



# Organic Structure, Satisfaction and Personality

By

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## ABSTRACT

This paper takes the position that an important outcome of organizational activity is the satisfaction enjoyed by its members. It reports a field study of the relationships between a group structural concept (organicity), the higher-order need satisfactions of group members and individual differences in personality traits. Individual satisfaction tends to rise with increasing organicity. The task variable, "innovativeness", which is a close correlate of organicity, does not enter appreciably into this relationship. The responses of individuals to relatively organic and mechanistic group structures are mediated by personality trait-type and trait-strength. Organic group structure is viewed as a potential "motivator" of people with strong assertive needs.

\* \* \* \* \*

## INTRODUCTION

Studies of organizational structure in relation to task and technology variables have usually stressed organizational effectiveness as the "outcome" variable in the contingency relationship. For instance, Lawrence and Lorsch (1967) show that a high degree of differentiation and integration is associated with high effectiveness for organizations which have to deal with diverse and changeful environments. Burns and Stalker (1961) show that organic management systems are more effective in dealing with environments which demand technical innovation.

The personal satisfactions of individual members of the organization constitute another major outcome variable which receives rather less attention. Of course, the matter of employee satisfaction has not been neglected in other contexts. Worker alienation in industrial settings has been worried about for over a century (e.g. Marx, 1844); job satisfaction and job performance interactions have been studied extensively (Brayfield & Crockett, 1955); motivation and job enrichment are recognized as contributing to morale in industry (Herzberg, 1966), and as particularly important on the threshold of the post-industrial era (Davis, 1971).

Theoretically, effectiveness and satisfaction are equally interesting. Practically, effectiveness is directly essential to organizational survival, and owes its priority to that fact; however, the importance of personal satisfaction is increasingly recognized in a growing emphasis on morale and the quality of life in work and

employment. Where structural variables are being examined and the task-structure relation is studied, it is reasonable, therefore, to ask the question: How do the organization members like these differences? Or, more precisely: How do structural variables and task-structure interactions affect the need-satisfactions of individual members of the organization?

Meadows (1976) has examined the relationship between innovative tasks and organic structure in small work group settings. The present article is concerned with the effects of these variables on the need-satisfactions of individual group members in the same settings.

### The First Hypothesis

Starting from the premise that need-satisfaction is an adaptive response of a organism to its environment, it follows that those needs are satisfied that find answering opportunities in the environment. The different opportunities offered by groups differing in structure along an organic-mechanistic dimension could therefore be expected to result in different degrees of satisfaction of the various needs.

The operational measures of this structural dimension ("organicity") represent a) the participation and influence of group members in decisions concerning the group and b) the sharing of roles, tasks and responsibilities across the group membership (Meadows, 1976). These structural characteristics of the group, considered as environmental characteristics to the individual member, would appear to offer opportunities to fulfil those classes of needs which Maslow (1954)

calls "higher order", and which Alderfer (1972) calls "growth needs". These needs require for their fulfillment such factors as the "motivators" described by Herzberg (1966); e.g., opportunities for personal recognition, achievement, advancement, growth, responsibility and participation in the solving of problems. That is, organic structure could be expected to encourage and facilitate the fulfillment of higher order needs by all members of the group. Mechanistic structure, at the other end of the scale, while offering a degree of stability and certainty, tends to restrict the opportunity for growth and participation to only a very select few.

Therefore, it is proposed that,

Hypothesis No. 1: (Group member satisfaction is positively correlated with group organicity.)

Some recent research in the area of job satisfaction and organizational "climate", while not directly referable to organic structure, lends general support to the above proposition, (Litwin & Stringer, 1968; George & Bishop, 1971; Hackman & Lawler, 1971; Pritchard & Karasick, 1973). Organic structure has been shown to be strongly associated with innovativeness of task, in the same sample as used in this study; therefore, the task variable, too, is a possible determinant of satisfaction and should be controlled for in testing the above hypothesis.

## The Problem of Individual Differences

Implicit in the above argument is the notion that need-fulfilment, while dependent upon the opportunities offered, will also depend on the strengths of the needs themselves. Hackman and Lawler (1971) studied job characteristics and higher order need fulfilment among workers in a telephone company. Their study

"predicted and found that when jobs are high on the four core dimensions, employees who are desirous of higher order need satisfaction tend to have higher motivation, and have high job satisfaction ..."

This recognizes the fact that individuals differ in the nature and strengths of their needs. Specifically, Hackman and Lawler found that there was a strong correlation between an employee's satisfaction with opportunities to use his skills and abilities and the variables of job variety and autonomy, provided that the employee had reported a strong need for self-actualization. However, for employees reporting a lesser need for self-actualization, the correlation was not evident.

Alderfer (1972), in the development of his ERG theory, associates "growth satisfaction" with "chronic growth desires", in "challenging discretionary settings". That is, the satisfaction of higher order needs (growth) depends upon a personality variable (chronic desire); and the correlation between the two holds only under certain environmental conditions (setting). The idea of a challenging discretionary setting is conceptually akin to the "enriched" job (Hackman & Lawler, 1971) and to the organic structure correlate, innovativeness of task (Burns & Stalker, 1961; Meadows, 1976).

The underlying question is: What kind of person responds favourably to organic group structure, and what kind to mechanistic group structure? According to the above research, individual differences in needs are a key factor in determining satisfaction under different conditions. However, the measures of differences in desire for satisfaction are conceptually bound rather closely to the measures of need fulfilment. When individual differences are expressed in terms of chronic growth desires, or desire for higher order need satisfaction, the proposition that satisfaction in a given situation depends upon these differences appears somewhat tautological.

#### Personality Variables

The general form of the individual difference hypothesis is that satisfaction in organic groups is contingent upon the individual member having suitable personality traits. In order to refine and test this hypothesis, operational measures of personality traits are needed.

There is no firm precedent for selecting these measures. Recent research on organizations has numerous instances of trait measurement, but the methods vary widely and without pattern. For example, Schutz (1958), Guilford (1959), Vroom (1960), Porter and Henry (1964), Pym (1965), Bass (1967), Zaleznik (1970), George and Bishop (1971), Hackman and Lawler (1971) and Hackman and Oldham (1975) have all considered personality traits in relations to various organizational variables. Studies of creative and innovative individuals have also centered on the assessment of personality; e.g., Cattell (1963), Roe (1964), Hudson (1967), Stein (1968), Peake (1969), and de Woot et. al. (1971).



To qualify as operational variables in a study of individual need fulfilment in small work groups, personality measures must have three characteristics:

- a) they must be conceptually relevant to the fulfilment of needs in a work group situation;
- b) they must be operationally distinct from the measurement of need-satisfaction; i.e., not simply a measure of "desire" for satisfaction of the same "need" whose fulfilment is being measured;
- c) the methods of measurement must be applicable in ordinary workday situations. Prolonged or deep intervention at the workplace inhibits research access and may bias the data.

Judging from the research referred to above, the most difficult criterion to meet is the last - to avoid time-consuming methods, or methods which intrude embarrassing or incongruous questions into the conventional work situation. Also, with those "traits" which have been derived statistically, by factor analytic methods, it can be difficult to establish conceptual relevance.

The requirement for conceptual relevance to need-fulfilment leads to that branch of personality theory which uses need structure as the basis of classification. For instance,

"(Traits) are modi vivendi, ultimately deriving their significance from the role they play in advancing adaption within, and mastery of, the personal environment." (Allport, 1937).

Henry Murray shared this conception of personality traits. Using interviews, projective techniques and questionnaires, Murray and his co-workers built up a taxonomy of needs and traits based on the long term systematic observation of a large number of subjects (Murray, 1938). The questionnaires they designed - carefully honed against clinical observations and projective tests over a number of years - are models of conciseness and subtlety. The concepts and classes of personality traits they developed have grown out of the intellectual confrontation of researcher with subject. The names of the needs and traits, and the tests and questions set to capture them, all have a ring of familiar reality. Murray's terms: needs for Abasement, Blamavoidance, Deference, Dominance, etc., hardly need to be explained or defined. While they do perhaps lack the objectivity of development and the hard-edged statistical validity of, for example, Cattell's 16 factors, their face validity and conceptual suitability to work group situations recommend them as a starting point for this study.

In brief, five traits were selected, from the typology of twenty, as being particularly relevant to need fulfilment under organic or mechanistic conditions: the needs for dominance (nDom), deference (nDef), autonomy (nAut), achievement (nAch), and understanding (nUnd).

nDom - the need to influence and direct the actions of others

nDef - the need to submit to the leadership and direction of others.

nAut - the need to be free of rules, regulations, conventions and the dictates of others.

nAch - the need for personal accomplishment of difficult or substantial pieces of work.

nUnd - the need to reflect, conceptualize and discuss ideas.

The effects of the above five personality variables on the interaction between group organicity and individual satisfaction are predicted in the following set of hypotheses:

Hypothesis No. 2

- a) The positive correlation of satisfaction with organicity will increase as nAut increases; because the structural characteristics associated with organicity provide opportunities for self-control and participation in decisions.
- b) The positive correlation of satisfaction with organicity will increase as nUnd increases; because organicity provides opportunities for psychological growth and learning.
- c) The positive correlation of satisfaction with organicity will decrease as nDef increases, because mechanistic structure (low organicity) provides opportunities for submission and subservience.
- d) No prediction is made with respect to nDom; the opportunities for domination are probably strongest in mechanistic groups, but only for those with authority; opportunity to influence others is more widespread in organic groups.
- e) No prediction is made with respect to nAch; the mechanistic group could be an efficient vehicle for personal achievement for certain favourably placed individuals; however, the opportunities are more widespread in organic groups.

To test the hypotheses stated so far, operational measures of the following variables are required:

- Organicity of group structure
- Innovativeness of group task
- Individual satisfaction of group members
- The five personality traits

In the next two sections, the research site and sample and the measurements taken are described.

### Research Site and Sample

The total sample consists of 93 individuals in 24 groups, ranging in size from three to five members. Membership included a working leader in most cases, but no supervisors who had responsibility for other groups. The groups all worked in technical research and/or development organizations; 17 of the groups (69 members) work in the research division and the development division of a very large corporation in the telecommunications industry in the U.K. Seven of the groups (24 members) work in the development laboratories of a medium sized chemical firm in Canada. Tasks range from advanced scientific research, through product development and technical service, to routine clerical and drawing office work. The samples from the two organizations are highly similar, both in the nature of the jobs and organizations involved, and in the distribution of scores in the measured data. The data from the two sources were therefore pooled and treated as one sample.

### The Measurements

#### 1. Organicity of Group Structure

Derived from the organic-mechanistic conception of organization structure (Burns & Stalker, 1961; Meadows, 1975), organicity is an operational measure of group structure based on perceptions reported by group members. The dimension consists of nine scaled items, whose scores are added and averaged across the group.

Items refer specifically to:

- i) sub-divisive or integrative ways of allocating work within the group.
- ii) individual isolation or team orientation to division of labour in the group.
- iii) reliance on abstract rules or situational factors in allocating tasks and roles.
- iv) clear-cut or blurred role boundaries.
- v) centralization or diffusion of influence in the group.
- vi) norm for downward communication is instructions and orders, or information and advice.
- vii) restricted or free access to influence on group decisions.
- viii) restricted or free access to voicing disagreement.
- ix) restricted or free access to critical role regarding other members.

(Refer to the author for actual questionnaire items. The questionnaire is filled out by the interviewer in the course of a private, semi-structured interview).

The combined construct represents the sharing of roles, tasks and responsibilities across the group, the supportiveness of communication and the voice of members in decisions concerning the group. The items are scored on five-point scales from minimum (1) to maximum (5) organicity. The group score is the sum of the individual scores of the group members, divided by the number of members. The mean score for the 28 groups is 2.96 (1-5 scale), with a standard deviation of 0.51. Inter-item correlation is high (reliability coefficient,  $\alpha = 0.9$ ).

Organicity is here defined as a group variable. The question might be asked, whether one might alternatively use the individual scores in exploring the interaction with satisfaction and other

individual variables. It is interesting to note that the results of so doing are essentially the same as reported below for the group variable.

## 2. Satisfaction

Satisfaction of an individual group member in his work is measured operationally in terms of the self-reported degree of fulfilment of certain "higher-order" needs. The instrument is adapted from the Porter (1962) questionnaire. Respondents are asked to indicate on two separate 7 point scales,

- a) the amount of a certain (desirable) characteristic actually present in their job, and
- b) the amount the respondent feels their ought to be.

Satisfaction is measured through the discrepancy between the two scores, (b minus a); a small discrepancy represents high satisfaction.

The instrument used here consists of seven such items, describing different characteristics conceptually relevant to the "higher-order" needs (Maslow, 1954). These are

- i) the opportunity for personal growth and development
- ii) the feeling of self-fulfilment
- iii) the feeling of self-esteem
- iv) the opportunity to have a say in what the group does and how.
- v) the feeling of being "in the know".
- vi) the opportunity for independent thought and action
- vii) the feeling of worthwhile accomplishment.

The scores obtained are numerical dissatisfaction scores, (i.e., discrepancies in need-fulfilment), and therefore lead to negative correlations under the hypotheses. This is compensated for throughout the paper by simply reversing the signs of correlation coefficients where the variable is labelled "satisfaction". The items scores are, in fact, quite highly correlated with each other and show little or no tendency to cluster into separate factors. Table 1 shows the correlation matrix. Rather than attempt to distinguish among different need categories (self-actualization, autonomy, etc.) it seems advisable to combine the seven items into a general dissatisfaction score. The maximum possible score on any one item is 6 (i.e. 7-1), and the minimum possible is zero. Thus, the possible range of the combined scores is 42 (i.e. 7 X 6) to zero. The actual mean score was 7.9 (n=93), with a standard deviation of 6.8; the range was 0 to 37. Thus, the distribution is skewed quite strongly, the "tail" consisting of a relatively few scattered scores representing very high dissatisfaction.

### 3. Personality Traits (Needs)

Murray (1938) used five separate questionnaire schedules in measuring nDom, nAch, nUnd, nAut and nDef. From each of these schedules, four suitable items were selected. These 20 items were arranged in random sequence on a questionnaire. Each item is in the form of a statement, in the first person singular, to which the subject is asked to record an agree-disagree response using a five point scale.

e.g. In matters of conduct I conform to custom

1	2	3	4	5
Agree			Disagree	

TABLE 1  
Satisfaction: Inter-item  
Correlation Coefficients

<u>Item</u>	1	2	3	4	5	6	7
1	*	47	38	57	42	42	44
2		*	71	42	41	49	54
3			*	35	47	51	34
4				*	49	59	49
5					*	46	45
6						*	41
7							*

n = 93    p < .001

decimal points omitted.



The contents of the items are summarized in Table 2, and the items are reproduced in full in the Appendix.

Respondents completed the questionnaire in the course of the same private interviews with the researcher at which the other variables were scored. Scores were inverted so that a higher score on the scale reflected a higher need-strength or trait strength.

Principal components analysis of the 20 items, with varimax rotation, produced the factors and item-loadings summarized in Table 2. Two items were eliminated (nos. 1 and 18); in each case there appeared to be a semantic problem which could have interfered with the response. "I seek the advice of older men and follow it" was observed to disconcert some subjects, particularly females. "I am logical and coherent in my thinking" appears to have triggered a "modesty" response. The remaining 18 items loaded mainly on factors corresponding to the original Murray traits. There are some obvious discrepancies and weaknesses in the factors, but it was decided to stay with the five variables selected and to leave improvement of the instrument to later studies.

(TABLE 2 about here)

Item scores were therefore averaged for each variable and divided by the number of items (3 or 4). The means and standard deviations of the scores for the five variables, over 93 subjects, are given in Table 3.

TABLE 2  
Personality Variables  
Factor Analysis  
(Varimax Rotation)

		<u>Factor</u>				
<u>Item</u>		<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>
<u>nDef</u>	1.	follow advice of older men				(05)
	2.	conform to custom	-52			25
	3.	follow instructions	-22	21	-20	74
	4.	put self in background				52
<u>nDom</u>	5.	influence others		44	25	-23
	6.	enjoy directing others		60		
	7.	usually make the decisions	20	59	22	
	8.	argue the point vigorously		41	53	
<u>nAut</u>	9.	disinclined to follow dictates	(11)			
	10.	dislikes subservient position	(14)			
	11.	disregard rules that hamper	61			
	12.	avoid situations (conventional)	69			
<u>nAch</u>	13.	relax only when task completed			64	20
	14.	set difficult goals for self		23	61	
	15.	feel spirit of competition			23	
	16.	need to accomplish			43	
<u>nUnd</u>	17.	enjoy debating the issues	20		59	
	18.	logical, coherent thinker		59	(05)	21
	19.	value exact concepts			34	
	20.	enjoy reflection and speculation			48	

Decimal points omitted.

Factor loadings less than 20 omitted, except for weak loadings on intended factors (in parenthesis).

TABLE 3

<u>Trait</u>	<u>Mean</u>	<u>S.D.</u>
nDom	3.51	0.67
nAut	2.73	0.63
nAch	3.23	0.83
nUnd	3.68	0.55
nDef	3.41	0.60

(TABLE 3 about here)

#### 4. Innovativeness of Task

This variable was found (Meadows, 1976 ) to be strongly correlated with organicity of group structure: ( $r = 0.75$ ,  $n = 28$ ). Therefore, its possible involvement in the organicity-satisfaction relationship must be considered.

Innovativeness of task is measured in terms of individual perceptions of factors associated with a requirement for innovative behaviour in the group. The questionnaire has 15 items. Seven items refer to external factors, including

- i) the group's clients - do they change much? - do the things they require change much?
- ii) the technology - its rate of change.
- iii) the general "turbulence" of the environment.

Eight items refer to internal factors of two kinds:

- iv) a routine-variety distinction
- v) "press" for innovative behaviour in the group.

The variable is scored on a five point scale from minimum (1) change, variety, press, etc., to maximum (5). Individual scores are averaged across each group to obtain a group innovativeness score. The mean score for this sample is 2.78 ( $n = 28$ ) and the standard deviation is 0.71.

## RESULTS

### 1. Satisfaction and Organicity

Correlation analysis of the data on organicity and satisfaction offers a convenient way of testing the first hypothesis. However, there are two possible complications which must be provided for:

- a) a major correlate of organicity in the sample is innovativeness of task. It is, of course, conceivable that the true interaction is between satisfaction and innovativeness, rather than satisfaction and organicity. This proposition is tested by comparing the partial correlation coefficients (Table 4).
- b) the satisfaction data are based on a discrepancy measurement in need fulfilment. The distribution of raw scores tends to be concentrated at one end of the scale, with a substantial "tail" in the other direction. While this skewness does not necessarily rule out the assumption of normality (implied in correlation analysis), it does suggest that an alternative method of analysis be used for confirmation. To this end, frequency distributions of satisfaction scores were compared in organic versus mechanistic groups, using the chi-square statistic to test the significance of differences (Table 5).

The Pearson product-moment coefficients describing the correlation of satisfaction with organicity, and satisfaction with innovativeness, are shown in Table 4.

(TABLE 4 about here)

TABLE 4

Satisfaction Correlations

(Pearson r; n = 93)

	<u>Organicity</u>	<u>Innovativeness</u>
Zero Order (df=91)	0.37	0.32
First Order, Control for Innovativeness (df=90)	0.20	-
First Order, Control for Organicity (df=90)	-	0.05

TABLE 5

Satisfaction with Organicity

(Frequency Table)

<u>Satisfaction</u>	<u>Organicity</u>		
	<u>High (&gt;3.0)</u>	<u>Low (&lt;3.0)</u>	
<u>High</u>	20	13	(33)
<u>Medium</u>	19	11	(30)
<u>Low</u>	8	22	(30)
	<hr/>	<hr/>	
	n= 47	46	

Chi square = 10.2  
p < .002

The coefficient  $r = 0.37$  ( $n = 93$ ), while not very strong, is quite considerable and is statistically significant ( $p < .001$ ). The partial coefficients indicate that the effect of innovativeness on satisfaction is minor, and that organicity is definitely the dominant factor. That is, Hypothesis No. 1 is well supported.

As an alternative method of analysis, the sample was trichotomized with respect to the satisfaction scores ("high", "medium" and "low"), and dichotomized with respect to group organicity scores ("high" and "low"). The frequency distribution of the 93 cases among these six cells is summarized in Table 5.

(TABLE 5 about here)

The difference between the high and low columns is significant, and it indicates that, in groups high in organicity, members are more frequently well-satisfied and less frequently ill-satisfied than in groups low in organicity. That is, organic groups are more satisfying than mechanistic groups. This analysis confirms the correlation analysis in support of Hypothesis No. 1.

## 2. Personality, Satisfaction and Organicity

The personality hypotheses propose that the above interaction will be different, in strength if not in direction, at high and low degrees of need strength:  $n_{Dom}$ ,  $n_{Ach}$ ,  $n_{Und}$ ,  $n_{Aut}$ ,  $n_{Def}$ . The correlation coefficients calculated for dichotomous samples are shown in Table 6.

(TABLE 6 about here)

TABLE 6  
Organicity, Satisfaction  
by Need-Strength  
(Pearson r)

<u>Trait</u>	<u>Need-Strength</u>	
	<u>High</u> (n=)	<u>Low</u> (n=)
nDom	45 (43)	32 (50)
nAch	44 (45)	29 (48)
nAut	53 (32)	29 (61)
nUnd	40 (53)	39 (40)
nDef	41 (34)	38 (59)

Decimal points omitted.

TABLE 7  
Need-Strength, Satisfaction  
by Organicity  
(Pearson r)

<u>Trait</u>	<u>Organicity</u>	
	<u>High</u> ( 3.0) n=47	<u>Low</u> ( 3.0) n=46
nDom	+24*	-17
nAch	-02	-42*
nAut	+13	-33*
nUnd	00	-24*
nDef	-19	-02

\* p < .10 (Two-tailed)

Decimal points omitted.



These results show that the interaction of organicity with satisfaction is stronger and more positive at high levels of nDom, nAch and nAut than at lower levels of these three traits. In the cases of nUnd and nDef, differences are less substantial. Statistically speaking, even the largest difference in r-values in Table 6 (nAut) just fails the test of significance at the  $p = .05$  confidence level.

An alternative way of looking at the data is to examine how satisfaction varies with need strength, comparing organic with mechanistic groups. (see Table 7).

(TABLE 7 about here)

These results show that, among the more organic groups (organicity  $> 3.0$ ), reported satisfaction tends to increase with need strength for nDom and nAut; no interaction is apparent with nAch and nUnd; with nDef there is a tendency to decrease in satisfaction as need-strength increases. Among the relatively mechanistic groups (organicity  $< 3.0$ ) the picture is very different; for nDom, nAut, nAch and nUnd, satisfaction actually tends to decrease as need-strength increases. Again, nDef is the exception, with no appreciable interaction. That is, mechanistic conditions appear to actually frustrate the more assertive needs. Organic groups, on the other hand, appear to offer some opportunity to satisfy stronger needs for dominance and autonomy.

The above correlation analyses support the proposition that the personality variables measured do influence the interaction of personal satisfaction with organicity of group structure. However, the correlations are not very strong, and the dichotomous samples are not

large. Moreover, the assumptions of normality, homoscedasticity, etc. of correlation analysis are tried rather by the nature of the data - e.g., the satisfaction data are heavily skewed. For this reason the data were further analysed in the following way: Each of the variables was dichotomized; separation points were chosen to provide reasonably well balanced "cells". Comparisons were made of the distribution of cases between "high" and "low" need-strength for each of the five personality variables. A non-parametric statistic (chi-square) was used to evaluate the comparisons. The results of this analysis are summarized in Tables 8 to 11.

Table 8 shows the interaction of individual satisfaction with group organicity for individuals with, on the left (a) high nDom, and on the right (b) low nDom. The association is seen to be positive and significant for (a) and neutral for (b). Similar tables were constructed for the other personality variables; in the interests of space saving the essential statistics only are presented in Table 9.

(TABLES 8 AND 9 about here)

From this, one concludes that individuals who report higher need-strength in nDom, nAch, nAut and nUnd are more responsive to organic-mechanistic differences, and are more likely to report satisfaction in organic conditions and dissatisfaction in mechanistic (i.e. low organicity) conditions. Individuals who report lower need-strengths in these variables appear to be relatively indifferent to the organic-mechanistic dimension in group structure.

TABLE 8

Satisfaction with Organicity  
at high & low nDom.  
(Frequency Table)

a) <u>High nDom</u> (n=42)				b) <u>Low nDom</u> (n=51)			
<u>Organicity</u>				<u>Organicity</u>			
		<u>High</u>	<u>Low</u>			<u>High</u>	<u>Low</u>
<u>Satis.</u>	<u>High</u>	17	5	<u>Satis.</u>	<u>High</u>	14	15
	<u>Low</u>	5	15		<u>Low</u>	11	11
		<u>22</u>	<u>20</u>			<u>25</u>	<u>26</u>
Chi sq.= 11.5				Chi sq.= .01			
p < .01							

TABLE 9

Satisfaction with Organicity  
by Need Strength  
(Chi square values)

<u>Trait</u>	<u>Need Strength</u>	
	<u>High</u>	<u>Low</u>
nDom	11.5**	.01
nAch	5.4*	.04
nUnd	6.7**	.42
nAut	6.7**	.17
nDef	0.58	5.9*

all associations are positive

\* p=.02

\*\* p<.01

In the case of the need nDef, the reverse is true. Individuals who express a lower degree of nDef have a strong positive response to organicity, while those who express a higher degree of nDef do not.

This analysis tells us whether a high or low need-strength affects the individual's differential satisfaction between high and low organicity in group structure. However, it does not tell us whether, for instance, a high degree of nAch is associated with high satisfaction under organic conditions, or low satisfaction under mechanistic conditions, or both. This distinction is accomplished by re-arranging the tables, using the same frequency data, as shown in Tables 10 and 11.

(TABLES 10 and 11 about here)

Table 10 shows the interaction of satisfaction with need-strength for the trait variable nDom, at two levels of organicity of structure. On the left (a), the association is seen to be positive in the relatively organic sample; on the right (b), negative in the relatively mechanistic sample. The statistics are significant at the .10 and .05 confidence levels, respectively. Corresponding interactions for the other variables are summarized in Table 11. Negative associations appear to be the rule, except for nDom under organic conditions and nDef under mechanistic conditions.

Thus, we can also conclude that the dominant effect is the dissatisfaction of individuals having high need-strengths under relatively mechanistic conditions. This applies to all the personality variables except nDef, which shows increasing satisfaction with need-strength. Under organic conditions, this relationship between satisfaction and need-strength is virtually eliminated, and, in the cases of nDom and

TABLE 10

Satisfaction with Need Strength  
at high and low Organicity

(Frequency Table)

a) <u>High Organicity</u> (n=47)			b) <u>Low Organicity</u> (n=46)		
<u>nDom</u>			<u>nDom</u>		
<u>Satis.</u>	<u>High</u>	<u>Low</u>	<u>Satis.</u>	<u>High</u>	<u>Low</u>
	17	14		5	15
	<hr/>			<hr/>	
	<u>Low</u>			<u>Low</u>	
	5	11		15	11
Chi sq. = 2.3 p = .10			Chi sq. = 4.9 p < .05		

TABLE 11

Satisfaction with Need  
Strength by Organicity

(Chi square values)

<u>Trait</u>	<u>Organicity</u>	
	<u>High</u>	<u>Low</u>
nDom	2.3+	4.9*
nAch	0.11	4.5*
nUnd	0.08	3.9*
nAut	0.49	2.0
nDef	0.76	1.0+

+ Associations are positive, (all others tend to be negative).

\*  $p < .05$

nDef, actually reverses.

In summary, the two methods of analysis used do tend to confirm and supplement each other, the second (frequency tables) approach producing somewhat clearer distinctions and no contradictions. In general, the conclusions are that

- a) individual satisfaction is associated with organicity of group structure for all the personality variables except nDef, for which organicity is associated rather with dissatisfaction.
- b) dissatisfaction in mechanistic groups is associated with high need-strength in all of the needs tested except nDef. High need-strength does not, however, seem to be associated with satisfaction in organic groups, except that nDom shows a slight positive response and nDef a slight negative response.

## CONCLUSIONS

1. The correlation coefficients indicate that organicity is positively associated with individual satisfaction and is therefore probably beneficial to it. The correlation coefficient is not very strong, but is statistically significant ( $r = .37$ ,  $n = 93$ ,  $p < .001$ ). A comparison of the distributions of reported satisfaction in high and low organicity groups indicates the same association of organicity with satisfaction ( $\chi^2 = 10.2$ ,  $p = .002$ ). The first hypothesis is therefore strongly supported.
2. The proposition that the task variable, "innovativeness", a close correlate of organicity, may be the environmental factor on which satisfaction depends, can be dismissed on the basis of the partial correlation coefficients. Organicity emerges as clearly the dominant factor of the two.
3. The association of organicity and satisfaction is generally stronger among individuals who possess stronger needs. This means that the organic-mechanistic dimension of group structure is much more important to people who have strong personality traits of the kind involved here.
4. The association of need-strength with dissatisfaction is stronger in the more mechanistic groups than in the more organic groups. That is, the effect of personality traits appears to be more "critical" in mechanistic groups.
5. Four of the personality variables,  $n_{Dom}$ ,  $n_{Aut}$ ,  $n_{Ach}$  and  $n_{Und}$ , share a marked association with dissatisfaction in groups which lack organicity of structure. Of these four,  $n_{Dom}$  shows the most

positive response to high organicity. nDom is also the most internally consistent of the personality variables in its operational measures (see Table 2). The fifth variable, nDef, is the conceptual inverse of nDom, and its responses to differences in organicity are correspondingly inverse.

With reference to the five tentative components of Hypothesis No. 2, the following conclusions can be drawn:

6. Hypothesis 2(a): The satisfaction-organicity association is positive, and is stronger at higher levels of nAut. Therefore, the hypothesis is supported (Table 9).
7. Hypothesis 2(b): The satisfaction-organicity association is positive, and is stronger at higher levels of nUnd. Therefore, the hypothesis is supported (Table 9).
8. Hypothesis 2(c): The satisfaction-organicity association is much stronger with low nDef individuals than with high nDef. It is apparent that less organic groups tend to satisfy high nDef better than more organic groups do. The hypothesis is, therefore, supported by the data.
9. Hypothesis 2(d): The data indicates that increasing nDom tends to improve satisfaction in organic groups and to increase dissatisfaction in mechanistic groups. The relevant correlation coefficients are  $r = +.24$  ( $n = 47$ ), in the first instance, and  $r = -.17$  ( $n = 46$ ), in the second. These coefficients, while small, are sufficiently different to warrant some confidence. Therefore, the tentative hypothesis that nDom prefers the mechanistic trend is contradicted.



10. Hypothesis 2(e): High nAch has a considerable effect on the organicity-satisfaction association (Table 9). Most of this effect is in the more mechanistic groups (Table 11), where nAch is negatively correlated with satisfaction. Table 7 shows a coefficient of  $r = -.42$  ( $n = 46$ ) for the more mechanistic groups, and  $r = -.02$  ( $n = 47$ ) for the more organic groups. The results suggest an hypothesis that increasing nAch leads to increasing frustration in relatively mechanistic groups, but not in organic groups.

## DISCUSSION

This paper has argued that an important outcome of organizational activity is the satisfaction enjoyed by its members. It has set out to explore the relation between group structure and individual satisfaction, taking into account the possible contingent effects of a task variable, innovativeness, and of individual differences in personality traits.

The study has produced substantial evidence that organic structure is positively associated with satisfaction of the higher-order needs, whereas mechanistic structure is associated rather with their frustration. That is, organic group structure is superior to mechanistic for fulfilling the psychological needs of group members. This finding gives cause to modify the familiar contingency model in which organization structural variables and task variables (e.g., rate of change, complexity, technology) interact in determining effectiveness. Burns & Stalker (1961) state clearly that a relatively mechanistic management system is entirely appropriate for a straightforward manufacturing operation in stable commercial and technological circumstances. However, the present findings argue that, given a relatively simple and unchanging task, albeit suitable for routinization and programming on the engineering and administrative systems level, it is to the organization's advantage to foster "organic" relationships among the people involved.

Proponents of the socio-technical system have pointed out the interdependence of social and technical factors in work organization. Students of job design and industrial democracy, concentrating on the nexus of human needs and technological exigencies, have developed the idea of desirable job characteristics or "psychological job requirements" (Engelstad, 1970). However, the present findings suggest that the interpersonal structural characteristics of the work group are the dominant source of satisfaction for the psychological requirements of its members. In this specific case, organic characteristics are superior to mechanistic in fulfilling higher-order needs, regardless of the degree of innovativeness required in the task.

Research on job design has been done mainly on "blue-collar" jobs - the present research involves only "white-collar" jobs. The distinction between job structure and group structure, and between blue and white collar jobs could be clarified in future research by measuring both kinds of variable (group structure and job characteristics) in the same groups, and by including in the sample groups engaged in relatively unskilled manual work as well as in relatively skilled mental work.

Beyond the generalization that group organicity is associated with individual member satisfaction, this study has set out to probe the question of individual differences. The measurement and analysis of individual traits and responses is strictly exploratory, and the data and conclusions are not sufficient basis to propound a strong theory about organic structure, personality and satisfaction. However, personality traits proved to have significant effects on satisfaction in organic and mechanistic groups, and certain traits differed in both

the magnitude and the direction of these effects. Moreover, the results demonstrate that personality traits can be systematically measured with simple "field instruments". The instrument used here deserves refinement to improve its factor reliability and its conceptual range.

This paper has argued for group member satisfaction as a good in itself, ranking in importance with organizational effectiveness. Alternatively, one can argue the effectiveness of organic structure through its motivational potential. The relation of organicity and satisfaction is much stronger when the assertive needs (nDom, nAch, nAut) are strong. Strong needs are associated, by definition, with potentially high motivation. Therefore, by acting as a vehicle for intrinsic rewards and the satisfaction of these strong, assertive needs, organic structure presents itself as a "motivator" in the full sense of the word. A person who is strongly motivated by, for instance, the need for achievement can obtain fulfillment of that need by working in an organic group, but will suffer frustration of it by working in a mechanistic group.

The proposition that organic group structure is valuable in itself, independently of its encouragement of innovation of performance in suitable contingencies, is a challenging one. It is compatible with management philosophies such as Theory Y (McGregor, 1960), and with developmental approaches such as job enrichment (Herzberg, 1966). However, it carries the emphasis away from the work itself and leadership styles, placing it on within-group structural relations. The principle underlying these propositions and theories is that the people

who constitute the membership of an organization all have, to some degree, needs for self-development, growth, control and self-actualization, and that the opportunity to satisfy these needs is a source of motivation. The implication for management policy is that employers who use these approaches to job design, organization design and leadership are able to tap motivations, to the mutual benefit of employee and organization.

The results reported above stress the importance of a group structural variable and of individual differences in personality. They indicate that due attention to the interpersonal structure of work arrangements can enhance the motivation of persons with certain strong traits.

In a discourse on the evolution of industrial work systems, Alain Touraine identifies three historical stages: a manual skill or "craftsman" phase, a mechanization phase and a (future) automation phase. Touraine observes that, in the last phase,

"The rhythm and character of work is no longer determined by the nature of the product manufactured, or the machine utilized, or by the character of human effort, but by the way in which the work is organized ....The new system of work, precisely because of its technology, is entirely social and organizational".

(Touraine, 1962)

The findings of the above research, by linking group structure and individual differences with the satisfaction of human needs in the work situation, give substance and support to the above idea. Job enrichment and similar task-design approaches inevitably come

up against technological barriers. As technology increases in complexity and pervasiveness -- as automated control encroaches on areas of decision making normally the preserve of skilled workers and managers -- the worker has increasingly to seek his need-fulfilment through the organizational system to which Touraine refers. Students of employee satisfaction and the quality of working life might, therefore, be advised to give more attention to the structure and process of work groups at all levels in organizations, both in conjunction with task systems and for their own sake.

While there obviously remains much to be done to confirm and extend these findings, the guidance they offer for the improvement of organizational effectiveness and the quality of working life is an incentive for further work in the same direction.

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## APPENDIX

### Personality Trait Questionnaire

The next twenty statements refer to a variety of attitudes and viewpoints. Please indicate to what extent each one agrees or disagrees with your own attitudes and views. 1 = strongly agree, 5 = strongly disagree.

- |    |   |             |
|----|---|-------------|
| a) | I often seek the advice of older men, and follow it.  | 1 2 3 4 5 _ |
| b) | I am disinclined to adopt a course of action dictated by others.  | 1 2 3 4 5 _ |
| c) | I can enjoy relaxation wholeheartedly, only when it follows the successful completion of a substantial piece of work. | 1 2 3 4 5 _ |
| d) | In matters of conduct I conform to custom.  | 1 2 3 4 5 _ |
| e) | I set difficult goals for myself, which I try to reach.   | 1 2 3 4 5 _ |
| f) | I usually influence others more than they influence me.   | 1 2 3 4 5 _ |
| g) | I am unable to do my best work when I am in a subservient position.   | 1 2 3 4 5 _ |
| h) | I enjoy organizing or directing the activities of a group, a team, a club or a committee.                             | 1 2 3 4 5 _ |
| i) | I usually follow instructions and do what is expected of me.  | 1 2 3 4 5 _ |
| j) | I enjoy debating with my friends the relative values of various ideas and theories.                                   | 1 2 3 4 5 _ |
| k) | I disregard the rules and regulations which hamper my freedom.  | 1 2 3 4 5 _ |
| l) | I am rather logical and coherent in my thinking.  | 1 2 3 4 5 _ |
| m) | I am capable of putting myself in the background and working with enthusiasm for a person I admire.                   | 1 2 3 4 5 _ |
| n) | I feel the spirit of competition in most of my activities   | 1 2 3 4 5 _ |
| o) | I lay great emphasis on words and concepts which exactly express my thoughts.   | 1 2 3 4 5 _ |
| p) | I feel that my future peace and self-respect depend on my accomplishing some notable piece of work.                   | 1 2 3 4 5 _ |
| q) | I am usually the one to make the necessary decisions when I am with another person.                                   | 1 2 3 4 5 _ |
| r) | I try to avoid situations where I am expected to conform to conventional standards.                                   | 1 2 3 4 5 _ |
| s) | I enjoy reflection and speculation almost as much as anything.  | 1 2 3 4 5 _ |
| t) | I argue my point of view vigorously against others.   | 1 2 3 4 5 _ |

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