Recreational Adequacy of Beach Activity and Comparative Regulating Influences

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CONTENTS

SUMMARY

The data reported here describe characteristics of people's experience which are relevant to designing beaches and to planning for their use. One characteristic is the difference between tension levels at work and while engaged in beach activity. The second is the comparative amount of influence which mechanistic devices, other people, one's own feelings, and natural events have both on work and on beach activities. The informants were users of a beach which provided a relatively undeveloped, natural setting.

Measurements show tension levels to be significantly lower during beach activity than during work. They also show that, on the whole, work tends to be influenced more by personal feelings and natural events than by mechanistic devices and other people. In most cases, these variables are significantly different from each other for occupational categories.

In addition, the influences of personal feelings and natural events are greater on beach activity than on work, while the influences of mechanistic devices and other people are greater on work than on beach activity.

The measurements which show these relationships pertain to a relatively undeveloped beach. They provide a basis for comparing beaches of varying types and degrees of development. Development of beaches is regarded as capable of varying environmental influence on activity and of modifying the recreational effectiveness of beach experience.

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RECREATIONAL ADEQUACY OF BEACH ACTIVITY AND COMPARATIVE REGULATING INFLUENCES

Irving A. Spaulding

PART I

Introduction

Among problems currently confronting people of many coastal areas of the United States are the increasing numbers of people and increasing urbanization, both of which make demands on space. Among uses to which coastal areas can be put is recreation, and among the coastal areas which rank high in recreational use are beaches. As population and urbanization impinge more and more thoroughly on coastal beach areas, the "natural condition" of these areas becomes more and more extensively modified. Some people deplore this modification of natural environment; for others, it is an approved occurrence identified as development or progress. In any event, as beach areas are used by increasing numbers of people, the probability of their retaining conditions of pristine shoreline naturalness is slight, even though they may be legally protected from indiscriminate treatment. This situation brings to the fore, then, questions of policy and management with respect to the use and development of beaches.

Three facts are regarded here as relevant to management related to beach activities and development. First, people's use of beach space; second, modification of beach space in the course of "development" and management; third, the recreational adequacy of beach experience for beach users.

These are related to an overall concern with the influence of population density and its influence on use of space and behavior which has developed during the past 25 years. Most of this is evidenced in studies of housing and residential density. The problems of having enough space, without having too much or too little, and of living close enough to each other, without being too close or too far apart, are related to emphases which people place on their various activities, on their motivations, and on their concerns with degrees of household and individual privacy (see, for example, Cooper, 1975). A beginning has been made to ensure improvement of residential areas for people to live.

As far as beach areas are concerned, there is available little systematic evidence concerning use of beach space which can

provide a basis for policy, planning, and management in the development and design of beach areas in highly urbanized regions. It is this lack of information about use of beach space and a concurrent lack of information about recreational adequacy of beach experience which have prompted research on the topic reported here.

Purpose of This Study

The general purpose of this study is to secure evidence which will be of use in the development and management of beach areas. Two variables are examined. One has bearing on the recreational adequacy of beach experience; this is change in euphoria-tension (relaxation-tension) levels which accompanies reorientation of activity from work to beach activity. (See Appendix A.) The second has pertinence for use of space; this is the extent to which people feel that their work and beach activity each are subject to influences of mechanistic devices, other people, their own feelings, and natural events. (See Appendix B.)

The specific purpose of this study is to secure evidence about the above variables at a beach which has undergone a minimal degree of "development."

Rationale and Premises

The relationship between the variables described above and the extent to which a beach is "developed" has significance for the management of beaches. We need to know if the recreational adequacy of beach experience varies significantly with the extent to which a beach is "developed."

Development is regarded here as any man-made modification of a beach area intended to facilitate its use and make its use more effective. Comparing degrees of development and effectiveness in beach areas depends on assumptions about flexibilities in people's use of beach areas and the degree of those areas' development. The first assumption is that a beach area's capacity for a variety of uses is greatest when that beach is in its pristine, natural, condition. The second is that "development" of a beach area will structure use of the beach and reduce its capacity for a variety of uses. For example, if one establishes a parking lot at a used but pristine beach, the location of the parking area will help structure the use of paths to the beach and the areas used most readily. The subsequent installation of a few picnic tables or fireplaces at an edge of the beach will automatically tend to structure

use of that part of the beach, would create a "zone" for most people, and thereby reduce the area's capacity for being used in a variety of ways. If the tables were complemented by a "children's pool" and simple playground equipment, another "zone" would be created, use of the beach would be further structured, and the flexibility of its use would be further reduced. There would be additional structuring influences in the establishment of concessions, rest facilities, and bath houses. Hence, the greater the degree of an area's development, the greater the extent to which use of space is structured and the less the extent to which the beach has capability for flexibility in various uses.

A third premise is that the smaller the degree of development, the greater the influence of natural events and one's own feelings on people's beach activity and the smaller the influence of mechanical devices and other people. A fourth premise is that beach experience tends to be more adequate, recreationally, at less developed beaches than at ones of greater development.

This is not to suggest that the structuring of activity which goes along with beach development, or the lack of it, is necessarily good or bad. Experience indicates that some people like to have amenities of urban life, or resemblences of them, when at the beach; others like the natural environment of an undeveloped area, or the illusion of an undeveloped area. But we have hard evidence neither on the recreational adequacy of experience in this kind of variety of beach settings nor on factors which contribute to degrees of adequacy.

Hence, the study reported here contributes to making the kind of comparison indicated above. It is a study of users of a slightly developed beach. It reports two significant types of measurement which establish a bench mark usable for comparing measurements taken at other beaches. These comparisons can be of use and importance in evaluating the relative adequacy of beach experience as recreation in settings of varying degrees of development.

PART II

The Beach

"Sand Beach" is located on the southern shore of Rhode Island. It faces open ocean, and contiguous beach extends several miles on each side of it; behind it are salt-water ponds and marshes which provide swimming areas, indigenous vegetation, and a refuge for wild life. With the exception of a summer

cottage, the nearest dwellings and buildings are no closer than one mile from the beach entrance, the last few hundred yards of which have to be traversed on foot from a parking lot. This parking lot, for the use of which a fee is charged non-residents of the town which has jurisdiction over the beach, is the extent of commercialization in the area; there are no concessions and no amenities other than portable sanitary facilities. The atmosphere of the area is that of a natural and remote environment.

Data Collection

Interviews were secured from 400 users of Sand Beach, on site, during July, 1972; uniform time intervals (8:00 a.m. to 6:00 p.m.) were covered on 31 successive days, regardless of weather conditions.

Upon arriving at the beach, people tended to engage in an interval of activity--walking, swimming, sand sculpting, ball playing; when they had completed this interval of activity and had assumed positions on blankets and/or under beach umbrellas, they were contacted for an interview.

In a group which used a vehicle (automobile or motorcycle), the person who was driving when they reached the beach was requested to give an interview. For groups of pedestrians, or for people who had used two or more vehicles in coming, the person who seemed to be the group leader was asked to give an interview. Refusals were infrequent.

Interviewers made deliberate efforts to secure informants from the variety of groupings which appeared at the beach; these were, in summary, family groups with children of varying ages, non-family peer groups, other combinations of people, and persons alone at the beach.

Interviewing was done by the principal investigator and a graduate student in sociology.

Hypotheses and Data Analysis

Data were analyzed to check five hypotheses. Two pertained to differences in euphoria-tension levels:

1) Mean euphoria-tension indices are significantly smaller for work than for beach activity.

2) Occupational categories differ significantly from each other with respect to mean euphoria-tension levels for work, but do not with respect to mean euphoria-tension levels of beach activity.

Three pertained to the influence of controls on activity:

3) Mechanistic devices and other people are more influential than one's own feelings and natural events on work, while the reverse is the case for beach activity.

4) Within occupational categories, regulating influences tend to differ significantly from each other.

5) Occupational categories differ significantly from each other with respect to the impact of regulating influences on work, but do not with respect to their impact on beach activity.

In the analysis of data, use was made of basic statistical concepts. Reported here are results from an examination of relationships among mean (average) euphoria-tension levels and relationships among weighted means for degrees of regulatory influence on activity. In addition, where appropriate, consideration is given to distributions of euphoria-tension indices as they reflect emotional states; non-parametric techniques were used in analyzing these data.

In order to compare occupational categories, each informant was classified by his occupation as one of the following: professional; manager; craft, clerical, or sales worker; operative or service worker; housewife or student (not in labor force: nlf); retired or unemployed person (nlf). The number of cases in each of the categories is 96, 60, 74, 65, 93, and 12, respectively.

General Conclusions

The data considered in this study describe relationships at a relatively undeveloped beach. They are analyzed for informants classified by occupation. They indicate that, with respect to euphoria-tension levels, work and beach activity are significantly different from each other. The beach activity is viewed, consequently, as recreationally adequate. However, occupational categories tend to be significantly different from each other with respect to mean euphoria-tension levels, both in work and in beach activity. However,

they do not tend to differ significantly with respect to the distribution of euphoria-tension indices throughout emotional states, either in work or in beach activity.

The data also indicate that work and beach activity are significantly different with respect to the regulatory influences of mechanistic devices, other people, one's own feelings, and natural events. The impacts of these influences are significantly different within occupational categories. And occupational categories tend to be significantly different from each other with respect to the impact of regulating influences.

These data are the basis for the formulation of indices by which measurements at beaches, under various conditions of development, may be made and compared to evaluate the impact of development on the recreational adequacy of beach experience.

PART III

Evidence

Euphoria-Tension Levels

First Hypothesis. Evidence supports the hypothesis that mean euphoria-tension indices are significantly smaller for work than for beach activity (Table 1). For work, mean indices for occupational categories range from 29.987 for managers to 33.425 for retired and unemployed persons. For beach activity, they range from 34.148 for operatives and service workers to 35.893 for retired and unemployed persons. Hence, the lowest mean index for beach activity is higher than the highest one for work. These differences indicate a greater degree of relaxation (euphoria) during beach activity than during work. The differences within occupational categories range from 1.696 for operatives and service workers to 4.681 for managers. Among occupational categories in the labor force, managers had the greatest amount of tension during work, while operatives and service workers had the least; (housewives and students, along with retired and unemployed persons, are regarded as not in the labor force). Yet, for all occupational categories, differences between work and beach activity, with respect to euphoria-tension level, are statistically significant. They are large enough so the probability is less than one in a thousand that they occur by chance. These significant changes in euphoria-tension levels are interpreted as indications for the recreational adequacy of the beach experience for the beach users (Table 1).

The ranges of the mean euphoria-tension indices as described above also indicate that, among occupational categories, euphoria-tension levels are more nearly uniform for beach activity than for work. They are shown in Table 2, along with the standard deviations from the mean for each distribution of indices in occupational categories. With one exception, (for retired and unemployed persons), the standard deviations for beach activity are smaller than the standard deviations for work. For work, the standard deviations range from 4.650 for professionals to 7.370 for craft, clerical, and sales workers. For beach activity, they range from 2.995 for housewives and students to 4.894 for retired and unemployed persons; for beach activity, the standard deviations for occupations in the labor force range from 3.249 for managers to 3.759 for craft, clerical, and sales workers. Both the means and the standard deviations indicate a greater uniformity of euphoria-tension level during beach activity than during work (Table 2).

Data support the first hypothesis, indicating for occupational categories significantly more tension during work than during beach activity and indicating a greater uniformity of euphoria-tension level during beach activity than during work.

Second Hypothesis. Evidence supports only part of the hypothesis that occupational categories differ significantly from each other with respect to mean euphoria-tension levels for work, but do not with respect to mean euphoria-tension levels for beach activities. There is predominant support for the first assertion, that occupational categories differ significantly with respect to euphoria-tension levels during work (Table 3). All pairs of occupational categories, except one, are shown to be significantly different at the 0.001 level or less. The exception is the combination of operatives and service workers and retired and unemployed persons; for this pair, $p = 0.077$, which is only slightly more than the 0.05 level customarily regarded as an acceptable degree of probable occurrance.

There is little support provided for the assertion that occupational categories do not differ significantly with respect to mean euphoria-tension levels during beach activity; on the contrary, for the most part they do differ significantly in this respect (Table 4). Only two pairs of categories are not significantly different; for professionals/operatives and service workers, $P = 0.238$; for managers/housewives and students, $P = 0.569$. Among those pairs of categories which are significantly different, $P = 0.012$ for managers/craft, clerical, and sales workers and for the combination of craft, clerical, and sales workers/housewives and students. For all other pairs, $P =$ or <0.001.

Basically, then, occupational categories are, for the most part, significantly different with respect to mean euphoria-tension levels both during work and during beach activity. As could be expected on the basis of evidence supporting the first hypothesis, non-significant differences are more prevalent for beach activity than for work. This tends to reflect the greater degree of uniformity in emotional experience during beach activity than during work, but also indicates the existence of significant diversities in recreational beach experience which are associated with occupation. These varying degrees of uniformity and diversity exist for beach experience which is regarded as recreationally adequate by virtue of its significant difference from occupational activity.

Euphoria-Tension Indices; Distributions

The euphoria-tension index is constructed so intervals within its 60 point range reflect emotional states--anger, resentment, tension, equilibrium, relaxation, monotony, and boredom. The human being's capacity for emotional experience, as represented by that range, is limited. Consequently, differences between distributions of indices among the above emotional states can be used as a further indication of degree of variation in emotional experiences.

With occupational categories, mean indices for work and for beach activity are significantly different (Table 1). Consistently, the distributions of these indices throughout the above emotional states for work and for beach activity tend to be significantly different; the exception is for retired and unemployed persons (Table 5). The prevalence of distributions which are significantly different is interpreted as indicating the recreational adequacy of the beach experience.

However, when one compares occupational categories, one finds few significant differences with respect to the distribution of these emotional states during work and with respect to their distribution during beach activity. With respect to work (Table 6), only one pair of occupational categories differs significantly; with respect to beach activity (Table 7), only two pairs differ significantly. All involve occupations not in the labor force. This situation contrasts with that for mean indices (Tables 3 and 4) which showed significant differences between and among most occupational categories.

The data indicate, then, that despite the high proportion of significant differences among occupational categories with respect to mean euphoria-tension indices, the informants' feelings occurred within a fairly uniform range during work;

they also occurred within a fairly uniform range during beach activity.

These fairly uniform ranges for work and for beach activity tend to be significantly different from each other; this is interpreted as an indication of the recreational adequacy of the beach experience.

Regulatory Influence

Third Hypothesis. In the second set of data analyzed, there are clear-cut relationships pertaining to influences which regulate work and recreational activity. With qualification, data tend to support the hypothesis that mechanistic devices and other people are more influential than one's own feelings and natural events on work, while the reverse is the case for beach activity. Indicating this support are the mean degrees of influence as reported by informants classified by occupation and activity (Table 8). With respect to work, the prevailing relationship for occupational categories is one in which the means for mechanistic devices and other people are consistently greater than the means for one's own feelings and natural events; the exceptions are for two categories of occupation not in the labor force--housewives and students and retired and unemployed persons. With respect to beach activity, for each occupational category, the influences of one's own feelings and natural events are greater than the influences of mechanistic devices and other people.

Despite the systematic relationships indicated above, within each occupational category the degree of impact on work from each influence is significantly different from the degree of its impact on beach activity (Table 9). Altogether, the data in Tables 8 and 9 provide support for the third hypothesis and indicate that each regulating influence is a distinct variable the impact of which is significantly different on work from what it is on beach activity.

Fourth Hypothesis. Pertinent relationships support the hypothesis that within occupational categories, regulating influences tend to differ significantly from each other. Significant differences exist, with few exceptions, among the regulating influences on work and among the regulating influences on beach activity for each occupational category (Tables 10 and 11). With respect to work, only one relationship is not significantly different from a chance relationship; this is between mechanistic devices and other people, for professionals (Table 10). With respect to beach activity, the only relationship which is not significantly different from a chance relation-

ship is between one's own feelings and natural events, for retired and unemployed persons (Table 11).

These data indicate that the impact of each regulating influence tends to be distinct and significantly different from the others within each occupational category.

Fifth Hypothesis. Prevalent relationships provide qualified support for the hypothesis that occupational categories differ significantly from each other with respect to the impact of regulating influences on work, but do not with respect to their impact on beach activity. Evidence supports the assertion that pertains to influences on work, but does not support the assertion that pertains to influences on beach activity. For work, all occupational categories except two are significantly different with respect to the influence on mechanistic devices; the exception is the relationships for managers/craft, clerical, and sales workers (Table 12-A). With respect to the influence of other people on work, all occupational categories are significantly different except craft, clerical, and sales workers as they relate both to managers and to professionals and except retired and unemployed persons as they relate to housewives and students (Table 12-B). In all relationships except that between managers/craft, clerical, and sales workers, occupational categories differ significantly with respect to the influence of one's own feelings (Table 12-C). With respect to the influence of natural events on work, all occupational categories are significantly different except retired and unemployed persons as they relate to housewives and students (Table 12-D). Support predominates for the first part of the hypothesis; of 60 relationships, 54 are significantly different; three of the six non-significant differences were associated with one regulating influence, other people.

However, for beach activity the evidence does not support the hypothesis, without qualification, since significant differences among occupational categories are more prevalent than non-significant ones. With respect to the influence of mechanistic devices, all occupational categories are significantly different from each other (Table 13-A). For the influence of other people, non-significant differences are concentrated in relationships to retired and unemployed persons and to housewives and students (Table 13-B). For one's own feelings, non-significant differences concentrate in relationships to retired and unemployed persons (Table 13-C). And with respect to the influence of natural events, relationships among all occupational categories are significantly different except those for craft, clerical, and sales workers/housewives and students and except operatives and service workers/retired and unemployed persons (Table 13-D). Support is lacking for the second part

of the hypothesis. Of 60 relationships, 49 are significantly different; of the eleven non-significant differences, five are associated with other people and four are associated with one's own feelings.

On the whole, these data pertaining to the impact of regulating influences on work and beach activity show a prevailing systematic relationship. They show work and beach activity to be significantly different with respect to the impact of regulatory influences; they show the impact of regulatory influences to be significantly different within each occupational category; they show the occupational categories to be significantly different, for the most part, with respect to the impact of regulatory influences. They indicate that work and beach activity are different experiences and that the regulatory influences are discrete and measurable variables.

PART IV

Application

The above information establishes the existence of significant differences between work and beach activity with respect to euphoria-tension levels. In additon, it indicates that occupational categories tend to be significantly different with respect to mean euphoria-tension levels but are not significantly different with respect to changes in emotional states, all within the limits of people's capacities to experience these changes. Hence, the change in euphoria-tension level between that for work and that for beach activity is indicated as significant by two measurements, while the differences among occupational categories in euphoria-tension levels are indicated as significant by only one measurement. There is less chance influence in the former differences than in the latter ones.

In addition, the above information indicates that the impingements of regulating influences on work and on beach activity are significantly different. Within each occupational category, the impacts of the regulating influences are significantly different; among occupational categories, the impacts of the regulating influences are, with few exceptions, significantly different.

These relationships describe circumstances at a relatively "undeveloped" beach. Changes in euphoria-tension levels are viewed as reflecting the recreational adequacy of the beach experience, and the degree of impact of regulating influences on beach activity is relevant to gauging the influence of "development" as described in Part I.

In order to summarize the scope of these measurements and relationships, use is made of an index devised from the extremes of euphoria-tension levels and of regulating influence impact, for occupational categories; work and beach activity are considered separately.

For the euphoria-tension levels, extremes for work and for beach activity are averaged and each quotient is multiplied by ten, to give an index of the euphoria-tension levels for each of these activities. The following indices are computed with data in Table 1:

Index	Activity	
	Work	Beach
Euphoria-tension	317.06	350.66

For the impact of each regulating influence, extremes for occupational categories are averaged, and the quotient is multiplied by 100, to give an index of impact for each regulating influence on activity. The following indices are computed with data from Table 8:

Influence	Activity	
	Work	Beach
Mechanistic devices	297.51	172.45
Other people	360.00	230.20
One's own feelings	377.90	378.75
Natural events	230.25	378.05

These indices are of use not only in summarizing relationships for conditions at this particular beach, Sand Beach, at the time of this study but also can be used in comparing conditions at a given beach in time sequence and/or at a variety of beaches in varying stages of development. The results of this kind of investigation will enable people to evaluate the impact of "development" on adequacy of recreational experience.

PART V

APPENDIX A

Construction of the Euphoria-Tension Index

Man and Environment. The development of the euphoria-tension index derives from a systematic perspective on the human being and its relationship to its environment. First, the human being is regarded as holistic in its operation (Goldstein, 1939), and its holistic functioning is effected through the processes of four systems of organs. There are the endocrine glands, the circulatory system, the neural (nervous) system, and related cells throughout the organism. Through these systems of organs, each part of the human being is in direct or indirect contact with every other part (Kleinberg, 1954; Noyes, 1948). Complementary and supplementary to each other, these structural aspects of the organism and their processes are referred to as the organism's core coordination.

Among expressions of the life processes of the organism are its repeated transitions between states of tension and states of relaxation, which are contingent upon the physico-chemical condition and coordination of the body. The development of tension entails activation of the sympathetic nervous system, while relaxation (euphoria) entails activation of the parasympathetic nervous system. Movement in the direction of tension is anxiety; movement in the direction of euphoria is tranquility. Functioning within the limits of its capabilities to experience each, the human being undergoes a phasic commutation of anxiety and tranquility (Sullivan, 1953). This phasic commutation is referred to as the euphoria-tension dynamic.

With respect to human activity, the motivating euphoria-tension levels of the euphoria-tension dynamic are expressed and released (or not released) in object-related movement, in accord with the dynamics of situation integration-resolution or integration-disintegration described by H. S. Sullivan (Sullivan, 1953). Experience in object involvements establishes within the organism object-related coordination sets which serve functionally as structures within the core coordination.

Concepts Facilitating Measurement

It is possible to identify six emotional states of use in quantifying euphoria-tension levels. In doing this, one takes into consideration the object involvement of the organism and the simultaneous stress on its core coordination in a given phase of the euphoria-tension dynamic.

Movement toward the limit of an organism's capacity for experiencing anxiety and tranquility can be described in terms of six overlapping emotional states. Three of them are related to the anxiety phase of the euphoria-tension dynamic.

1) Tension: movement toward "absolute tension" with little, if any, disturbing stress on the core coordination while the organism is in the anxiety phase of the euphoria-tension dynamic.

2) Resentment: stress on an object-related coordination set, the stress being contingent upon repetition of situation integration-disintegration in an object involvement (or in involvement with a specific type of object) while the organism is in the anxiety phase of the euphoria-tension dynamic.

3) Anger: a diffuse stress on the total core coordination accompanied by reduction of stability in object involvements while the organism is in the anxiety phase of the euphoria-tension dynamic.

Three states are related to the tranquility phase of the euphoria-tension dynamic.

4) Relaxation: movement toward "absolute euphoria" with little, if any, stress on the core coordination while the organism is in the tranquility phase of the euphoria-tension dynamic.

5) Monotony: stress on an object-related coordination set, the stress being contingent upon repetition of situation integration-disintegration in an object involvement (or in involvement with a specific type of object) while the organism is in the tranquility phase of the euphoria-tension dynamic.

6) Boredom: a diffuse stress on the total core coordination accompanied by reduction of stability in object involvements while the organism is in the tranquility phase of the euphoria-tension dynamic.

Index Construction

The index is constructed by using the emotional states identified above. They are considered in the following sequence: anger, resentment, tension, relaxation, monotony, and boredom. In this sequence, they are regarded as encompassing a range of euphoria-tension approaching the limits of an organism's capa-

city to experience them in a given state of coordination. From the mid-point of the sequence, the states in the anxiety phase of the dynamic are weighted 1, 2 and 3 to reflect increasing tension; the states in the tranquility phase are also weighted 1, 2, and 3 from the mid-point of the sequence to reflect increasing relaxation.

Used in the construction of the index, also, are indications of the intensity and frequency with which people have experienced each emotional state while engaged in a specific activity. For each state, frequency is indicated by one of the following: always, very often, often, sometimes, seldom, very seldom or never; these are weighted 6 through 0 in the sequency shown here. The intensity of each emotional state is indicated by checking one of these: very strong, strong, moderate, weak, very weak. Weightings are from 5 through 1 for the sequence, with very strong weighted 5.

Three systems of weighting are used in the computation of the index. Emotional states reflecting euphoria are grouped together, as are those reflecting tension. The weight for each emotional state, the weight for the frequency of that feeling, and the weight for the intensity of that feeling are multiplied. The products for the tension sequence are added, as are the products for the euphoria sequence. The sum for the tension sequence is subtracted from that for the euphoria sequence, and the difference is divided by 6, the number of emotional states used. The quotient can be 0, reflecting equilibrium, or a negative number, reflecting a predominance of tension, or it can be a positive number, reflecting a predominance of euphoria. The computation is illustrated as follows:

	Feeling	Weight	Frequency	Intensity	Product
	Anger	3	0	0	0
Tension	Resentment	2	4	1	8
	Tension	1	5	4	20
					28
	Relaxation	1	2	3	6
Euphoria	Monotony	2	0	0	0
	Boredom	3	0	0	0
					6

$$\frac{6 - 28}{6} = \frac{-22}{6} = -3.67$$

The largest index possible for either euphoria or tension is 30.00. Its computation is based on the assumption that a per-

son experiences only euphoria or tension and experiences the three emotional states relevant to it at all times and with greatest intensity. The index range from 0.0 through 30.00, influenced by the weightings of the emotional states, can be divided in a manner that reflects the weightings and establishes range intervals pertinent to the emotional states themselves. This is done by dividing the 30 unit range into six intervals of 5 units each. The first emotional state away from equilibrium is accorded one 5 unit interval, 1 being the weight of that emotional state. The second emotional state away from equilibrium is accorded two 5 unit intervals, 2 being the weighting of that emotional state. The three remaining 5 unit intervals are the province of the third emotional state away from equilibrium, for which the weight is 3. The relationship of the emotional states to the index range and conversion of this range of positive and negative numbers to a sequence of positive numbers is shown in the following conversion table.

A more extensive statement on the construction of the index is presented in an earlier publication (Spaulding, 1970).

EUPHORIA - PLUS

MINUS - TENSION

E/T Index	Scale	Midpoint	Index to Continuous Scale
			Emotional Range
30.0	60.0		
29.0 - 29.9	59.0 - 59.9	59.5	
28.0 - 28.9	58.0 - 58.9	58.5	
27.0 - 27.9	57.0 - 57.9	57.5	
26.0 - 26.9	56.0 - 56.9	56.5	
25.0 - 25.9	55.0 - 55.9	55.5	
24.0 - 24.9	54.0 - 54.9	54.5	
23.0 - 23.9	53.0 - 53.9	53.5	
22.0 - 22.9	52.0 - 52.9	52.5	
21.0 - 21.9	51.0 - 51.9	51.5	Boredom
20.0 - 20.9	50.0 - 50.9	50.5	
19.0 - 19.9	49.0 - 49.9	49.5	
18.0 - 18.9	48.0 - 48.9	48.5	
17.0 - 17.9	47.0 - 47.9	47.5	
16.0 - 16.9	46.0 - 46.9	46.5	
15.0 - 15.9	45.0 - 45.9	45.5	
14.0 - 14.9	44.0 - 44.9	44.5	
13.0 - 13.9	43.0 - 43.9	43.5	
12.0 - 12.9	42.0 - 42.9	42.5	
11.0 - 11.9	41.0 - 41.9	41.5	
10.0 - 10.9	40.0 - 40.9	40.5	Monotony
9.0 - 9.9	39.0 - 39.9	39.5	
8.0 - 8.9	38.0 - 38.9	38.5	
7.0 - 7.9	37.0 - 37.9	37.5	
6.0 - 6.9	36.0 - 36.9	36.5	
5.0 - 5.9	35.0 - 35.9	35.5	
4.0 - 4.9	34.0 - 34.9	34.5	
3.0 - 3.9	33.0 - 33.9	33.5	
2.0 - 2.9	32.0 - 32.9	32.5	Relaxation
1.0 - 1.9	31.0 - 31.9	31.5	
.1 - .9	30.1 - 30.9	30.5	
-0-	30.0	30.0	Equilibrium
0.9 - 0.1	29.1 - 29.9	29.5	
1.9 - 1.0	28.1 - 29.0	28.5	
2.9 - 2.0	27.1 - 28.0	27.5	Tension
3.9 - 3.0	26.1 - 27.0	26.5	
4.9 - 4.0	25.1 - 26.0	25.5	
5.9 - 5.0	24.1 - 25.0	24.5	
6.9 - 6.0	23.1 - 24.0	23.5	
7.9 - 7.0	22.1 - 23.0	22.5	
8.9 - 8.0	21.1 - 22.0	21.5	
9.9 - 9.0	20.1 - 21.0	20.5	
10.9 - 10.0	19.1 - 20.0	19.5	Resentment
11.9 - 11.0	18.1 - 19.0	18.5	
12.9 - 12.0	17.1 - 18.0	17.5	
13.9 - 13.0	16.1 - 17.0	16.5	
14.9 - 14.0	15.1 - 16.0	15.5	
15.9 - 15.0	14.1 - 15.0	14.5	
16.9 - 16.0	13.1 - 14.0	13.5	
17.9 - 17.0	12.1 - 13.0	12.5	
18.9 - 18.0	11.1 - 12.0	11.5	
19.9 - 19.0	10.1 - 11.0	10.5	
20.9 - 20.0	9.1 - 10.0	9.5	
21.9 - 21.0	8.1 - 9.0	8.5	
22.9 - 22.0	7.1 - 8.0	7.5	Anger
23.9 - 23.0	6.1 - 7.0	6.5	
24.9 - 24.0	5.1 - 6.0	5.5	
25.9 - 25.0	4.1 - 5.0	4.5	
26.9 - 26.0	3.1 - 4.0	3.5	
27.9 - 27.0	2.1 - 3.0	2.5	
28.9 - 28.0	1.1 - 2.0	1.5	
29.9 - 29.0	0.1 - 1.0	.5	
30.0	0.0		

APPENDIX B

Measurement of Regulatory Impact

To determine attitudes toward the relative impact (or regulatory influence) of mechanistic devices, other people, their own feelings, and natural events on their work and beach activity, informants were asked to check appropriate spaces in the following forms.

v. For each of the following, check the answer most nearly accurate for you.

To what extent is your:	Extent					
OCCUPATIONAL ACTIVITY regulated according to:	Very great	Great	Moderate	Slight	Very slight	None
Clocks, calendars, and machines?						
Activities of other people?						
Your own feelings?						
Sunrise, sunset, tides, weather, and other natural events?						

ix. For each of the following, check the answer most nearly accurate for you.

To what extent is your:	Extent					
ACTIVITY WHILE AT THIS BEACH regulated according to:	Very great	Great	Moderate	Slight	Very slight	None
Clocks, calendars, and machines?						
Activities of other people?						
Your own feelings?						
Sunrise, sunset, tides, weather, and other natural events?						

The degrees of influence were weighted 0 through 5 for no influence through slight, moderate, and great influence to very great influence.

APPENDIX C

Computations

In determining the significance of differences between means, use was made of the following formulae to express an observed difference as deviation from a mean of 0.00 in terms of standard deviation units:[a]

When $N_1 = N_2$:

$$\frac{\left[\bar{X}_1 - \bar{X}_2 \right] - 0.00}{\sqrt{\frac{\sigma 1^2 + \sigma 2^2}{N}}}$$

When $N_1 \neq N_2$:

$$\frac{\left[\bar{X}_1 - \bar{X}_2 \right] - 0.00}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

All X^2's were computed with the following:[b]

$$X^2 = \Sigma \frac{f^2}{f_c} - N$$

a. Hagood, M. and D.O. Price, Statistics for Sociologists, N.Y., H. Holt & Co., 1952, pp. 322-23.
b. Ibid., p. 369.

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TABLES 1-13

Table 1. Mean Euphoria-tension Indices for Occupation and Beach Activities; Differences Between Means x/σ, and P; 400 Sand Beach Users Classified by Occupation, July, 1972; Rhode Island

Activities	Occupations					
	Professionals	Managers	Craft, clerical, and sales	Operatives and service workers	Housewives and students (nlf)	Retired and unemployed persons
			Mean Euphoria-tension Indices			
Occupation	30.648	29.987	31.005	32.452	31.646	33.425
Beach	34.918	34.668	34.482	34.148	34.632	35.983
			Differences Between Means			
Occupation and Beach	4.270	4.681	3.477	1.696	2.986	2.558
			x/σ			
Occupation and Beach	68.873	44.581	31.045	15.418	45.242	3.773
			P			
Occupation and Beach	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Table 2. Means and Standard Deviations for Distributions of Euphoris-tension Indices in Occupational and Beach Activities; 400 Sand Beach Users Classified by Occupations, July, 1972; Rhode Island

Means and Standard Deviations; Occupations	Activities	
	Occupation	Beach
Means		
Professionals	30.648	34.918
Managers	20.987	34.668
Craft, clerical and sales	31.005	34.482
Operatives and service workers	32.452	34.148
Housewives and students (nlf)	31.646	34.632
Retired and unemployed persons	33.425	35.893
Standard deviations		
Professionals	4.650	3.744
Managers	5.432	3.249
Craft, clerical and sales	7.370	3.759
Operatives and service workers	6.326	3.371
Housewives and students (nlf)	5.319	2.995
Retired and unemployed persons	6.502	4.894

Table 3. Differences Between Mean Euphoria-tension Indices for Occupational Activity, x/σ and P; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island.

Occupation, Differences x/σ, and P	Occupations					
	Profes-sionals	Mana-gers	Craft, clerical and sales	Operatives and service workers	Housewives and students (nlf)	Retired and unemployed persons
	(1)	(2)	(3)	(4)	(5)	(6)
Means	30.648	29.987	31.005	32.452	31.646	33.425
Occupation	Differences Between Means					
(1)	-	0.661	0.357	1.804	0.998	2.777
(2)	-	-	1.018	2.465	1.659	3.438
(3)	-	-	-	1.447	0.641	2.240
(4)	-	-	-	-	1.614	0.973
(5)	-	-	-	-	-	1.779
(6)	-	-	-	-	-	-
Occupation	x/σ					
(1)	-	6.417	3.216	17.346	13.307	5.105
(2)	-	-	7.541	18.534	15.505	6.264
(3)	-	-	-	10.410	3.601	4.065
(4)	-	-	-	-	14.283	1.769
(5)	-	-	-	-	-	3.264
(6)	-	-	-	-	-	-
Occupation	P					
(1)	-	<0.001	<0.001	<0.001	<0.001	<0.001
(2)	-	-	<0.001	<0.001	<0.001	<0.001
(3)	-	-	-	<0.001	<0.001	<0.001
(4)	-	-	-	-	<0.001	=0.077
(5)	-	-	-	-	-	=0.001
(6)	-	-	-	-	-	-

Table 4. Differences Between Mean Euphoria-tension Indices for Beach Activity, x/σ, and P; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island.

Occupation, Differences x/σ, and P	Occupations					
	Profes-sionals	Mana-gers	Craft, clerical, and sales	Operatives and service workers	Housewives and students (nlf)	Retired and unemployed
	(1)	(2)	(3)	(4)	(5)	(6)
Means	34.918	34.668	34.482	34.148	34.632	35.893
Occupation	**Differences Between Means**					
(1)	-	0.250	0.436	0.770	0.286	1.065
(2)	-	-	0.186	0.520	0.036	1.315
(3)	-	-	-	0.334	0.150	1.501
(4)	-	-	-	-	0.484	1.835
(5)	-	-	-	-	-	1.351
(6)	-	-	-	-	-	-
Occupation	**x/σ**					
(1)	-	3.731	6.813	1.185	5.608	3.208
(2)	-	-	2.514	6.933	0.571	3.937
(3)	-	-	-	4.575	2.500	4.508
(4)	-	-	-	-	7.934	5.494
(5)	-	-	-	-	-	4.082
(6)	-	-	-	-	-	-
Occupation	**P**					
(1)	-	<0.001	<0.001	=0.238	<0.001	=0.001
(2)	-	-	=0.012	<0.001	=0.569	<0.001
(3)	-	-	-	<0.001	=0.012	<0.001
(4)	-	-	-	-	<0.001	<0.001
(5)	-	-	-	-	-	<0.001
(6)	-	-	-	-	-	-

Table 5. Distributions of Euphoria-tension Indices for Occupational Activity and Beach Activity, by Occupational Categories; X^2, df, and P for Pairs of Distributions; 400 Sand Beach Users Classified by Occupation, July, 1972: Rhode Island

Emotional States	Occupations					
	Professionals	Managers	Craft, clerical, and sales	Operatives and service workers	Housewives and students	Retired and Unemployed persons
	Distributions					
	W / B*	W/B	W/B	W/B	W/B	W/B
Anger	0 0	0 0	2 0	1 0	1 0	0 0
Resentment	9 1	13 0	12 1	7 2	5 1	1 0
Tension	33 7	16 4	14 4	11 2	20 3	3 2
Equilibrium	1 0	1 1	1 0	1 0	2 0	0 0
Relaxation	36 45	20 29	23 34	25 36	36 48	5 5
Monotony	17 42	10 25	22 34	18 25	19 41	2 4
Boredom	0 1	0 1	0 1	2 0	1 0	1 1
X^2	36.89	29.28	23.62	16.13	13.76	1.87
df	5	5	6	6	6	4
P	<0.001	<0.001	<0.001	<0.02	<0.05	<0.80

* W/B indicates work/beach activity.

Table 6. Distributions of Euphoria-tension Indices for Occupational Activity, X^2, and P for Pairs of Distributions; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Emotional States and Occupation	Occupations					
	Profes-sionals	Mana-gers	Craft, clerical and sales	Operatives and service workers	Housewives and students (nlf)	Retired and unemployed persons
	(1)	(2)	(3)	(4)	(5)	(6)
Emotional States	**Distributions**					
Anger	0	0	2	1	1	0
Resentment	9	13	12	7	5	1
Tension	33	16	14	11	29	3
Equilibrium	1	1	1	1	2	0
Relaxation	36	20	23	25	36	5
Monotony	17	10	22	18	19	2
Boredom	0	0	0	2	1	1
	X^2 for Paired Distributions					
Occupation						
(1)	-	5.9838	8.6438	7.7783	1.0676	0.2813
(2)	-	-	5.9971	6.7832	9.2318	0.8800
(3)	-	-	-	8.4755	12.9967	4.8302
(4)	-	-	-	-	6.4847	2.1998
(5)	-	-	-	-	-	3.7212
(6)	-	-	-	-	-	-
	P					
Occupation						
(1)	-	<0.20(4)*	<0.20(5)	<0.30(6)	<0.99(6)	>0.99(5)
(2)	-	-	<0.50(5)	<0.50(6)	<0.20(6)	<0.98(5)
(3)	-	-	-	<0.30(6)	<0.05(6)	<0.70(6)
(4)	-	-	-	-	<0.50(6)	<0.95(6)
(5)	-	-	-	-	-	<0.80(6)
(6)	-	-	-	-	-	-

*Degrees of freedom are in parentheses

Table 7. Distributions of Euphoria-tension Indices for Beach Activity, X^2, and P for Pairs of Distributions; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Emotional States and Occupation	Occupations					
	Profes-sionals	Mana-gers	Craft, clerical and sales	Operatives and service workers	Housewives and students (nlf)	Retired and unemployed persons
	(1)	(2)	(3)	(4)	(5)	(6)
Emotional States	**Distributions**					
Anger	0	0	0	0	0	0
Resentment	1	0	1	2	1	0
Tension	7	4	4	2	3	2
Equilibrium	0	1	0	0	0	0
Relaxation	45	29	34	36	48	5
Monotony	42	25	34	25	41	4
Boredom	1	1	1	0	0	1
X^2 for Paired Distributions						
Occupation						
(1)	-	2.4972	0.3506	3.5884	2.6619	3.8646
(2)	-	-	2.3324	5.2290	4.8160	3.2625
(3)	-	-	-	2.8953	2.0515	8.8713
(4)	-	-	-	-	1.2021	9.8174
(5)	-	-	-	-	-	12.4057
(6)	-	-	-	-	-	-
P						
Occupation						
(1)	-	<0.80(5)*	>0.99(4)	<0.50(4)	<0.70(4)	<0.50(4)
(2)	-	-	<0.80(5)	<0.50(5)	<0.50(5)	<0.70(4)
(3)	-	-	-	<0.70(4)	<0.80(4)	<0.10(4)
(4)	-	-	-	-	<0.30(3)	<0.05(4)
(5)	-	-	-	-	-	<0.02(4)
(6)	-	-	-	-	-	-

*Degrees of freedom are in parentheses

Table 8: Mean Degrees of Influence on Occupation and Beach Activity of Mechanistic Devices, Other People, One's Own Feelings, and Natural Events; 400 Sand Beach Users Classified by Occupation; July, 1972; Rhode Island

Activity and Occupation	Mechanistic Devices	Other People	One's Own Feelings	Natural Events
Work				
Professional	3.760	3.771	3.583	1.688
Managers	3.500	3.867	3.433	1.917
Craft, clerical and sales	3.514	3.824	3.405	2.446
Operatives and service workers	3.692	3.631	3.308	1.985
Housewives and students (nlf)	3.387	3.462	4.011	2.892
Retired and unemployed persons	2.250	3.333	4.250	2.917
Beach Activity				
Professional	1.958	2.260	3.833	3.906
Managers	2.017	2.333	3.617	3.883
Craft, clerical and sales	1.784	2.081	3.770	3.946
Operatives and service workers	1.677	2.523	3.662	3.862
Housewives and students (nlf)	2.032	2.495	4.075	3.978
Retired and unemployed persons	1.417	2.417	3.500	3.583

Table 9. Differences Between Means for Regulating Influences on Occupational and Beach Activities, x/σ, and P for Mechanistic Devices, Other People, One's Own Feelings, and Natural Events; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Occupational-beach activity	Mechanistic Devices	Other People	One's Own Feelings	Natural Events
		Professionals		
Differences	1.802	1.511	0.250	2.218
x/σ	133.580	81.119	15.825	115.937
P	<0.001	<0.001	<0.001	<0.001
		Managers		
Differences	1.483	1.534	0.184	1.966
x/σ	43.099	49.003	5.882	54.569
P	<0.001	<0.001	<0.001	<0.001
		Craft, clerical, and sales		
Differences	1.730	1.743	0.365	1.500
x/σ	60.638	70.458	13.956	48.263
P	<0.001	<0.001	<0.001	<0.001
		Operatives and service workers		
Differences	2.015	1.108	0.354	1.877
x/σ	62.604	36.975	12.362	53.283
P	<0.001	<0.001	<0.001	<0.001
		Housewives and students (nlf)		
Differences	1.355	0.967	0.064	1.086
x/σ	65.269	49.541	4.285	49.778
P	<0.001	<0.001	<0.001	<0.001
		Retired and unemployed persons		
Differences	0.833	0.916	0.750	0.666
x/σ	4.548	5.182	4.013	3.319
P	<0.001	<0.001	<0.001	<0.001

Table 10. Means for Regulating Influences on Occupational Activities; Differences, x/σ and P for Differences Between Means; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island.

Occupation and Regulating Influence	Regulating Influences			
	Mechanistic Devices (1)	Other People (2)	One's Own Feelings (3)	Natural Events (4)
Professionals				
Means	3.760	3.771	3.583	1.688
1) Differences	-	0.011	0.177	1.072
x/σ		0.658	0.598	53.600
P		=0.515	<0.001	<0.001
2) Differences	-	-	0.188	2.083
x/σ			11.257	104.150
P			<0.001	<0.001
3) Differences	-	-	-	1.895
x/σ				102.989
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				
Managers				
Means	3.500	3.867	3.433	1.917
1) Differences	-	0.367	0.067	1.583
x/σ		10.955	6.036	39.773
P		<0.001	<0.001	<0.001
2) Differences	-	-	0.434	1.950
x/σ			12.916	50.649
P			<0.001	<0.001
3) Differences	-	-	-	1.516
x/σ				37.995
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				

continued next page

Table 10. (continued)

Occupation and Regulating Influence	Mechanistic Devices (1)	Other People (2)	One's Own Feelings (3)	Natural Events (4)
Craft, clerical and sales				
Means	3.514	3.824	3.405	2.446
1) Differences	-	0.310	0.109	1.068
x/σ		11.272	3.771	31.785
P		<0.001	<0.001	<0.001
2) Differences	-	-	0.419	1.378
x/σ			16.367	44.595
P			<0.001	<0.001
3) Differences	-	-	-	0.959
x/σ				29.875
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				
Operatives and service workers				
Means	3.692	3.631	3.308	1.985
1) Differences	-	0.061	0.384	1.707
x/σ		2.081	12.467	46.385
P		=0.037	<0.001	<0.001
2) Differences	-	-	0.332	1.646
x/σ			11.838	47.298
P			<0.001	<0.001
3) Differences	-	-	-	1.323
x/σ				36.648
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				

continued next page

Table 10. (continued)

Occupation and Regulating Influence	Mechanistic Devices (1)	Other People (2)	One's Own Feelings (3)	Natural Events (4)
Housewives and Students (nlf)				
Means	3.387	3.462	4.011	2.892
1) Differences	-	0.075	0.624	0.495
x/σ		3.989	34.285	22.500
P		<0.001	<0.001	<0.001
2) Differences	-	-	0.549	0.570
x/σ			32.678	27.142
P			<0.001	<0.001
3) Differences	-	-	-	1.119
x/σ				55.123
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				
Retired and unemployed persons				
Means	2.250	3.333	4.250	2.917
1) Differences	-	1.083	2.000	0.667
x/σ		5.718	11.940	3.396
P		<0.001	<0.001	<0.001
2) Differences	-	-	0.917	0.416
x/σ			6.009	2.133
P			<0.001	<0.001
3) Differences	-	-	-	1.333
x/σ				8.269
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				

Table 11. Means for Regulating Influences on Beach Activities; Differences, x/σ, and P for Differences Between Means; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island.

Occupation and Regulating Influence	Regulating Influences			
	Mechanistic Devices (1)	Other People (2)	One's Own Feelings (3)	Natural Events (4)
Professionals				
Means	1.958	2.260	3.833	3.906
1) Differences	-	0.302	1.875	1.948
x/σ		15.329	110.294	115.266
P		<0.001	<0.001	<0.001
2) Differences	-	-	1.567	1.646
x/σ			88.531	93.522
P			<0.001	<0.001
3) Differences	-	-	-	0.073
x/σ				5.000
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				
Managers				
Means	2.017	2.333	3.617	1.917
1) Differences	-	0.316	1.600	0.100
x/σ		9.813	52.287	3.355
P		<0.001	<0.001	<0.001
2) Differences	-	-	1.284	0.416
x/σ			44.429	14.804
P			<0.001	<0.001
3) Differences	-	-	-	1.700
x/σ				64.638
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				

continued next page

Table 11. (continued)

Occupation and Regulating Influence	Mechanistic Devices (1)	Other People (2)	One's Own Feelings (3)	Natural Events (4)
Craft, clerical and sales				
Means	1.784	2.081	3.770	3.946
1) Differences	-	0.297	1.986	2.162
x/σ		11.601	77.276	85.793
P		<0.001	<0.001	<0.001
2) Differences	-	-	1.689	1.865
x/σ			67.023	75.201
P			<0.001	<0.001
3) Differences	-	-	-	0.176
x/σ				7.096
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				
Operatives and service workers				
Means	1.677	2.523	3.662	3.862
1) Differences	-	0.846	1.985	2.185
x/σ		25.871	66.166	72.591
P		<0.001	<0.001	<0.001
2) Differences	-	-	1.139	1.339
x/σ			37.840	44.191
P			<0.001	<0.001
3) Differences	-	-	-	0.200
x/σ				7.299
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				

continued next page

Table 11. (continued)

Occupation and Regulating Influence	Mechanistic Devices (1)	Other People (2)	One'sOwn Feelings (3)	Natural Events (4)
Housewives and students (nlf)				
Means	2.032	2.495	4.075	3.978
1) Differences	-	0.463	2.043	1.946
x/σ		21.737	144.134	95.392
P		<0.001	<0.001	<0.001
2) Differences	-	-	1.580	1.483
x/σ			88.764	73.054
P			<0.001	<0.001
3) Differences	-	-	-	0.097
x/σ				5.773
P				<0.001
4) Differences	-	-	-	-
x/σ				
P				
Retired and unemployed persons				
Means	1.417	2.417	3.500	3.583
1) Differences	-	1.000	1.083	2.166
x/σ		5.885	5.390	9.392
P		<0.001	<0.001	<0.001
2) Differences	-	-	1.183	1.166
x/σ			5.715	6.007
P			<0.001	<0.001
3) Differences	-	-	-	0.083
x/σ				0.374
P				=0.711
4) Differences	-	-	-	-
x/σ				
P				

Table 12-A. Mean Regulating Influence of Mechanistic Devices on Occupational Activity; Differences, x/σ, and P for Differences Between Means; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Means, Occupations	Profes-sionals (1)	Mana-gers (2)	Craft, clerical, and sales (3)	Operatives and service workers (4)	Housewives and students (nlf) (5)	Retired and unemployed persons (6)
			Means			
A. Means:	3.760	3.500	3.514	3.692	3.387	2.250
Occupations			**Differences Between Means**			
B.						
(1)	-	0.260	0.246	0.068	0.373	1.510
(2)	-	-	0.014	0.192	0.113	1.250
(3)	-	-	-	0.178	0.127	1.264
(4)	-	-	-	-	0.305	1.442
(5)	-	-	-	-	-	1.137
(6)	-	-	-	-	-	-
			x/σ			
C.						
(1)	-	7.104	8.730	2.360	16.232	10.504
(2)	-	-	0.425	5.742	4.917	8.636
(3)	-	-	-	5.709	4.906	8.763
(4)	-	-	-	-	11.479	9.988
(5)	-	-	-	-	-	7.933
(6)	-	-	-	-	-	-
			P			
D.						
(1)	-	<0.001	<0.001	<0.001	<0.001	<0.001
(2)	-	-	=0.674	<0.001	<0.001	<0.001
(3)	-	-	-	<0.001	<0.001	<0.001
(4)	-	-	-	-	<0.001	<0.001
(5)	-	-	-	-	-	<0.001
(6)	-	-	-	-	-	-

Table 12-B. Mean Regulating Influence of Other People on Occupational Activity; Differences, X/σ, and P for Differences Between Means; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Means, Occupations	Profes-sionals (1)	Mana-gers (2)	Craft, clerical, and sales (3)	Operatives and service workers (4)	Housewives and students (nlf) (5)	Retired and unemployed persons (6)
			Means			
A. Means:	3.771	3.867	8.824	8.631	3.462	3.333
Occupations			Differences Between Means			
B.						
(1)	-	0.096	0.053	0.140	0.309	0.438
(2)	-	-	0.043	0.236	0.405	0.534
(3)	-	-	-	0.193	0.362	0.491
(4)	-	-	-	-	0.169	0.298
(5)	-	-	-	-	-	0.129
(6)	-	-	-	-	-	-
			x/σ			
C.						
(1)	-	3.765	2.550	6.261	17.990	3.496
(2)	-	-	1.518	8.001	15.705	4.215
(3)	-	-	-	7.558	17.122	3.900
(4)	-	-	-	-	7.447	2.362
(5)	-	-	-	-	-	1.029
(6)	-	-	-	-	-	-
			P			
D.						
(1)	-	<0.001	=0.128	<0.001	<0.001	<0.001
(2)	-	-	=0.131	<0.001	<0.001	<0.001
(3)	-	-	-	<0.001	<0.001	<0.001
(4)	-	-	-	-	<0.001	=0.018
(5)	-	-	-	-	-	=0.307
(6)	-	-	-	-	-	-

Table 12-C. Mean Regulating Influence of One's Own Feelings on Occupational Activity; Differences, X/σ, and P for Differences Between Means; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Means, Occupations	Profes-sionals (1)	Mana-gers (2)	Craft, clerical, and sales (3)	Operatives and service workers (4)	Housewives and students (nlf) (5)	Retired and unemployed persons (6)
			Means			
A.						
Means:	3.583	3.433	3.405	3.308	4.011	4.250
Occupations			Differences Between Means			
B.						
(1)	-	0.150	0.178	0.275	0.428	0.667
(2)	-	-	0.028	0.125	0.578	0.817
(3)	-	-	-	0.097	0.606	0.845
(4)	-	-	-	-	0.703	0.942
(5)	-	-	-	-	-	0.239
(6)	-	-	-	-	-	-
			x/σ			
C.						
(1)	-	5.430	7.897	11.321	26.047	7.508
(2)	-	-	0.889	3.816	21.064	8.927
(3)	-	-	-	3.391	27.156	9.377
(4)	-	-	-	-	29.190	10.401
(5)	-	-	-	-	-	2.692
(6)	-	-	-	-	-	-
			P			
D.						
(1)	-	<0.001	<0.001	<0.001	<0.001	<0.001
(2)	-	-	=0.378	<0.001	<0.001	<0.001
(3)	-	-	-	<0.001	<0.001	<0.001
(4)	-	-	-	-	<0.001	<0.001
(5)	-	-	-	-	-	=0.007
(6)	-	-	-	-	-	-

Table 12-D. Mean Regulating Influence of Natural Events on Occupational Activity; Difference, x/σ, and P for Differences Between Means; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Means, Occupations	Profes-sionals (1)	Mana-gers (2)	Craft, clerical, and sales (3)	Operatives and service workers (4)	Housewives and students (nlf) (5)	Retired and unemployed persons (6)
			Means			
A. Means:	1.688	1.917	2.446	1.985	2.892	2.917
Occupations			Differences Between Means			
B.						
(1)	-	0.229	0.758	0.297	1.204	1.229
(2)	-	-	0.529	0.068	0.975	1.000
(3)	-	-	-	0.461	0.446	0.471
(4)	-	-	-	-	0.907	0.932
(5)	-	-	-	-	-	0.025
(6)	-	-	-	-	-	-
			x/σ			
C.						
(1)	-	6.513	24.909	8.886	51.525	9.032
(2)	-	-	13.055	1.588	27.446	7.211
(3)	-	-	-	11.812	14.455	3.424
(4)	-	-	-	-	26.827	6.742
(5)	-	-	-	-	-	0.183
(6)	-	-	-	-	-	-
			P			
D.						
(1)	-	<0.001	<0.001	<0.001	<0.001	<0.001
(2)	-	-	<0.001	<0.001	<0.001	<0.001
(3)	-	-	-	<0.001	<0.001	<0.001
(4)	-	-	-	-	<0.001	<0.001
(5)	-	-	-	-	-	=0.857
(6)	-	-	-	-	-	-

Table 13-A. Mean Regulating Influence of Mechanistic Devices on Beach Activity Differences, x/σ, and P for Differences Between Means; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Means, Occupations	Profes-sionals (1)	Mana-gers (2)	Craft, clerical, and sales (3)	Operatives and service workers (4)	Housewives and students (nlf) (5)	Retired and unemployed persons (6)
			Means			
A. Means:	1.958	2.017	1.784	1.677	2.032	1.417
Occupations			Differences Between Means			
B.						
(1)	-	0.059	0.174	0.281	0.074	0.541
(2)	-	-	0.233	0.340	0.015	0.600
(3)	-	-	-	0.107	0.248	0.367
(4)	-	-	-	-	0.355	0.260
(5)	-	-	-	-	-	0.260
(6)	-	-	-	-	-	-
			x/σ			
C.						
(1)	-	2.246	7.572	10.516	3.650	4.676
(2)	-	-	7.698	10.242	0.530	5.113
(3)	-	-	-	3.611	10.342	3.152
(4)	-	-	-	-	12.868	2.218
(5)	-	-	-	-	-	5.307
(6)	-	-	-	-	-	-
			P			
D.						
(1)	-	=0.025	<0.001	<0.001	<0.001	<0.001
(2)	-	-	<0.001	<0.001	<0.001	<0.001
(3)	-	-	-	<0.001	<0.001	=0.001
(4)	-	-	-	-	<0.001	=0.027
(5)	-	-	-	-	-	<0.001
(6)	-	-	-	-	-	-

Table 13-B. Mean Regulating Influence of Other People on Beach Activity; Differences, x/σ, and P for Differences Between Means; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Means, Occupations	Professionals (1)	Managers (2)	Craft, clerical, and sales (3)	Operatives and service workers (4)	Housewives and students (nlf) (5)	Retired and unemployed persons (6)
			Means			
A. Means:	2.260	2.333	2.081	2.523	2.495	2.417
Occupations			Differences Between Means			
B.						
(1)	-	0.073	0.179	0.263	0.235	0.157
(2)	-	-	0.252	0.190	0.162	0.084
(3)	-	-	-	0.442	0.414	0.336
(4)	-	-	-	-	0.028	0.106
(5)	-	-	-	-	-	0.078
(6)	-	-	-	-	-	-
			x/σ			
C.						
(1)	-	2.805	7.797	10.666	11.293	1.244
(2)	-	-	8.966	5.984	6.140	0.660
(3)	-	-	-	15.089	17.718	2.654
(4)	-	-	-	-	1.013	0.831
(5)	-	-	-	-	-	0.618
(6)	-	-	-	-	-	-
			P			
D.						
(1)	-	=0.005	<0.001	<0.001	<0.001	=0.215
(2)	-	-	<0.001	<0.001	<0.001	=0.509
(3)	-	-	-	<0.001	<0.001	=0.008
(4)	-	-	-	-	=0.312	=0.406
(5)	-	-	-	-	-	=0.541
(6)	-	-	-	-	-	-

Table 13-C. Mean Regulating Influences One's Own Feelings on Beach Activity; Differences, x/σ, and P for Differences Between Means; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Means, Occupation	Profes-sionals (1)	Mana-gers (2)	Craft, clerical, and sales (3)	Operatives and service workers (4)	Housewives and students (nlf) (5)	Retired and unemployed persons (6)
			Means			
A. Means:	3.833	3.617	3.770	3.662	4.075	3.500
Occupations			Differences Between Means			
B.						
(1)	-	0.216	0.063	0.171	0.242	0.333
(2)	-	-	0.153	0.045	0.458	0.117
(3)	-	-	-	0.108	0.305	0.270
(4)	-	-	-	-	0.413	0.162
(5)	-	-	-	-	-	0.575
(6)	-	-	-	-	-	-
			x/σ			
C.						
(1)	-	9.879	3.059	7.821	17.069	2.016
(2)	-	-	5.842	1.654	21.285	0.705
(3)	-	-	-	4.124	15.082	1.628
(4)	-	-	-	-	19.194	0.976
(5)	-	-	-	-	-	3.482
(6)	-	-	-	-	-	-
			P			
D.						
(1)	-	<0.001	=0.002	<0.001	<0.001	=0.044
(2)	-	-	<0.001	<0.099	<0.001	=0.484
(3)	-	-	-	<0.001	<0.001	=0.125
(4)	-	-	-	-	<0.001	=0.332
(5)	-	-	-	-	-	<0.001
(6)	-	-	-	-	-	-

Table 13-D. Mean Regulating Influence of Natural Events on Beach Activity; Differences, x/σ, and P for Differences Between Means; 400 Sand Beach Users Classified by Occupation, July 1972; Rhode Island

Means, Occupations	Profes-sionals (1)	Mana-gers (2)	Craft, clerical, and sales (3)	Operatives and service workers (4)	Housewives and students (nlf) (5)	Retired and unemployed persons (6)
			Number of Cases and Means			
A. Means:	3.906	1.917	3.946	3.862	3.978	3.583
Occupations			Differences Between Means			
B.						
(1)	-	1.989	0.040	0.044	0.072	0.323
(2)	-	-	2.029	1.945	2.061	1.666
(3)	-	-	-	0.084	0.032	0.363
(4)	-	-	-	-	0.116	0.279
(5)	-	-	-	-	-	0.395
(6)	-	-	-	-	-	-
			x/σ			
C.						
(1)	-	96.142	1.985	1.998	4.185	2.182
(2)	-	-	81.358	73.202	91.085	11.146
(3)	-	-	-	3.212	1.445	2.429
(4)	-	-	-	-	4.841	1.864
(5)	-	-	-	-	-	2.650
(6)	-	-	-	-	-	-
			P			
D.						
(1)	-	<0.001	=0.047	=0.046	<0.001	=0.029
(2)	-	-	<0.001	<0.001	<0.001	<0.001
(3)	-	-	-	=0.001	=0.149	=0.015
(4)	-	-	-	-	<0.001	=0.062
(5)	-	-	-	-	-	=0.008
(6)	-	-	-	-	-	-