequency	1.968	.92	1.706	1.04	1.34
2. Night Dreaming Frequency	1.491	1.04	1.370	1.13	.56
3. Absorption in Daydreams	2.125	.87	1.898	.99	1.22
4. Acceptance of Daydreaming	2.801	.74	2.796	.76	.04
6. Frightened Reactions in Daydreams	1.652	.89	1.250	.89	2.26*
7. Visual Imagery in Daydreams	2.263	.93	2.165	.96	.52
8. Auditory Imagery in Daydreams	1.617	1.19	1.560	.96	.23
9. Problem-Solving Daydreams	2.248	.80	2.061	.94	1.06
10. Present Oriented Daydreams	2.155	.59	2.433	.63	- 2.36*
13. Bizarre, Improbable Daydreams	1.678	.78	1.283	.77	2.57*
14. Mind Wandering	2.261	.62	2.011	.70	1.91
16. Hallucinatory-Vividness in Daydreams	1.499	.98	1.095	1.00	2.05*
18. Hostile Daydreams	1.620	1.03	.962	.95	3.35*
19. Sexual Daydreams	2.032	.83	1.815	1.09	1.11
20. Heroic Daydreams	1.326	.85	.787	.64	3.63*
22. Curiosity: Interpersonal	1.983	.68	1.949	.77	.23
23. Curiosity: Impersonal- Mechanical	2.445	.72	2.072	.73	2.59*
24. Boredom	1.836	.82	1.385	.81	2.77*
25. Mentation Rate	2.311	.72	2.240	.61	.54
26. Distractibility	2.146	.70	1.858	.85	1.83
27. Need for External Stimulation	2.153	.65	1.968	.65	1.44
28. Self Revelation	1.848	.65	1.665	.68	1.37

*p < .05

CHAPTER IV

DISCUSSION

Hypothesis 1

In describing pain patients, Leshan (1964) posits that such patients have nothing to look forward to in the future and that they focus on the past. Likewise, Sternbach and Rusk (1973) hold that pain patients have lost all goals and hopes for the future. To test these assertions it was hypothesized that chronic pain patients would experience significantly more imagery dealing with the past and significantly less imagery referenced in the future than would general medical patients. That this hypothesis was not upheld on either count leads one to question the above assumption.

To act as a point of comparison, the scores obtained for the pain patient and medical patient samples are compared to "normative" data provided by Singer and Antrobus (1970) from administering the IPI to 200 college freshmen in a beginning psychology course. It must be kept in mind that one would expect differences in the daydreaming or "internal dialogue" patterns of college students and older persons of lower socioeconomic status, such as the clients of the VA system. The mean score for Scale 12, (Past Oriented Daydreams) was 2.3 for pain patients, 2.2 for medical patients, and 2.0 for college freshmen. These scores are from a Likert scale, ranking items 0 to 4. The score of 4 means "very true for me" or "strongly characteristic of me", and 0 means "not true for me" or "strongly uncharacteristic of me". The middle numbers in the scale stand for intermediate degrees between "very true" and

"definitely not true". Note that a score of 2 is the midpoint of the scale and therefore would be interpreted as meaning that that form of daydream is neither characteristic nor uncharacteristic of the individual. The small differences among the groups are not significant and are in the direction expected since research by Giambra (1974) indicates that daydreaming becomes more past oriented with age. The mean score for Scale 11 (Future Oriented Daydreams) was 2.4 for the pain group, 2.3 for the medical group and 2.6 for college freshmen. Again, as might be expected, the college group reported more future oriented daydreams than middle aged medical or chronic pain patients. However, the differences are small and insignificant.

One might assume that because the two groups do not differ on past or future orientation in daydreams that there would be similarity in their orientation towards the present. The data, however, show this not to be the case, in that general medical patients exhibited a significantly greater present orientation in daydreams than did the pain patients. The mean score of medical patients was 2.4, compared to the 2.2 mean for pain patients, and the 2.1 mean for college freshmen. The greater present orientation of medical patients might be attributed to the acute phase of their condition.

Finally, it should be noted that for all groups discussed, scores clustered close to the midpoint of all three scales, indicating that no group had a tendency to daydream more in the future than in the present or the past. Time orientation is apparently not a differentiating characteristic of daydreaming for these samples.

Hypothesis 2

Holden (1977) has described pain patients as "a group of people

who have given up on life" (p. 10). Pain patients have also been found to be typically depressed (Bond, 1978; Crown, 1978; Sternbach, 1974). This led to the hypothesis that pain patients would exhibit less achievement orientation in daydreams than would general medical patients. The data support the opposite position. These pain patients exhibited a significantly higher achievement orientation in daydreams. There are several possible reasons for this. Very simply, the older age of the general medical sample may predispose them to fewer achievement oriented daydreams. When the scores are compared, it is interesting to note that chronic pain patients had a slightly higher mean score (1.8) on Scale 15 (Achievement Oriented Daydreams), than college freshmen, with a mean score of 1.7, (Singer & Antrobus, 1970), and a significantly higher score than medical patients whose mean score was 1.3. However, again it should be noted that all three mean scores are below the scale's midpoint, indicating that possibly achievement is a rather weak theme in their daydreaming.

Hypothesis 3

Leshan (1964) has described patients with chronic pain as feeling threatened and controlled by outside forces and limited in their ability to accomplish goals. Similar views have been expressed by Sternbach and Rusk (1973). It has been further argued that persons with chronic pain may deny responsibility for failure (Elton, et al., 1978). This freedom from responsibility may be reinforcing to the individuals and lead to the continued expression of pain behavior (Fordyce, 1976). To test this line of reasoning, it was hypothesized that pain patients showed fear of failure more than medical patients, and that this fear would be more evident in their daydreams.

Examination of the mean scores for Scale 17 (Fear of Failure in Daydreams) reveals a greater fear of failure among pain patients (mean = 1.6) than among medical patients (mean = 0.8) or college freshmen (mean = 0.9, as reported in Singer & Antrobus, 1970). The data support hypotheses 3, and therefore it might be argued that this lends credence to the theoretical views outlined above. However, this argument weakens when it is recognized that the absolute scale values are low. None of the samples - pain patients, medical patients, or college freshmen - expressed even a moderate amount of fear of failure in daydreams.

Hypothesis 4

Two separate trains of thought led to the hypothesis that chronic pain patients would have fewer positive reactions in daydreams than general medical patients. First, almost all authors who describe the chronic pain patient's current level of psychological functioning do so in quite negative terms, i.e., despairing (Sternbach, 1974), irritable and guilt ridden (Holden, 1977), and neurotic (Crown, 1978). Second, cognitive imaging of pleasant events has been used as a technique to teach patients to reduce their awareness of pain (Barber & Chaves, 1974). It was assumed that if positive imaging helps alleviate pain, then chronic pain patients without treatment might experience a low incidence of such imaging and this low incidence would be reflected in daydreams. This hypothesis was not upheld. No difference was found between chronic pain patients and general medical patients in their positive reactions in daydreams. In fact, both groups scored slightly higher, though not significantly so than college freshmen. On Scale 5 (Positive Reactions in Daydreams) pain patients obtained a mean score of 2.5, medical patients,

2.3, and college freshmen, 2.3.

The reason for this failure to find a negative orientation toward life in pain patients' daydreaming patterns is not immediately apparent. One explanation could be that the negative personality style of pain patients does not necessarily manifest itself in a lack of positive reactions in daydreams. Possibly due to the bleakness of their current reality, chronic pain patients' only positive experiences may occur in fantasy.

Another plausible explanation could be that the pain patients have been in pain for a longer period of time. The literature states that as time goes on the world of the pain patient becomes more bleak and impoverished and the patient undergoes negative psychological changes (Sternbach, 1974; Holden, 1977, Elton, Burrows & Stanley, 1979). The pain patients in this study have just entered a program designed to help them alleviate their pain and to significantly improve their quality of life. They have heard motivational reports from the staff as to the efficacy of the program. They have met with patients who have already been in the program for one to four weeks and have heard numerous success stories. It seems reasonable to assume that their expectations would be more positive than those of the average pain patient outside the program, and that these expectations may well be reflected in their current fantasy. Again, this is a speculation, but will have to await empirical verification.

Hypothesis 5

Holden (1977) describes chronic pain patients as "guilt-ridden for not being able to take care of their families" (p. 10). Elton, et al., (1978) describe the relationships of pain and guilt, going so

far as to state that a "guilt-ridden self-punishing personality is one of the contributing causes in the genesis of intractable pain" (p. 25). Whether conceptualized as cause or consequence of pain, guilt is ascribed by many authors to pain patients (Crown, 1977; Leshan, 1964; Sternbach, 1974). Sternbach and Rusk (1973) claim patients experience ever increasing guilt as their ability to work diminishes and they become more dependent on others and more fearful of their future. To test this assertion, it was hypothesized that chronic pain patients would experience significantly more guilt daydreams than general medical patients. This hypothesis was upheld. The mean score for Scale 21 (Guilt Daydreams) was 1.1 for pain patients, compared to 0.6 for medical patients and 0.8 for college freshmen. However, the score of 1.1 is very low, suggesting that guilt is not a strong theme in daydreams. Whether or not the data support the assertion made in the literature must remain a matter of opinion.

Discussion of Other Findings

Other scales on which the pain and medical group showed significant differences will briefly be discussed, and results compared to those obtained from a "normative" group of college freshmen as a reference point. Pain patients had a mean score of 1.4 on Scale 6 (Frightened Reactions in Daydreams). Medical patients had a mean score of 1.3, and college students of 1.4. Crown (1978) states that anxiety may be a key in understanding the development of pain. He defines anxiety as fear without a definable object, as fear of a specific object, and as fear expressed in a physical symptom. The same authors who ascribe guilt to pain patients (Holden, 1977; Elton, et al., 1978; Leshan, 1964;

Sternbach, 1974) have all also ascribed fear to them. Fear is not marked, but was slightly greater for pain patients than medical patients, indicating they have more frightened reactions in daydreams.

Pain patients had a significantly higher mean score (1.7) on Scale 13 (Bizarre Improbable Daydreams) than did medical patients, who had a mean of 0.8. The college group had a mean of 1.6, about the same as the pain patients'. Without comparison to the normative group, it might be assumed that people with pain have a "flight into fantasy" to compensate for increased boredom, inability to work, etc. Since the pain patients' mean is similar to that of the "normative" group, these findings may instead indicate that the medical group is the deviant group with significantly fewer fantasies as they focus increasingly on the present, and are immediately concerned with health.

Scale 16 (Hallucinatory Vividness of Daydreams) also received significantly higher responses from pain patients (mean of 1.5) than from medical patients (mean of 1.1), and from college freshmen (mean of 1.0). One could speculate that having vivid daydreams might occur significantly more in the pain group to compensate for boredom. The pain experience may well influence the way one relates to reality, especially as other satisfying experiences become less frequent, creating a need for more stimulation, which may result in more vivid daydreams.

Hostile daydreams, measured by Scale 18 are also significantly more frequent for the pain patient group, with a mean of 1.6, compared to 1.0 for the medical patients and 1.3 for college freshmen. Sternbach (1974) states that pain patients become increasingly hostile, as doctors fail to give them answers or provide lasting relief, and they must become increasingly dependent.

Pain patients also had a significantly higher mean score than medical patients on Scale 20 (Heroic Daydreams), with means of 1.3 and 0.8 respectively. Again one might speculate that heroic daydreams provide a "flight into fantasy", as compensation for the limitations that pain patients have. However, the mean score of the college freshmen of 1.4 is not significantly different from the mean of the pain group, so one might again conjecture that the medical group is more absorbed in present problems and less involved in this type of fantasy.

Scale 23 (Curiosity: Impersonal Mechanical) differs significantly among all three groups. Singer describes this scale as emphasizing mechanical skill and work, with a clear-cut masculine emphasis (Singer & Antrobus, 1970). Pain patients had a mean of 2.4 compared to 2.1 for the medical group, and 0.5 for the college freshmen. This scale most likely indicates a difference in samples compared. Pain patients and medical patients are from a lower socioeconomic group. Many have worked as laborers and would be likely to express more curiosity of a mechanical nature than the college sample.

Finally, the pain group rated higher (mean = 1.8) than the medical group (mean = 1.4) on Scale 24 (Boredom). Surprisingly, the college freshmen had a mean of 1.8, a score not significantly different from the pain patients'. Again, boredom is a characteristic ascribed to pain patients (Leshan, 1966; Sternbach, 1974; Crown, 1978) and one might expect a higher degree of boredom. The fact that college freshmen scored in a similar fashion to pain patients indicates that perhaps ratings on this scale are not so different for pain patients. Further research needs to be done on this aspect. These groups all rate low on boredom on the scale of 0 to 4.

Summary

Overall, it can be seen that pain patients and medical patients did not differ as to future or past orientation in daydreams or in regard to positive reactions in daydreams. Pain patients had significantly more achievement oriented daydreams than medical patients, which was the reverse of what the hypothesis predicted. Pain patients also reported more daydreams featuring fear of failure and guilt as hypothesized.

Pain patients also had more frightened reactions, bizarre improbable daydreams, hallucinatory vividness of daydreams, hostile daydreams, heroic daydreams, daydreams indicating curiosity of an impersonal/mechanical nature, and expressed more boredom than medical patients. Medical patients had a significantly greater present orientation than did the pain patients.

On all the scales, however, pain patients still scored on the low end of the continuum. In short, they reported less than a moderate frequency of daydreams with emphasis on achievement, fear of failure, guilt, frightened reactions, hostility, hallucinatory vividness, bizarreness, heroism and boredom. They reported a moderate frequency of dreams with a past, a future, a present orientation, and curiosity of a mechanical kind.

Evidence for the basic underlying assumption of abnormal daydreaming is absent, and differences with other groups are small though significant in some instances.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The problem of chronic pain presents a puzzle for clinicians and researchers. The victims of chronic pain are among the most desperate and overlooked failures of the health care system. Recently, in recognition of the difficulties encountered in the treatment of chronic pain by standard medical interventions such as analgesic drugs and surgery, new methods are being tried. It has been assumed by many clinicians working with chronic pain that visual imagery which is subject to experimental manipulation will benefit the patient's condition. However, there has been little attempt to describe the visual imagery or daydreaming patterns of persons with physical problems in general, or of individuals with specific disease. It would seem, then, important for health care workers to learn if there are characteristic imagery patterns of persons with chronic pain, in order to create the most effective visualization strategies.

Numerous authors have described patterns of change that occur in the perspective of chronic pain patients to the world. Among changes predicted to occur to pain patients are: 1) an increase in imagery rooted in the past (a focus on life prior to injury) rather than on the future; 2) a lessened frequency of achievement oriented daydreaming; 3) a higher incidence of failure oriented daydreams, 4) fewer positive daydreams, and 5) more guilt oriented daydreams.

The purpose of the present research was to compare a sample of chronic pain patients, with a medical sample as a comparison group, to see if the perspective of pain patients changes as predicted.

Additionally, it was the purpose of this study to compare the imagery patterns of a sample of the general medical population, with those of a group of patients with chronic pain syndrome to see if other differences in perspective could be discovered.

The instrument used was the Imaginal Process Inventory (IPI), developed by Singer and Antrobus in 1963. It is presently the only multidimensional and relatively complete method of assessing daydreams. It consists of 344 items, with 28 scales sampling broad thinking styles, attitudes towards daydreaming, and content of spontaneous thought.

Subjects for this investigation were persons with chronic pain syndrome in their first week in the pain program at a Veterans Administration hospital. Another sample taken to serve as a comparison group consisted of general medical patients from a Veterans Administration hospital and a University teaching hospital. The first 46 patients to agree to answer the IPI which was routinely given the first week in the pain program comprised the pain sample, with a 92% response rate. The medical sample was obtained by asking patients if they would participate in research to help increase understanding about chronic pain. Sixty-six percent of the persons approached refused, leading to a potential bias in the two comparison groups. The medical patients were significantly older (56) than the pain patients (48 years). Length of illness was also significantly different, with the mean for length of illness being seven years for chronic pain patients and six months for medical patients.

The major findings of this study indicate that there was not a significant difference in past or in future orientation in pain patients' daydream patterns. The pain patients, contrary to expectation had

significantly more achievement oriented daydreams than medical patients. Pain patients, as predicted, had significantly more fear of failure and more guilt daydreams. There was no difference with regard to positive reactions in daydreams.

The findings and problems encountered during this investigation suggest several possibilities for future research. The present study included 46 chronic pain patients, and 56 general medical patients. A study needs to be conducted using a larger, randomly selected, more representative sample which would yield more valid results.

The data for the current study were collected using the IPI, a 344 item scale. A future study utilizing a shortened version, having people only do scales which are expected to differ, might lead to a greater completion rate. In other words, the tool used, the IPI, needs considerable refinement for future work.

Since persons with chronic pain participating in a treatment program expect positive change, it seems probable that their daydream style as reported might be affected by this. A population of persons with chronic pain syndrome, not hospitalized, needs to be studied.

Another very interesting and important area for research is whether visualization strategies can actually change the imagery patterns of individuals; if there are changes, are they permanent, and will changing people's daydream styles actually make a difference in the pain problems.

Finally, a few comments are in order regarding the implications for practice to be derived from this study. There may be a predictable pattern of daydreaming content and style for patients with chronic pain. Understanding this pattern might help in creating more powerful

visualization strategies. However, the findings of this study are not enough to warrant the above assumptions, since essentially all three groups had similar responses on the IPI.

The possibility of effective interventions especially using visualization strategies should increase as our knowledge increases regarding the changes in daydreaming content and style that may occur in persons with chronic pain. Perhaps it will be found that persons within the chronic pain group who achieve extreme scores on the IPI will benefit from strategies devised, but this needs to be researched. Physicians, nurses, and other health practitioners should be involved in research aimed at developing and applying methods to help chronic pain sufferers find relief through visualization techniques, and be carefully evaluating these methods.

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APPENDIX A

Imaginal Processes Inventory
(Singer & Antrobus, 1966)

IMAGINAL PROCESSES INVENTORY

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IMAGINAL PROCESSES INVENTORY

We are asking your cooperation in responding to a questionnaire about your inner experiences, your images, dreams and daydreams. Your cooperation is necessary if psychologists are to be able to gather information on the personal experiences we may all have which can later serve as bases for understanding the range of human thought. Whether you sign your name on the scoring sheets or cards, or merely a code number, you can be assured that your anonymity will be preserved. Future use of this data will only make use of code numbers and the list of names will be destroyed at the end of the initial research period.

Please note that when we use words like "daydreams" we are using popular terminology for which there is not "official" definition. You may have a particular idea of what you mean by a daydream or fantasy. Try to answer these items as they seem most to apply to you. Make a distinction between thinking about an immediate task you're performing, e.g. working, doing schoolwork and thinking directly about it while you are doing it and daydreaming which involves thoughts unrelated to a task you are working on or else thoughts that go on while you are getting ready for sleep or on a long bus or train ride.

INSTRUCTIONS

Look at the IBM answer sheet or card and read the instructions for making the answers.

Enter your name or code number (if appropriate). Fill in the date, your age, date of birth, sex, school, college or occupation and city. Omit grade or class or instructor. On the last line, after "Name of Test", write: "Imaginal Processes Inventory" if this is requested on your answer sheet or card.

PART I

There are 24 questions in Part I. Each question has 5 possible answers. For each question, choose the answer which is most true or appropriate for you. Each answer corresponds to one of the numbers 1 through 5. Locate the number of each question on the answer sheet. Then fill in between the lines under the number that indicates your answer.

PROCEED WITH PART I

1. I daydream
 1. infrequently.
 2. once a week.
 3. once a day.
 4. a few times during the day.
 5. many different times during the day.

2. Daydreams or fantasies make up
 1. no part of my waking thoughts.
 2. less than 10% of my waking thoughts.
 3. at least 10% of my waking thoughts.
 4. at least 25% of my waking thoughts.
 5. at least 50% of my waking thoughts.

3. As regards to daydreaming, I would characterize myself as
 1. someone who never daydreams.
 2. someone who very rarely engages in daydreaming.
 3. someone who tends towards occasional daydreaming.
 4. someone who tends towards moderate daydreaming.
 5. an habitual daydreamer.

4. I have a night dream
 1. rarely or never.
 2. once a month.
 3. several times a month.
 4. several times a week.
 5. once a night.

5. I recall or think over my daydreams
 1. infrequently.
 2. once a week.
 3. once a day
 4. a few times during the day.
 5. many different times during the day.

6. When I am not paying close attention to some job, book, or TV, I tend to be daydreaming
 1. 0% of the time.
 2. 10% of the time.
 3. 25% of the time.
 4. 50% of the time.
 5. 75% of the time.

7. I can recall a dream
 1. rarely or never.
 2. once a month.
 3. several times a month.
 4. several times a week.
 5. once a night.

8. When I am sleeping, I seem to be dreaming
 1. practically never.
 2. just a little.
 3. some of the time.
 4. more than half the time.
 5. most of the time.

9. Instead of noticing people and events in the world around me, I will spend approximately
 1. 0% of my time lost in thought.
 2. less than 10% of my time lost in thought.
 3. 10% of my time lost in thought.
 4. 25% of my time lost in thought.
 5. 50% of my time lost in thought.

10. I daydream at work (or school)
 1. infrequently.
 2. once a week.
 3. once a day.
 4. a few times during the day.
 5. many different times during the day.

11. I recall my night dreams vividly
 1. rarely or never.
 2. once a month.
 3. several times a month.
 4. several times a week.
 5. once a night.

12. I recall my night dreams in the form of
 1. vague impressions.
 2. fragments.
 3. general idea.
 4. main plot with some detail.
 5. clearly with great detail.

13. A night's sleep for me contains a dream
 1. rarely or never.
 2. once a month.
 3. several times a month.
 4. several times a week.
 5. once a night.

14. Recalling things from the past, thinking of the future, or imagining unusual kinds of events occupies
 1. 0% of my waking day.
 2. less than 10% of my waking day.
 3. 10% of my waking day.
 4. 25% of my waking day.
 5. 50% of my waking day.

15. I recall my dreams fairly clearly
 1. rarely or never.
 2. once a month.
 3. several times a month.
 4. several times a week.
 5. once a night.

16. I have a really vivid dream
 1. rarely or never.
 2. once a month.
 3. several times a week.
 4. once a week.
 5. every night.

17. I lose myself in active daydreaming
 1. infrequently.
 2. once a week.
 3. once a day.
 4. a few times during the day.
 5. many different times during the day.

18. Whenever I have time on my hands I daydream
 1. never.
 2. rarely.
 3. sometimes.
 4. frequently.
 5. always.

19. I recall my dreams in some form
 1. rarely or never.
 2. once a month.
 3. several times a month.
 4. several times a week.
 5. once a night.

20. When I am at a meeting or show that is not very interesting, I daydream rather than pay attention
 1. never.
 2. rarely.
 3. sometimes.
 4. frequently.
 5. always.

21. I recall interesting or elaborate dreams
 1. rarely or never.
 2. once a month.
 3. several times a month.
 4. several times a week.
 5. once a night.

22. I consider myself a person who dreams
1. never.
 2. rarely.
 3. occasionally.
 4. frequently.
 5. a great deal.
23. I am awakened with the realization that I have been dreaming
1. rarely or never.
 2. once a month.
 3. several times a month.
 4. several times a week.
 5. once a night.
24. On a long bus or train ride I daydream
1. never.
 2. rarely.
 3. occasionally.
 4. frequently.
 5. a great deal of the time.

PART II

All of the remaining items belong to Part II. Each item says something about daydreams or daydreaming. Indicate to what extent each item applies to you, or is true for you.

- 5 stands for "very true for me" or "strongly characteristic of me".
- 1 stands for "definitely not true for me" or "strongly uncharacteristic of me".

The middle numbers in the scale stand for intermediate degrees between "very true" and "definitely not true".

PROCEED WITH PART II

25. My mind seldom wanders while I am working.
26. I daydream about accomplishing a difficult task.
27. I can be aroused and excited by a daydream.

28. Daydreams I have often are about different ways of finishing things I still have to do in my life.
29. I often have thoughts about things that could rarely occur in real life.
30. A "happy" daydream helps me "snap out of" a spell of unhappiness.
31. Most of the things I do are not important or interesting.
32. I find myself thinking more about interesting and new machines rather than about people.
33. When faced with a difficult situation, I imagine that I have worked out the problem and try out my solution in my thoughts.
34. I find myself imagining that I am a top executive and respected by all my colleagues.
35. As a child I was a constant daydreamer.
36. I daydream about utterly impossible situations.
37. The visual images in my daydreams are so vivid, I believe that they are actually happening.
38. If something is really on my mind I often brood on it for hours on end.
39. I often think about the lives of famous persons.
40. My daydreams are often stimulating and rewarding.

41. In my daydreams I solve the problems of my family and my friends as well as my own.
42. During a daydream I sometimes feel a rousing sense of enthusiasm and excitement.
43. The things I daydream about aren't things that could happen in real life.
44. I daydream about working at something which later becomes vitally important to industry and society.
45. Each day is full of things which keep me interested.
46. I have always been interested in the lives of other persons.
47. My daydreams offer me useful clues to tricky situations I face.
48. My daydreams often cheer me up when I feel blue.
49. At times it is hard for me to keep my mind from wandering.
50. I find that I easily lose interest in things that I have to do.
51. My daydreams are fairly realistic.
52. In my daydreams, both visual scenes and sounds are so clear and distinct that I almost have to pinch myself to make sure they're not real.
53. Sometimes a thrill goes up my spine as I reflect on a great moment of triumph or achievement.

54. My daydreams are always just sort of ways of passing time rather than attempts to solve my actual daily problems.
55. Most things that are interesting to start with lose their appeal after a while.
56. My daydreams are as weird as science fiction.
57. In my daydreams, I exceed my parents' expectations.
58. I have always liked to take things apart to see what makes them work.
59. When I visit a place of historical importance, I tend to be more interested in the buildings and the objects inside, than in the lives of the people who once lived there.
60. My mind seldom wanders from my work.
61. It is hard for me to distinguish my daydreams from what is actually happening in real life.
62. I become so affected by my daydreams, that they will subsequently determine my mood.
63. I tend to get pretty wrapped up in my daydreaming.
64. My idle thoughts do not provide me many workable solutions to problems.
65. I know relatively little about the mechanical operation of an automobile.
66. During a lecture or speech, my mind often wanders.

67. I like to finish what I am doing before starting something new.
68. I often relive happy or exciting experiences in my daydreams.
69. My daydreams are closely related to problems that come up during my daily life.
70. I often notice a person at a restaurant or bar and wonder what he does for a living or what kind of a person he is.
71. I have often thought that I would like to do research in the physical sciences.
72. I daydream about doing things I know will never be possible for me.
73. I imagine receiving the highest honor given in my field of work.
74. I believe I actually see visions of people I know even though it seems impossible for them to be there at the time.
75. I seldom have the same daydream more than once.
76. I have seldom found my mind wandering during a speech, concert, show, radio, or TV program.
77. My daydreams often leave me with feelings of sadness.
78. I tend to be easily bored.
79. My daydreams are realistic and rarely contain wild, strange thoughts.

80. Some of the voices in my thoughts are threatening or frightening.
81. I am interested in the kinds of highly skilled machine operations that can be successfully duplicated by completely automatic equipment.
82. A daydream can bring a smile to my face.
83. I imagine solving all my problems in my daydreams.
84. I seldom get really interested and involved in what I am doing.
85. My thoughts seldom drift from the subject before me.
86. When buying a finished product at a store, it would never occur to me to think of the many involved processes that have gone into its production.
87. I like to read about the personal lives of persons of public prominence.
88. Sometimes my imagination keeps coming back to the same things over and over again, no matter how much I try to change the subject.
89. I often imagine myself as a different person or living a very different life than I am now.
90. In my fantasies, voices of people important in my life are telling me what to do.
91. When I have an unusually enjoyable daydream, I try to prevent it from coming to an end.

92. I am the kind of person whose thoughts often wander.
93. In my fantasies, I receive an award before a large audience.
94. I often find it quite difficult to finish something that I was initially quite interested in.
95. I usually feel content and quite excited after a daydream.
96. Daydreams do not have any practical significance for me.
97. Some of my daydreams are so striking that I keep on thinking about them after they're over.
98. I have little interest in the private lives of my schoolmates or fellow workers.
99. The events in my daydreams are so much like the things I do from day to day.
100. My daydreams are so clear that I often believe the people in them are in the room.
101. I can work at something for a long time without feeling the least bit bored or restless.
102. I have little difficulty in keeping my attention focused on a long, tedious task.
103. When traveling through a residential area for the first time, I often wonder how the local inhabitants live their daily lives.
104. When a child, I would often create a great fantasy world for myself.

105. I have little or no interest in the private affairs of others.
106. In my daydreams, I have succeeded in becoming a respected figure in my field of work.
107. I often wonder how a particular electrical or mechanical device works.
108. The voices and sounds in my daydreams seem real.
109. Sometimes a daydream will make me so upset that I feel like crying.
110. Daydreams are more likely to arouse pleasant than unpleasant emotions within me.
111. My fantasies sometimes surprise me by suggesting an answer to a problem which I could not work out.
112. I can work at one thing for a long time with relatively little effort.
113. I like to read about new scientific findings.
114. The things that happen in my daydreams are often extremely strange and unusual.
115. I daydream about being promoted to a better position.
116. I am not particularly interested in what life is like in far off countries such as India.
117. No matter how hard I try to concentrate, thoughts unrelated to my work always creep in.

118. In my daydreams, the voices of people in my family are criticizing me.
119. Something that has happened during the day often goes over and over in my mind.
120. Most of my time is filled with exciting, interesting things.
121. In my idle thoughts, I picture myself receiving an award for outstanding achievement in my field.
122. I find the humanities more stimulating than the sciences.
123. I often wonder about the life of a person I happen to see standing at a window of an apartment building.
124. My daydreams often leave me with a warm, happy feeling.
125. I can get a fresh approach to an old problem almost at once during what begins as an idle daydream.
126. Voices in my daydreams seem so distinct and clear that I'm almost tempted to answer them.
127. My daydreams seldom repeat themselves.
128. Most of my daydreams are about really unusual people or about events that could hardly ever happen.
129. I picture myself being very successful and living in a beautiful home in the country.
130. I tend to be quite wrapped up and interested in whatever I am doing.

131. My imagination often goes around and around in the same circle.
132. I have difficulty in maintaining concentration for long periods of time.
133. I seldom wonder about the mysteries of the physical world such as where does electricity come from.
134. I am not interested in the personal lives of prominent persons.
135. A daydream can completely change my mood.
136. In my daydreams, I see myself as an expert, whose opinion is sought by all.
137. The people in my daydreams are so true to life, I often believe they are in the same room with me.
138. I feel very emotional during my daydreams.
139. I have often wondered how a bird is able to fly.
140. My fantasies usually provide me with pleasant thoughts.
141. Sometimes an answer to a difficult problem will come to me during a daydream.
142. I often have some kind of emotional reaction to my daydreams.
143. While traveling in the subway or train, I rarely wonder about how my fellow passengers live--when they are not on the subway.

144. My daydreams are fairly matter-of-fact and down-to-earth.
145. I am seldom bored.
146. I often daydream about events that happened over a year ago.
147. During a speech, meeting, or lecture I often "come to" - realizing that I have not heard a word the speaker was saying.
148. I often have the same daydream over and over again.
149. I picture myself being accepted into an organization for successful individuals only.
150. My thoughts seem as real as actual events in my life.
151. Some of my daydreams are so powerful that I just can't take my attention away from them.
152. I do not like to visit factories and manufacturing plants.
153. Daydreaming in an adult is really childish.
154. Before going somewhere, I imagine the scene and what I will be doing.
155. In my daydreams, I fear meeting new responsibilities in life.
156. Sometimes during the day I am not particularly aware of anything within my mind.

157. My daydreams often contain depressing events which upset me.
158. In a daydream, I can hear a tune almost as clearly as if I were actually listening to it.
159. I imagine myself physically hurting someone I hate.
160. My attention is seldom diverted by what others around me are doing.
161. The "scenes" in my daydreams are sort of fuzzy and unclear.
162. My daydreams always relate to events current in my life.
163. I often daydream about events that happened more than a year ago.
164. I enjoy arguing with someone who knows a lot.
165. Daydreaming is normal for adults as well as for adolescents and children.
166. I picture myself as I will be several years from now.
167. I picture myself not receiving a promotion I long waited for.
168. My mind is often blank.
169. A mere daydream cannot frighten or upset me.
170. When people speak in my daydreams, I cannot really hear their voices.

171. In my fantasies, I am resentful to a superior for reprimanding me without just cause.
172. I am always glad when I find an excuse to take me away from my work.
173. I can see the people or things in my daydreams as if they were moving around.
174. My thoughts are never on things far removed from my present-day problems.
175. I never think at all about events or scenes of my early childhood.
176. I find that sitting home is a nice way to pass the time.
177. I feel badly about daydreaming because it may indicate a weakness in character.
178. I am more likely to think about tomorrow than wonder about yesterday.
179. I find myself imagining the unhappiness I caused my family because of my failure.
180. When alone, thoughts do not stop racing through my mind.
181. I will not allow myself to think of some things, knowing how upset I can become when I do.
182. My daydreams are usually accompanied by the sounds of the subjects of my daydreams.
183. In my fantasies, I see myself seeking revenge on those I dislike.

184. Faced with a tedious job, I notice all the other things around me that I could be doing.
185. I sometimes have a very clear, lifelike picture of what I am imagining.
186. My present-day concerns are usually reflected in my daydreams.
187. My daydreams about love are so vivid, I actually feel they are occurring.
188. I don't particularly like to spend an entire evening doing many things or going to many different places.
189. A really original idea can sometimes develop from a really fantastic daydream.
190. I think about how "the world of the future" will look.
191. I imagine myself preventing a plot to kill a political candidate.
192. My thoughts often seem to race through my mind.
193. I get the "chills" as a result of some of my thoughts.
194. I can hear music with shades of both softness and loudness in my daydreams.
195. In my daydreams, I am caught after stealing something very expensive.
196. When sitting in a large lecture or meeting, I usually find myself looking around a great deal at the people or objects in the room.

197. I can often "see" a large number of things or people in my fantasies.
198. I like to talk about my problems.
199. I imagine myself to be physically attractive to people of the opposite sex.
200. I am happiest when there is nothing I have to do and nowhere I have to go.
201. Daydreams are unreal and seldom come true.
202. I never plan where I'll be or what I'll be doing several years from now.
203. I daydream of volunteering as a subject for an important scientific experiment and winning fame for my bravery.
204. I think about a subject only for a few seconds before the next thought appears in my mind.
205. Sometimes a passing thought will seem so real that I will shudder and feel uneasy.
206. During a daydream, voices seem to come in loudly and clearly and then fade away.
207. I daydream about having been caught in a crime and sentenced to jail for a long time.
208. When stuck with one job for a long time, I begin to pay attention to my finger nails or some aspect of my personal appearance.
209. I do not really "see" the objects in a daydream.

210. I prefer to keep my personal thoughts and feelings to myself.
211. While working intently at a job, my mind will wander to thoughts about sex.
212. I like to travel.
213. I feel guilty about my daydreams.
214. I do not think about what the future will be like.
215. I daydream of saving someone very dear to me from a blazing fire.
216. There is always something going through my mind.
217. My daydreams have such an emotional effect on me that I often react with fear.
218. In my fantasies, a friend discovers that I have lied.
219. Even when I am listening to an interesting speaker, my mind wanders.
220. My fantasies often consist of black-and-white or color images.
221. Sometimes on the way to work, I imagine myself making love to an attractive person of the opposite sex.
222. I like to spend my vacation doing absolutely nothing.
223. Because daydreaming often takes me away from my work, I try to avoid it even when I have no specific task to complete.

224. I daydream about what is about to happen.
225. I see myself scoring the deciding point in an important tournament match.
226. I find thoughts chasing through my mind at a great speed.
227. I respond with a shock when an exciting daydream reaches a peak.
228. I sometimes seem able to hear the characters in my fantasies talking to one another.
229. I often feel tortured by the images of the sins I have committed.
230. I find it hard to read when someone is on the telephone in a neighboring room.
231. My daydreams are mostly made up of thoughts and feelings rather than visual images.
232. No matter how upsetting, I cannot help but daydream about things I'm worried about right now, rather than picturing a brighter future.
233. My sexual daydreams are very vivid and clear in my mind.
234. The fewer daydreams one has, the more time there is to really "live".
235. I seldom think about what I will be doing in the future.
236. I imagine saving my family from a serious financial situation by doing some hard or dangerous work.

237. Many times there is nothing at all going through my mind.
238. Some of my daydreams are so filled with emotion as to make me tense up my body.
239. I daydream more about events that have already happened than about things in the future.
240. I daydream about taking advantage of someone less fortunate than I and feeling guilty about it afterward.
241. I find it difficult to concentrate when the TV or radio is on.
242. Visual scenes are an important part of my daydreams.
243. I daydream of being interviewed for an important job and giving a bad impression.
244. While reading, I often slip into daydreams about sex or making love to someone.
245. It is a rare weekend that I have nothing planned.
246. Daydreams accomplish nothing more than a temporary escape and just avoid things that must be done.
247. I picture myself telling off my parents.
248. I think about saving the life of a drug addict.
249. The effect of a frightening daydream will linger on for a long time.

250. I daydream about the first places in which I lived, the scenery, and the events of my youth.
251. I often imagine that someone else knows of the things I've done wrong and holds them against me.
252. The "pictures in my mind" seem as clear as photographs.
253. I daydream that my children or others I love do not become very successful.
254. While traveling on the train or bus my idle thoughts turn to love.
255. I don't like to share my problems with others.
256. Daydreaming never solves any problems.
257. I enjoy talking about my personal feelings--the things that make me happy, the things that make me sad.
258. I imagine my preventing an airplane highjacking.
259. My thoughts often come to me slowly.
260. Unpleasant daydreams don't frighten or bother me.
261. I rarely find myself recalling moments of my childhood.
262. In my daydreams I feel guilty for having escaped punishment.
263. I can study quite well under noisy, disruptive circumstances.

264. The scenes of my daydreams are never longer than brief flashes.
265. I imagine myself not being able to finish a job I am required to do.
266. Whenever I am bored, I daydream about the opposite sex.
267. I like to tell people my dreams.
268. Daydreaming is a common experience for great scientists and artists as well as for the average person.
269. In my daydreams I become angry and even antagonistic towards others.
270. I picture myself risking my life to save someone I love.
271. I often have periods where I am not particularly conscious of my thoughts.
272. I never panic as a result of a daydream.
273. Events from my childhood recur to me very clearly and with many details.
274. I imagine myself running away from someone who is going to punish me.
275. My ability to concentrate is not impaired by someone talking in another part of my house or apartment.
276. The "scenes" in my daydreams are so vivid and clear to me that my eyes seems actually to follow them.

277. In my idle thoughts, I fear not being able to meet the demands of my job.
278. Sometimes in the middle of the day, I will daydream of having sexual relations with someone I am fond of.
279. I would like to take part in a sensory deprivation experiment.
280. I find my daydreams are worthwhile and interesting to me.
281. I would not like to take LSD or mescaline in order to enrich my experiences.
282. I imagine myself an important diplomat negotiating peaceful settlement of a foreign war.
283. My mind is always on the go.
284. Some of my fantasies are so terrifying, I shake and shiver.
285. In my daydreams, I am more likely to "re-live" the past than to look ahead into the future.
286. I feel guilty in a daydream because of my cheating in a game or contest.
287. I am not easily distracted.
288. I can still remember scenes from recent daydreams.
289. In my daydreams, I lose my job and am financially in debt, and feel worthless.
290. In my fantasies, I arouse great desire in someone I admire.

291. I like peace and quiet.
292. The sounds I hear in my daydreams are clear and distinct.
293. In my daydreams, I get so bitter, I begin hurting people I love.
294. I daydream of becoming an important government official.
295. I am very much concerned with the present in my daydreams.
296. I sometimes daydream about people and places I was familiar with when I was younger.
297. In my daydreams, I am always afraid of being caught doing something wrong.
298. My thoughts are about daily activities, rather than about tomorrow "bringing something new and exciting".
299. My thoughts are of the future rather than of the past.
300. I daydream that I will never do anything worthwhile for myself or for others.
301. Before going to sleep, my idle thoughts turn to love-making.
302. I get restless if I have nothing to do.
303. I can hear conversations between myself and other people very clearly in my mind during a daydream.
304. I like to talk about personal things.
305. I daydream about saving a drowning child.

306. I don't like being a subject in an experiment or answering a personality test.
307. I imagine myself in situations far removed from my day-to-day life.
308. I think more about "here-and-now" than about yesterday.
309. In my daydreams I feel guilty because I have done something which is not in accord with my religious beliefs.
310. I do not think about my day-to-day affairs.
311. I daydream about what I would like to see happen in the future.
312. In my daydreams, my employer is disappointed with my work.
313. My daydreams tend to arouse me physically.
314. I like to have the radio, TV, or record player on most of the time.
315. A piece of music sometimes runs through my head as clearly as if I were listening to it on a transistor radio.
316. I daydream of ways of "rubbing it in" or annoying certain people I dislike.
317. I imagine endangering myself in order to save my family.
318. I like to observe my own reactions to things and to other people.
319. I think about things on a day-to-day basis, rather than thinking about the past or how the future will be.

320. I do not think about scenes from my early years.
321. I imagine myself borrowing something dear from a friend and damaging it.
322. At the amusement parks, I like to go on the more scary rides.
323. I find myself imagining what I will be doing a year from now.
324. I imagine myself failing those I love.
325. My mind is always active.
326. I have never wanted to keep a diary.
327. When I do hear voices in my thoughts, they are not really very clear or recognizable.
328. I find myself imagining ways of getting even with those I dislike.
329. In my daydreams, I show my anger towards my enemies.
330. I daydream more about my hopes for the far future than about my hopes for the present time.
331. I seldom find myself daydreaming about my younger days.
332. I don't like to do dangerous or daring things.
333. I imagine myself displaying my hatred against those whose morals and values are not in accord with my own.

334. I tend to daydream about the events of the coming weeks and months more than of the happenings of the past.
335. I daydream about not living up to my parents' expectations.
336. I feel uncomfortable when someone asks me a personal question.
337. Sometimes sounds I've heard in the past come into my mind during a daydream as if I could almost hear them again.
338. I daydream of clashing with my parents over trivial matters.
339. When I am deeply engrossed in my work, it is difficult for someone to catch my attention.
340. Details from my day-to-day life are more clear and complete in my daydreams than memories of the past.
341. I think a lot about the past.
342. I see myself attaining revenge against someone who has deceived me.
343. The voices of people who are important to me sound very clear when I daydream about them.
344. I prefer to think about what's happening now in my life and avoid daydreaming about the future.

APPENDIX B

Consent Form

OREGON HEALTH SCIENCES UNIVERSITY
VETERANS ADMINISTRATION MEDICAL CENTER

RESEARCH CONSENT FORM

I, _____ have been invited to participate in a research project to study the imaging process of medical patients and patients with chronic pain. This study is being conducted by Lusijah Marx, R.N., B.S.N., under the supervision of Julia Brown, Ph.D., Oregon Health Sciences University, School of Nursing. I understand that all I am being asked to do is to fill out a questionnaire that will take about 1½ hours.

I understand that my responses on this questionnaire will be held in the strictest confidence and that my name will not appear in any report or discussion of the study's results.

I understand that there is no risk to me if I choose to participate. Likewise, there is no direct benefit to me, but the results will be used to further understand the problems and treatment of chronic pain and possibly other classes of medical patients.

I understand that my usual care and treatment in this hospital will not be affected in any way if I decide not to participate in this study or fail to complete the questionnaire.

Any questions you may have at any time about this study can be answered by Lusijah Marx, Veterans Administration Medical Center, Portland, Oregon, 222-9221, Ext. 545.

Signature _____

Witness _____

Date _____

APPENDIX C

Scoring Key for the
Imaginal Processes Inventory

SCALE 1DAYDREAMING FREQUENCY

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	1	+	I daydream (Infrequently - many different times during the day).
2	2	+	Daydreams or fantasies make up (no part - at least 50% of my waking thoughts).
3	3	+	As regards daydreaming I would characterize myself as someone (who never - an habitual daydreamer).
4	5	+	I recall or think over my daydreams (infrequently - many different times during the day).
5	6	+	When I am not paying cloase attention to my job, a book, or TV, I tend to be daydreaming (0% of the time - 74% of the time).
6	9	+	Instead of noticing people and events in the world around me, I will spend approximately (0% of my time - 50% of my time) lost in thought.
7	10	+	I daydream at work (or school) (infrequently - many different times during the day).
8	14	+	Recalling things from the past, thinking of the future, or imagining unusual kinds events occupies (0% - 50% of my waking day).
9	17	+	I lose myself in active daydreaming (infrequently - many different times during the day).
10	18	+	Whenever I have time on my hands I daydream (never....always).
11	20	+	When I am at a meeting or show that is not very interesting, I daydream rather than pay attention (never....always).
12	24	+	On a long bus or train ride I daydream (never....a great deal of the time).

SCALE 2NIGHT DREAMING FREQUENCY

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	4	+	I have a night dream (rarely or never - once a night).
2	7	+	I can recall a dream (rarely or never - once a night).
3	8	+	When I am sleeping I seem to be dreaming (practically never....most of the time).
4	11	+	I recall my night dreams vividly (rarely... once a night).
5	12	+	I recall my night dreams in the form of (vague impressions - clearly with great details).
6	13	+	A night's sleep for me contains a dream (rarely or never - once a night).
7	15	+	I recall my dreams fairly clearly (rarely or never - once a night).
8	16	+	I have a really vivid dream (rarely or never - every night).
9	19	+	I recall my dreams in some form (rarely or never - once a night).
10	21	+	I recall interesting or elaborate dreams (rarely or never - once a night).
11	22	+	I consider myself a person who dreams (never....a great deal).
12	23	+	I am awakened with the realization that I have been dreaming (rarely or never - once a night).

SCALE 3ABSORPTION IN DAYDREAMING

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	127	-	My daydreams seldom repeat themselves.
2	97	+	Some of my daydreams are so striking that I keep on thinking about them after they are over.
3	75	-	I seldom have the same daydream more than once.
4	61	+	I become so affected by my daydreams that they will subsequently determine my mood.
5	104	+	When a child, I would often create a great fantasy world for myself.
6	131	+	My imagination often goes around and around in the same circle.
7	42	+	During a daydream, I sometimes feel a very strong sense of excitement.
8	91	+	When I have an unusually enjoyable daydream, I try to prevent it from coming to an end.
9	35	+	As a child, I was a constant dreamer.
10	88	+	Sometimes my imagination keeps coming back to the same things over and over again, no matter how much I try to change the subject.
11	135	+	A daydream can completely change my mood.
12	38	+	If something is really on my mind, I often brood on it for hours on end.

SCALE 3 (cont'd)ABSORPTION IN DAYDREAMING

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
13	148	+	I often have the same daydream over and over again.
14	109	+	Sometimes a daydream will make me so upset that I feel like crying.
15	146	+	I often daydream about events that happened over a year ago.
16	119	+	Something that has happened during the day often goes over and over in my mind.
17	63	+	I tend to get pretty wrapped up in my daydreaming.
18	138	+	I feel very emotional during my daydreams.
19	151	+	Some of my daydreams are so powerful that I just can't take my attention away from them.
20	142	+	I often have some kind of emotional reaction to my daydreams which lasts for a long time afterward.

SCALE 4ACCEPTANCE OF DAYDREAMING

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	153	-	Daydreaming in an adult is really childish.
2	177	-	I feel badly about daydreaming because it may indicate a weakness in character.
3	189	+	A really original idea can sometimes develop from a really fantastic day-dream.
4	201	-	Daydreams are unreal and seldom come true.
5	213	-	I feel guilty about my daydreams.
6	223	-	Because daydreaming often takes me away from my work, I try to avoid it even when I have no specific task to complete.
7	234	-	The fewer daydreams one has, the more time there is to really "live".
8	246	-	Daydreams accomplish nothing more than a temporary escape and just avoid things that must be done.
9	256	-	Daydreaming never solves any problems.
10	268	+	Daydreaming is a common experience for great scientists and artists as well as for the average person.
11	165	+	Daydreaming is normal for adults as well as for adolescents and children.
12	280	+	I find my daydreams are worthwhile and interesting to me.

SCALE 5POSITIVE REACTIONS IN DAYDREAMING

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	27	+	I can be aroused and excited by a daydream
2	30	+	A "happy" daydream helps me "snap out of" a spell of unhappiness.
3	40	+	My daydreams are often stimulating and rewarding.
4	48	+	My daydreams often cheer me up when I feel blue.
5	53	+	Sometimes a thrill goes up my spine as I reflect on a great amount of triumph and achievement. <i>ment</i>
6	68	+	I often relive happy or exciting experiences in my daydreams.
7	77	-	My daydreams often leave me with feelings of sadness.
8	82	+	A daydream can bring a smile to my face.
9	95	+	I usually feel content and quite excited after a daydream.
10	110	+	Daydreams are more likely to arouse pleasant than unpleasant emotions within me.
11	124	+	My daydreams often leave me with a warm, happy feeling.
12	140	+	My fantasies usually provide me with pleasant thoughts.

SCALE 6FRIGHTENED REACTIONS TO DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	157	+	My daydreams often contain depressing events which upset me.
2	169	-	A mere daydream cannot frighten or upset me.
3	181	+	I will not allow myself to think of some things, knowing how upset I can become when I do.
4	193	+	I get the "chills" as a result of some of my thoughts.
5	205	+	Sometimes a passing thought will seem so real that I will shudder and feel uneasy.
6	217	+	My daydreams have such an emotional effect on me that I often react with fear.
7	227	+	I respond with a shock when an exciting daydream reaches a peak.
8	238	+	Some of my daydreams are so filled with emotion as to make me tense up my body.
9	249	+	The effect of a frightening daydream will linger on for a long time.
10	260	-	Unpleasant daydreams don't frighten or bother me.
11	272	-	I never panic as a result of a daydream.
12	284	+	Some of my fantasies are so terrifying, I shake and shiver.

SCALE 7VISUAL IMAGERY IN DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	161	-	The "scenes" in my daydreams are sort of fuzzy and unclear.
2	173	+	I can see the people or things in my daydreams as if they were moving around.
3	185	+	I sometimes have a very clear, lifelike picture of what I am imagining.
4	197	+	I can often "see" a large number of things or people in my fantasies.
5	209	-	I do not really "see" the objects in a daydream.
6	220	+	My fantasies often consist of black-and-white or color images.
7	231	-	My daydreams are mostly made up of thoughts and feelings rather than visual images.
8	242	+	Visual scenes are an important part of my daydreams.
9	252	+	The "pictures in my mind" seem as clear as photographs.
10	264	-	The scenes of my daydreams are never longer than brief flashes.
11	276	+	The "scenes" in my daydreams are so vivid and clear to me that my eyes seem actually to follow them.
12	288	+	I can still remember scenes from recent daydreams.

SCALE 8AUDITORY IMAGES IN DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Items</u>
1	158	+	In a daydream, I can hear a tune almost as clearly as if I were actually listening to it.
2	170	-	When people speak in my daydreams, I cannot really hear their voices.
3	182	+	My daydreams are usually accompanied by the sounds of the subjects of my daydreams.
4	194	+	I can hear music with shades of both softness and loudness in my daydreams.
5	206	+	During a daydream, voices seem to come in loudly and clearly and then fade away.
6	228	+	I sometimes seem to be able to hear the characters in my fantasies talking to one another.
7	292	+	The sounds I hear in my daydreams are clear and distinct.
8	315	+	A piece of music sometimes runs through my head as clearly as if I were listening to it on a transistor radio.
9	327	-	When I do hear voices in my thoughts, they are not really very clear or recognizable.
10	303	+	I can hear conversations between myself and other people very clearly in my mind during a daydream.
11	337	+	Sometimes sounds I've heard in the past come into my mind during a daydream as if I could almost hear them again.
12	343	+	The voices of people who are important to me sound very clear when I daydream about them.

SCALE 9PROBLEM SOLVING DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	33	+	When faced with a difficult situation, I imagine that I have worked out the problem and try out my solution in my thoughts.
2	41	+	In my daydreams, I solve the problems of my family and friends as well as my own.
3	47	+	My daydreams offer me useful clues to tricky situations I face.
4	64	-	My idle thoughts do not provide me many workable solutions to problems.
5	69	+	My daydreams are closely related to problems that come up during my daily life.
6	83	+	I imagine solving all my problems in my daydreams.
7	96	-	Daydreams do not have any practical significance for me.
8	111	+	My fantasies sometimes surprise me by suggesting an answer to a problem which I could not work out.
9	125	+	I can get a fresh approach to an old problem almost at once during what begins as an idle daydream.
10	141	+	Sometimes an answer to a difficult problem will come to me during a daydream.
11	28	+	Daydreams I have often are about different ways of finishing things I still have to do in my life.
12	54	-	My daydreams are always just sort of ways of passing time rather than attempts to solve my actual daily problems.

SCALE 10PRESENT-ORIENTED DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	162	+	My daydreams always relate to events current in my life.
2	174	+	My thoughts are never on things far removed from my present-day problems.
3	186	+	My present-day concerns are usually reflected in my daydreams.
4	232	+	No matter how upsetting, I cannot help but daydream about things I'm worried about right now, rather than picturing a brighter future.
5	295	+	I am very much concerned with the present in my daydreams.
6	298	+	My thoughts are about daily activities, rather than about tomorrow "bringing something new and exciting".
7	307	-	I imagine myself in situations far removed from my day-to-day affairs.
8	310	-	I do not think about my day-to-day affairs.
9	319	+	I think about things on a day-to-day basis, rather than thinking about the past or how the future will be.
10	330	-	I daydream more about my hopes for the far future than about my hopes for the present time.
11	340	+	Details from my day-to-day life are more clear and complete in my daydreams than memories of the past.
12	344	+	I prefer to think about what's happening now in my life and avoid daydreaming about the future.

SCALE 11FUTURE IN DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	154	+	Before going somewhere, I imagine the scene and what I will be doing.
2	166	+	I picture myself as I will be several years from now.
3	178	+	I am more likely to think about tomorrow than wonder about yesterday.
4	190	+	I think about how "the world of the future" will look.
5	202	+	I never plan where I'll be or what I'll be doing several years from now.
6	214	-	I do not think about what the future will be like.
7	224	+	I daydream about what is about to happen.
8	235	-	I seldom think about what I will be doing in the future.
9	299	+	My thoughts are of the future rather than of the past.
10	311	+	I daydream about what I would like to see happen in the future.
11	323	+	I find myself imagining what I will be doing a year from now.
12	334	+	I tend to daydream about the events of the coming weeks and months more than of the happenings of the past.

SCALE 12PAST IN DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	163	+	I often daydream about events that happened more than a year ago.
2	175	-	I never think at all about events or scenes of my early childhood.
3	239	+	I daydream more about events that have already happened than about things in the future.
4	250	+	I daydream about the first places in which I lived, the scenery, and the events of my youth.
5	261	-	I rarely find myself recalling moments of my childhood.
6	273	+	Events from my childhood recur to me very clearly and with many details.
7	285	+	In my daydreams, I am more likely to "re-live" in the past than to look ahead into the future.
8	296	+	I sometimes daydream about people and places I was familiar with when I was younger.
9	308	-	I think more about "here-and-now" than about yesterday.
10	320	-	I do not think about scenes from my early years.
11	331	-	I seldom find myself daydreaming about my younger days.
12	341	+	I think a lot about the past.

SCALE 13BIZARRE IMPROBABLE DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	29	+	I often have thoughts about things that could rarely occur in real life.
2	36	+	I daydream about utterly impossible situations.
3	43	+	The things I daydream about aren't things that could happen in real life.
4	51	-	My daydreams are fairly realistic.
5	56	+	My daydreams are as wierd as science fiction.
6	72	+	I daydream about doing things I know will never be possible for me.
7	89	+	I often imagine myself as a different person or living a very different life than I am now.
8	99	-	The events in my daydreams are so much like the things I do from day-to-day.
9	114	+	The things that happen in my daydreams are often extremely strange and unusual.
10	79	-	My daydreams are realistic and rarely contain wild, strange thoughts.
11	144	-	My daydreams are fairly matter-of-fact and down-to-earth.
12	128	+	Most of my daydreams are about really unusual people or about events that could hardly ever happen.

SCALE 14MIND WANDERING

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	25	-	My mind seldom wanders while I am working.
2	49	+	At times it is hard for me to keep my mind from wandering.
3	60	-	My mind seldom wanders from my work.
4	66	+	During a lecture or speech, my mind often wanders.
5	76	-	I have seldom found my mind wandering during a speech, concert, show, radio, or TV program.
6	85	-	My thoughts seldom drift from the subject before me.
7	92	+	I am the kind of person whose thoughts often wander.
8	102	-	I have little difficulty in keeping my mind focused on a long, tedious task.
9	112	-	I can work at one thing for a long time with relatively little effort.
10	117	+	No matter how hard I try to concentrate, thoughts unrelated to my work always creep in.
11	132	+	I have difficulty in maintaining concentration for long periods of time.
12	147	+	During a speech, meeting, or lecture, I often "come to", realizing that I have not heard a word the speaker was saying.

SCALE 15ACHIEVEMENT-ORIENTED DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	26	+	I daydream about accomplishing a difficult task.
2	34	+	I find myself imagining that I am a top executive and respected by all my colleagues.
3	44	+	I daydream about working on something which later becomes vitally important to industry and society.
4	57	+	In my daydreams, I exceed my parents' expectations.
5	73	+	I imagine receiving the highest honor given in my field of work.
6	93	+	In my fantasies, I receive an award before a large audience.
7	106	+	In my daydreams, I have succeeded in becoming a respected figure in my field of work.
8	115	+	I daydream about being promoted to a better position.
9	121	+	In my idle thoughts, I picture myself receiving an award for outstanding achievement in my field.
10	129	+	I picture myself being very successful and living in a beautiful home in the country.
11	136	+	In my daydreams, I see myself as an expert, whose opinion is sought by all.
12	149	+	I picture myself being accepted into an organization for successful individuals only.

SCALE 16HALLUCINATORY-VIVIDNESS OF DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	37	+	The visual images in my daydreams are so vivid I believe that they are actually happening.
2	52	+	In my daydreams, both visual scenes and sounds are so clear and distinct that I almost have to pinch myself to make sure they're not real.
3	61	+	It is hard for me to distinguish my daydreams from what is actually happening in real life.
4	74	+	I believe I actually see visions of people I know even though it seems impossible for them to be there at the time.
5	80	+	Some of the voices in my thoughts are threatening or frightening.
6	90	+	In my fantasies, voices of people important in my life are telling me what to do.
7	100	+	My daydreams are so clear that I often believe the people in them are in the room.
8	108	+	The voices and sounds in my daydreams seem real.
9	118	+	In my daydreams, the voices of people in my family are criticizing me.
10	126	+	Voices in my daydreams seem so distinct and clear that I'm almost tempted to answer them.
11	137	+	The people in my daydreams are so true to life, I often believe they are in the same room with me.
12	150	+	My thoughts seem as real as actual events in my life.

SCALE 17FEAR OF FAILURE DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	155	+	In my daydreams, I fear meeting new responsibilities in life.
2	167	+	I picture myself not receiving a promotion I long waited for.
3	179	+	I find myself imagining the unhappiness I caused my family because of my failure.
4	243	+	I daydream of being interviewed for an important job and giving a bad impression.
5	253	+	I daydream that my children or others I love do not become very successful.
6	265	+	I imagine myself not being able to finish a job I am required to do.
7	277	+	In my idle thoughts, I fear not being able to meet the demands of my job.
8	289	+	In my daydreams, I lose my job and am financially in debt, and feel worthless.
9	300	+	I daydream that I will never do anything worthwhile for myself or for others.
10	312	+	In my daydreams, my employer is disappointed with my work.
11	324	+	I imagine myself failing those I love.
12	335	+	I daydream about not living up to my parents' expectations.

SCALE 18HOSTILE DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	159	+	I imagine myself physically hurting someone I hate.
2	171	+	In my fantasies, I am resentful to a superior for reprimanding me without just cause.
3	183	+	In my fantasies, I see myself seeking revenge on those I dislike.
4	247	+	I picture myself telling off my parents.
5	269	+	In my daydreams I become angry and even antagonistic towards others.
6	293	+	In my daydreams, I get so bitter, I begin hurting people I love.
7	316	+	I daydream of ways of "rubbing it in" or annoying certain people I dislike.
8	328	+	I find myself imagining ways of getting even with those I dislike.
9	329	+	In my daydreams, I show my anger towards my enemies.
10	333	+	I imagine myself displaying my hatred against those, whose morals and values are not in accord with my own.
11	338	+	I daydream of clashing with my parents over trivial matters.
12	342	+	I see myself attaining revenge against someone who has deceived me.

SCALE 19
SEXUAL DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	187	+	My daydreams about love are so vivid, I actually feel they are occurring.
2	199	+	I imagine myself to be physically attractive to people of the opposite sex.
3	211	+	While working intently at a job, my mind will wander to thoughts about sex.
4	221	+	Sometimes on the way to work, I imagine myself making love to an attractive person of the opposite sex.
5	233	+	My sexual daydreams are very vivid and clear in my mind.
6	244	+	While reading, I often slip into daydreams about sex or making love to someone.
7	254	+	While traveling on the train or bus my idle thoughts turn to love.
8	266	+	Whenever I am bored, I daydream about the opposite sex.
9	278	+	Sometimes in the middle of the day, I will daydream of having sexual relations with someone I am fond of.
10	290	+	In my fantasies, I arouse great desire in someone I admire.
11	301	+	Before going to sleep, my idle thoughts turn to love-making.
12	313	+	My daydreams tend to arouse me physically.

SCALE 20
HEROIC DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	191	+	I imagine myself preventing a plot to kill a political candidate.
2	203	+	I daydream of volunteering as a subject for an important scientific experiment and winning fame for my bravery.
3	215	+	I daydream of saving someone very dear to me from a blazing fire.
4	225	+	I see myself scoring the deciding point in an important tournament match.
5	236	+	I imagine saving my family from a serious financial situation by doing some hard or dangerous work.
6	248	+	I think about saving the life of a drug addict.
7	258	+	I imagine myself preventing an airplane hijacking.
8	270	+	I picture myself risking my life to save someone I love.
9	282	+	I imagine myself an important diplomat negotiating a peaceful settlement of a foreign war.
10	294	+	I daydream of becoming an important government official.
11	305	+	I daydream about saving a drowning child.
12	317	+	I imagine putting myself in danger in order to save my family.

SCALE 21GUILT DAYDREAMS

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	195	+	In my daydreams, I am caught after stealing something very expensive.
2	207	+	I daydream about having been caught in a crime and sentenced to jail for a long time.
3	218	+	In my fantasies, a friend discovers that I have lied.
4	229	+	I often feel tortured by the images of the sins I have committed.
5	240	+	I daydream about taking advantage of someone less fortunate than I and feeling guilty about it afterward.
6	251	+	I often imagine that someone else knows of the things I've done wrong and holds them against me.
7	262	+	In my daydreams I feel guilty for having escaped punishment.
8	274	+	I imagine myself running away from someone who is going to punish me.
9	286	+	I feel guilty in a daydream because of my cheating in a game or contest.
10	297	+	In my daydreams, I am always afraid of being caught doing something wrong.
11	309	+	In my daydreams, I feel guilty because I have done something which is not in accord with my religious beliefs.
12	321	+	I imagine myself borrowing something dear from a friend and damaging it.

SCALE 22CURIOSITY: INTERPERSONAL

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	39	+	I often think about the lives of famous people.
2	46	+	I have always been interested in the lives of other persons.
3	59	-	When I visited a place of historical importance, I tend to be more interested in the buildings and the objects inside, than in the lives of the people who once lived there.
4	70	+	I often notice a person at a restaurant or bar and wonder what he does for a living or what kind of person he is.
5	87	+	I like to read about the personal lives of persons of public prominence.
6	98	-	I have little interest in the private lives of my schoolmates or fellow workers.
7	103	+	When traveling through another neighborhood the first time, I often wonder how the local people live their daily lives.
8	105	-	I have little or no interest in the private affairs of others.
9	116	-	I am not particularly interested in what life is like in far off countries such as India.
10	123	+	I often wonder about the life of a person I happen to see standing at a window of an apartment building.
11	134	-	I am not interested in the personal lives of prominent persons.
12	143	-	While traveling in the subway or train, I rarely wonder about how my fellow passengers live--when they are not on the subway.

SCALE 23CURIOSITY: IMPERSONAL - MECHANICAL

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	32	+	I find myself thinking more about interesting and new machines rather than about people.
2	58	+	I have always liked to take things apart to see what makes them work.
3	65	-	I know relatively little about the mechanical operation of an automobile.
4	71	+	I have often thought that I would like to do research in the physical sciences.
5	81	+	I am interested in the kinds of highly skilled machine operations that can be successfully duplicated by completely automatic equipment.
6	86	-	When buying a finished product at a store, it would never occur to me to think of the many involved processes that have gone into its production.
7	107	+	I often wonder about how a particular electrical or mechanical device works.
8	113	+	I like to read about new scientific findings.
9	132	-	I find the arts more stimulating than the sciences.
10	133	-	I seldom wonder about the mysteries of the physical world such as where does electricity come from.
11	139	+	I have often wondered how a bird is able to fly.
12	152	-	I do not like to visit factories and manufacturing plants.

SCALE 24BOREDOM

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	31	+	Most of the things I do are not important or interesting.
2	45	-	Each day is full of things which keep me interested.
3	50	+	I find that I easily lose interest in things that I have to do.
4	55	+	Most things that are interesting to start with lose their appeal after a while.
5	67	-	I like to finish what I am doing before starting something new.
6	78	+	I tend to be easily bored.
7	84	+	I seldom get really interested and involved in what I am doing.
8	94	+	I often find it quite difficult to finish something that I was initially quite interested in.
9	101	-	I can work at something for a long time without feeling the least bit bored or restless.
10	120	-	Most of my time is filled with exciting, interesting things.
11	130	-	I tend to be quite wrapped up and interested in whatever I am doing.
12	145	-	I am seldom bored.

SCALE 25MENTATION RATE

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	156	-	Sometimes during the day, I am not particularly aware of anything within my mind.
2	168	-	My mind is often a blank.
3	180	+	When alone, thoughts do not stop racing through my mind.
4	192	+	My thoughts often seem to race through my mind.
5	204	+	I think about a subject only for a few seconds before the next thought appears in my mind.
6	216	+	There is always something going through my mind.
7	226	+	I find thoughts chasing through my mind at a great speed.
8	237	-	Many times there is nothing at all going through my mind.
9	259	-	My thoughts often come to me slowly.
10	270	-	I often have periods where I am not particularly conscious of my thoughts.
11	283	+	My mind is always on the go.
12	325	+	My mind is always active.

SCALE 26DISTRACTIBILITY

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	160	-	My attention is seldom diverted by what others around me are doing.
2	172	+	I am always glad to find an excuse to take me away from my work.
3	184	+	Faced with a tedious job, I notice all the other things around me that I could be doing.
4	196	+	When sitting in a large lecture or meeting, I usually find myself looking around a great deal at the people or objects in the room.
5	208	+	When stuck with one job for a long time, I begin to pay attention to my fingernails or some aspect of my personal appearance.
6	219	+	Even when I am listening to an interesting speaker, my mind wanders.
7	230	+	I find it hard to read when someone is on the telephone in a neighboring room.
8	241	+	I find it difficult to concentrate when the TV or radio is on.
9	263	-	I can study quite well under noisy, disruptive circumstances.
10	275	-	My ability to concentrate is not impaired by someone talking in another part of my house or apartment.
11	287	-	I am not easily distracted.
12	339	-	When I am deeply engrossed in my work, it is difficult for someone to catch my attention.

SCALE 27NEED FOR EXTERNAL STIMULATION

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	164	+	I enjoy arguing with someone who knows a lot.
2	176	-	I find that sitting home is a nice way to pass the time.
3	188	-	I don't particularly like to spend an entire evening doing many things or going to many different places.
4	200	-	I am happiest when there is nothing I have to do and nowhere I have to go.
5	212	+	I like to travel.
6	222	-	I like to spend my vacation doing absolutely nothing.
7	245	+	It is a rare weekend that I have nothing planned.
8	291	-	I like peace and quiet.
9	302	+	I get restless if I have nothing to do.
10	314	+	I like to have the radio, TV, or record player on most of the time.
11	322	+	At the amusement parks, I like to go on the most scary rides.
12	332	-	I don't like to do dangerous or daring things.

SCALE 28SELF-REVELATION SCALE

<u>Scale Item #</u>	<u>IPI #</u>	<u>Scoring Direction</u>	<u>Item</u>
1	198	+	I like to talk about my problems.
2	210	-	I prefer to keep my personal thoughts and feelings to myself.
3	255	-	I don't like to share my problems with others.
4	257	+	I enjoy talking about my personal feelings--the things that make me happy, the things that make me sad.
5	267	+	I like to tell people my dreams.
6	279	+	I would like to take part in a sensory deprivation experiment.
7	281	-	I would not like to take LSD or mescaline in order to enrich my experience.
8	304	+	I like to talk about personal things.
9	306	-	I don't like being a subject in an experiment and answering a personality test.
10	318	+	I like to observe my own reactions to things and to other people.
11	326	-	I have never wanted to keep a diary.
12	336	-	I feel uncomfortable when someone asks me a personal question.

APPENDIX D
Background Information

DAYDREAMING STUDY

BACKGROUND INFORMATION

1. Name _____
2. Address _____
3. Phone Number _____
4. Age _____ 5. Sex _____
6. Educational Level _____
7. Medical Daignosis _____

8. Length of Illness _____
9. If Trauma, Give Date _____
10. Psychiatric History _____

11. History of Alcoholism or Drug Addiction _____

AN ABSTRACT OF THE THESIS OF
LUSIJAH MARX

For the MASTER OF NURSING

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Title: The Imaging Process of Chronic Pain Patients

Approved:


Julia Brown, Ph.D.

Thesis Advisor

The purpose of this research was to study the visual imagery or daydream patterns of persons with chronic pain. If such patterns exist, understanding the patterns would be useful in creating the most effective visualization strategies. To date, no research had been reported that had examined the daydreaming patterns of persons with physical problems in general, or specifically persons with chronic pain.

The sample consisted of 46 chronic pain patients who attended a pain clinic at a Veterans Administration hospital. For comparison, a convenience sample of 56 general medical patients from a Veterans' Administration hospital and a University teaching hospital was used. Data were collected using the Imaginal Processes Inventory, a multidimensional and relatively complete method of assessing daydreams, and comparing the two groups on each of 28 scales.

It was hypothesized that chronic pain patients, in comparison to general medical patients would experience: 1) more imagery that is rooted in the past (a focus on life prior to injury) than in the future,

2) a lower frequency of achievement oriented daydreams, 3) a higher incidence of failure oriented daydreams, 4) fewer positive daydreams, and 5) more guilt oriented daydreams.

The major findings of this study indicate that there was not a significant difference in past or in future orientation in pain patients' daydream patterns. The pain patients, contrary to expectation had significantly more achievement oriented daydreams than medical patients. Pain patients, as predicted, had significantly more fear of failure and more guilt daydreams. There was no difference with regard to positive reactions in daydreams.

It was concluded that this was a beginning study, with many limitations. There may be a predictable pattern of daydreaming content and style for patients with chronic pain. However, the findings of this study are not enough to warrant the above assumptions.

Further research strategies are suggested and conclusions are drawn. Implications of the findings for health care delivery are indicated.