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JOB-MOTIVE COMPATIBILITY:

A TEST OF CHUSMIR'S MODEL

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Running head: JOB AND MOTIVE COMPATIBILITY

Abstract

A test of Chusmir's (L.H. Chusmir, <u>Matching Individuals to Jobs</u>, New York: AMACOM, 1985) model of job motive compatibility was conducted using data gathered with the Job Choice Exercise from the incumbents of nine different jobs. The data generally supported Chusmir's predictions about the levels of the need for power, need for achievement and the need for affiliation appropriate in the nine jobs. The support was stronger for jobs in private sector bureaucracies (executives, managers, supervisors of technical people, technical people and blue collar workers) than it was for professional and paraprofessional jobs (nursing supervisors, ... ministers and deputy sheriffs). Suggestions for future research were made.

Job-Motive Compatibility

A Test of a Model

The work of McClelland and his colleagues (eg. McClelland and Boyatzis, 1982) and of Stahl and his colleagues (eg. Stahl, 1986), suggests that the needs for power (n-pow), achievement (n-ach) and affiliation (n-aff) play an important role in effective management. McClelland and Burnham (1976) define n-pow as the desire to influence people, n-ach as the desire to do something better and more efficiently than it has been done before, and n-aff as the need to be liked by other people. The line of research pursued by McClelland and his colleagues has focused upon what they call the leadership motive pattern (LMP). The LMP consists of moderate-to-high n-pow, low n-aff and high activity inhibition. Activity inhibition is the tendency of a person to channel his or her n-pow into socially desirable as opposed to purely selfish pursuits. In a longitudinal study of managers, McClelland and Boyatzis (1982) found that the LMP at a given time predicted managerial success 8 and 16 years later. N-ach predicted managerial success only at lower levels of management. Stahl and his colleagues have focused their attention upon what they call managerial motivation. High managerial motivation consists of having n-pow and n-ach scores both above the population median. Longitudinal and cross-sectional studies show that the presence of managerial motivation predicts success at management (Stahl, 1986). In addition to providing empirical data

about managers, both groups of researchers have presented theoretical models of the role of the trichotomy of needs in management. The promising empirical results suggest that this line of research, on the trichotomy of needs among managers, should be continued.

These promising results also suggest that it may be fruitful to study the trichotomy of needs in non-managerial jobs as well. This investigation should be pursued at both the empirical and theoretical levels. Some data for non-managerial jobs are already available (eg. Chusmir, 1985; Stahl, 1986; Winter, 1973). Theoretical models which attempt to provide a comprehensive explanation of the role of McClelland's trichotomy in a wide variety of jobs are also available (Chusmir, 1985; Medcof, 1985). Both of these models propose that most jobs demand certain things of the people who occupy them. People whose motive patterns are consistent with those demands will be more successful at their work, and will be more satisfied with their work than people whose motives are not consistent with their work demands. As a result, people with a certain motive profile will tend to accumulate in any given job. However, there has been relatively little empirical evaluation of these models. Overall this area of study is promising, but little work has been done in it. There is some data, but it has not been systematically organized. There are two theoretical models, but they have not really been tested by researchers independent of the originators.

The goal of the present paper is to further our understanding of the role of McClelland's trichotomy of needs in a wide variety of jobs. It will do this by empirically testing Chusmir's (1985) model of jobs and motives.

Chusmir's (1985) model provides a method for determining the degree to which a job provides fulfillment of the motives (n-pow, n-ach and n-aff) of the job incumbent. It does this on the basis of the job description. The system is applicable to a wide variety of jobs because it makes use of the U.S. Department of Labor's Dictionary of Occupational Titles (DOT) (1977) which contains the names and job descriptions of about 20,000 jobs. In the DOT, these descriptions, with various other information about each job, are summarized in a nine-digit occupational code. In that code, the middle three digits represent the ratings given by government researchers for each of three basic functions performed by workers: dealing with data, dealing with people and dealing with things. Chusmir's system provides a way of translating the three middle digits of the DOT code of an occupation into ratings of the degree to which that occupation will fulfill the three needs. For each need, Chusmir's system provides a number from 0 to 5, in which 0 represents low fulfillment of the need and 5 represents high fulfillment of the need. For example, the occupation of elementary school teacher with a DOT code of 227 (in its middle 3 digits) gets a score of 4 for n-pow, 2 for n-ach and 1 for n-aff; indicating quite high fulfillment of n-pow but relatively low fulfillment of n-aff. The

system for translating the job descriptions into optimal motive profiles for the jobs is based upon empirical studies which have shown that the incumbents of certain jobs have certain needs profiles and upon Atkinson's (1958) listing of themes representing each of the three motives to be used when scoring Thematic Apperception Test (TAT) responses. For more detail, readers should consult Chusmir (1985).

In empirical tests of his model, Chusmir (1985) has focused upon two propositions. The first is that people who occupy jobs which are compatible with their motives will experience greater job satisfaction than people who occupy jobs incompatible with their motives. The second is that people will tend to accumulate in jobs compatible with their motive profiles. This latter proposition can be derived form the first. The accumulation process occurs because of the actions of job incumbents and of their organizations. People who are satisfied with their jobs because of motive compatibility are less likely to seek transfers and/or promotions than people who are dissatisfied with their jobs. This is not to say that n-pow, n-ach and n-aff are the only motives moving people to remain in or to leave their jobs. For example, people might stay in jobs incompatible with their power motives because they like the high pay. The assumption here is that the McClelland trichotomy will have a significant influence upon such decisions and this will be manifest in the motive profiles of job incumbents. In addition, the organization will exert pressures on people to accumulate in jobs compatible with

their motive profiles. People whose jobs demand activities incompatible with their motives will be less motivated to perform their jobs than people with job-motive compatibility. It follows that those with motive incompatibility will do a poorer job and will be more likely to be transferred, demoted or fired by the organization, than those with motive compatibility. Another factor increasing job-person compatibility is the flexibility of people. Once people are in a job which demands certain things of them, the day-to-day pressures of demand, action, reward and punishment, may cause a person's motive profile to change. Evidence from McClelland and his colleagues suggests that n-ach can be developed (McClelland, 1965) and to some extent n-pow as well (McClelland, Rhinesmith and Kristensen, 1975). Although there are limits to human malleability, people can change somewhat to suit their jobs. The net effect of all of these forces is that, on average, the incumbents of a job will have a motive profile compatible with the demands of the job and that among those incumbents there will be a positive correlation between motive compatibility and job satisfaction.

The empirical data which Chusmir (1985) has gathered is generally consistent with his model. Amongst newspaper professionals, marketing professionals, educators, program analysts, accountants and bankers, the model predicted the motive profiles of job incumbents with statistical significance. The model failed to predict for quality engineers. In the study of job satisfaction, a statistically significant relationship

between motive compatibility and job satisfaction was found for all of these groups except for quality engineers. The same kinds of confirmations were also found for a variety of other jobs but with small sample sizes. These tests of the model by Chusmir himself are certainly encouraging but more is needed if the model is to have high credibility.

One thing which could greatly enhance the credibility of Chusmir's model would be to test it using an instrument other than that used by Chusmir. This would be important for two reasons. First, if a theoretical model is supported by data gathered by a variety of instruments it attests to the robustness of that model. Second, the instrument used by Chusmir was the TAT. This instrument has been the subject of same controversy because of its poor psychometric properties (Clarke, 1972; Entwisle, 1972; Fineman, 1977). A test of the model using an instrument with better psychometric properties than the TAT would greatly improve the credibility of the model.

The strategy for testing Chusmir's (1985) model to be used here is as follows. Worker motive profiles will be measured with the Job Choice Exercise (JCE) developed by Stahl and his colleagues (Harrell & Stahl, 1981; Stahl & Harrell, 1982; Stahl, 1986). The JCE is a paper and pencil instrument, based upon decision modeling, which measures the n-pow, n-ach and n-aff of the respondent. It's psychometric properties are quite superior to those of the TAT (Stahl, 1986). Stahl (1986) has collected data on the motive profiles of a number of jobs over several

years of testing the JCE. Chusmir (1985) has produced a catalogue of the optimal motive profiles for 6200 of the jobs listed in the DOT. In the present study Chusmir's predictions for each of the jobs for which Stahl has data will be compared to Stahl's empirical results.

<center>METHOD</center>

<u>Samples and Predictions</u>

Data from the incumbents of nine different non-military jobs have been accumulated by Stahl (1986). Predicted motive patterns for each of these groups were found in Chusmir (1985). The characteristics of the samples of job incumbents and the sources of the corresponding predictions in Chusmir (1985) are as follows. The samples are described in greater detail in Stahl (1986)

<u>Deputy Sheriffs</u>. The sample consisted of 33 deputy sheriffs who worked at a single county sheriff's office in the midwest. They all had at least two years of job experience and ranged in age from their 20's to 55. The predicted profile for the job titled, "deputy sheriff" is on page 168 of Chusmir (1985). It is n-pow > n-ach > n-aff.

<u>Executives, Senior.</u> The sample consisted of 14 senior executives at the presidential, vice-presidential, or chairman of the board level. They were from a variety of firms including manufacturing, financial and holding companies located in the Southeast, Northeast and Midwest. Their titles, positions in

their organizational hierarchies, and numbers of subordinates identified them as successful senior executives. The prediction for this group is based upon pages 141, 330, 360 and 431 of Chusmir (1985). On those pages, senior executives and administrators of various kinds are listed and all are assigned the same motive profile, n-pow > n-ach > n-aff.

Middle Managers. The sample consisted of 53 middle managers whose education consisted of at least a bachelor's degree in an engineering or scientific field. Of these, 29 were second third or fourth level managers in a large chemical firm and 24 were line and staff managers from a large computer manufacturing and marketing firm. The prediction for the job titled, "middle managers and administrators", is on page 141 of Chusmir (1985) and is n-pow > n-ach > n-aff.

Ministers. The sample consisted of 20 methodist ministers from the Southeast ranging in age from 30 to the late 40's. The predicted profile for the job titled, "minister", found on page 339 of Chusmir (1985) is n-pow > n-ach > n-aff.

Nurses. This sample consisted of 19 non-supervisory female registered nurses who worked at two hospitals in South Carolina. The prediction for the job titled,"general duty nurse", on page 297 of Chusmir (1985) is n-aff > n-pow = n-ach.

Supervisors, Nursing. This sample consisted of 6 nursing supervisors from two hospitals in South Carolina. The prediction for the job titled, "nurse supervisor" on page 344 of Chusmir (1985) is n-pow > n-ach > n-aff.

Supervisor, Technical People. This sample consisted of 6 first-line supervisors of engineers and scientists from a large electronic engineering design and development firm in the Southeast. The prediction is from pages 279, 326 and 365 of Chusmir (1985), on which various kinds of engineers in supervisory positions are listed and all given the motive profile n-pow > n-ach > n-aff.

Technical People. The sample consisted of 127 non-supervisory people with at least bachelors degrees in engineering and scientific disciplines. At the time of study, they were employed in three locations, 92 at a large electronic engineering design and development firm in the Southeast, 22 at the nuclear division of a large chemical firm and 13 at a large university computer center. The prediction for engineers and scientists is found on page 175 of Chusmir (1985) on which a number of engineering/scientific jobs are listed and all are assigned the same motive profile, n-ach > n-pow > n-aff.

Vending Machine Operators. The sample consisted of 24 people whose job was to collect money from, refill, and perform minor repairs on, vending machines. They were non-supervisory, paid hourly and predominantly male. The prediction for the job titled, "coin machine collector", on page 243 of Chusmir (1985) is n-aff > n-ach > n-pow.

Analysis

Two kinds of analysis were done to test Chusmir's predictions. The first was an intra-job test of the relative

magnitudes of different motives. The second was an inter-job test of the magnitudes of the three motives across different jobs.

For the intra-job test, the predicted motive profile for each job was broken down into three specific predictions. Each prediction compared the relative sizes of two of the three motives. For example, the motive profile n-pow > n-ach > n-aff for a given job would be broken down into the three predictions, n-pow > n-ach, n-pow > n-aff, n-ach > n-aff. Each of these three predictions was compared to the corresponding motive scores found in the data for that job. Since there were nine jobs and three predictions per job, the intra-job test involved a total of 27 predictions. A Z test of proportion was conducted to determine if the number of predictions supported by the data was significantly different from chance.

For the inter-job test, predictions were based upon the fact that Chusmir's (1985) system gives each job a score from 0 to 5 on each motive. It follows from this that, as a group, the jobs with an n-pow score of 1, say, should have a lower average n-pow score than the group of jobs whose n-pow score is predicted to be 2. First, all of the jobs predicted to have the same level of a given motive were grouped. Then their average score for that motive calculated. Next the magnitudes of the average scores for the groups were compared to see if they were consistent with predictions. A Z test of proportion was conducted to determine if the number of predictions supported by the data was significantly different from chance.

RESULTS

The results for the intra-job motive comparisons are shown in Table 1 and they support Chusmir's (1985) model. Of the 27 motive comparisons made, 22 were consistent with predictions. The probability of this happening by chance is less than .01 (Z = 2.88).

The results for the inter-job comparisons are shown in Table 2 and they also support Chusmir's (1985) model. Of the 19 comparisons made, 15 were consistent with predictions. The probability of this happening by chance is less than .05 (Z = 2.08).

Insert Tables 1 and 2 about here

DISCUSSION

Although these results generally support Chusmir's theory, the support is stronger for some jobs than it is for others. In Table 1 the data are in complete agreement with the theory for jobs which are typically found within hierarchical, profit-making organizations, namely executives, managers, technical people, their supervisors, and vending machine operators. The failures to predict are found among professionals (or para-professionals) who are typically found in non-profit, human service organizations, namely, deputy sheriffs, ministers and nursing supervisors. The same pattern is found in Table 2. In that table, every comparison in which there is a failure to confirm predictions

involves at least one job group which includes professional workers.

This bias in the types of jobs for which Chusmir's model provides accurate predictions may reflect the research tradition from which the model was derived. As discussed earlier, past research on McClelland's trichotomy and job behavior has focused mainly upon managers working in hierarchical, private sector organizations. Chusmir's model does not seem to work as well for jobs outside that context. This suggests that in order to have a model applicable across a wide variety of occupations it may be necessary to make some modifications.

One job group for which the predictions were not entirely supported by the data is deputy sheriffs. As predicted for this group, n-pow was greater than n-ach. But, unexpectedly, n-aff is the predominant motive rather than the weakest. The theoretical prediction for deputy sheriff comes from page 260 of Chusmir (1985) where a job with that title is given. The DOT (1977) description for that job emphasizes police activities carried out on the "street", so the prediction emphasizes that aspect of police work. However, in another paper Chusmir (1984) presented motive profile predictions for a wide variety of law enforcement jobs. Of those listed only three (fingerprint classifier, parking enforcement and officer ID and records) have n-aff as the strongest motive. It is conceivable that the sample of deputy sheriffs used for the present study did predominately this kind of work or something closely related to it. Unfortunately no

detailed description of the work activities of the sample is available. Future studies of these issues should collect more detailed information about the specific work activities of the respondents. Such information, while not of great interest when predictions are confirmed, can be of immense value when predictions are not entirely supported, as in the present study. Sheppard, Bates, Fracchia and Merlis (1974) did a study of police officers using the Edwards Personal Preference Schedule to measure, among other motives, affiliation, achievement and dominance. Dominance is, presumably, close in character to n-pow. Sheppard et al (1974) found the profile of the police officers to be achievement > dominance > affiliation. This profile differs from both Chusmir's (1985) predictions and the data from the present study. Sheppard et al (1974) concluded on the basis of their own and earlier studies using the Edwards Personal Preference Schedule that the most consistent findings concerning these three motives among police officers was that their need for affiliation is below the population norm for males. This finding is consistent with Chusmir's (1985) prediction but inconsistent with the data in the present study. There seems to be little consistency across studies of the motive profiles of police officers and deputy sheriffs. These inconsistencies might be better understood if more detail about the specific work activities of the sample groups were collected, as recommended above. Such information might allow researchers to resolve these

issues by taking fuller advantage of the variety of predictions for law enforcement work provided by Chusmir (1984).

Another job for which the data are not entirely congruent with theoretical predictions is that of supervisor. For nursing supervisors the predicted motive profile was n-pow > n-ach > n-aff. The data were inconsistent with this and showed a profile of n-ach > n-pow > n-aff. These data must be treated with some caution because of the small sample size, but they are lent some validity since Chusmir (1985) also found the nursing supervisor's profile to be n-ach > n-pow > n-aff in an empirical study using the TAT. The profile predicted for nursing supervisors is the same as the profile predicted by Chusmir's (1985) model for executives, middle managers and other supervisory positions. The data supported the predictions for those groups.

The third job group for which the data were not entirely consistent with the predictions is ministers. With this group, as with deputy sheriffs, n-pow was greater than n-ach but, unexpectedly, n-aff was the predominant motive rather than the weakest. This is not as intuitively surprising for ministers as it was for deputies. Many of the functions performed by ministers are "helping" activities. The data also show that the n-pow score was not very much smaller than the n-aff score (n-aff = 61, n-pow = 56) so the data indicate a large role for n-pow in this profession, as predicted by Chusmir (1985).

The support shown for Chusmir's (1985) model in the present study is encouraging and suggests that the model deserves further

empirical and theoretical development. The strength of this support is enhanced by the use of the JCE rather than the TAT, for the reasons discussed earlier. Although the model was generally supported by the data, the weakest area of support was among professional and para-professional jobs. Research attention is especially needed in that area.

It should also be borne in mind that full advantage of the richness of the DOT has yet to be taken in studies of Chusmir's (1985) model. In the present study, and in Chusmir's work, the procedure has been to focus on job titles. For example, if the workers in the empirical sample are called "deputy sheriffs" by their organizations, it has been assumed that the appropriate reference in the DOT is also "deputy sheriff". But, as suggested above, using just job titles does not take into account the specifics of the job description in the DOT nor the specifics of the job descriptions of the empirical sample. A better test of Chusmir's (1985) model which makes fuller use of the DOT would be to match the DOT job and the job of the sample on the basis of their job descriptions, and then compare the predicted and actual profiles. This would reduce mismatching due to differences in the uses of job titles. This kind of study would be more difficult to do than those done to date because it would involve the collection of job descriptions as well as information about motive profiles. However, it would have the added advantage of giving more complete information for the interpretation of results such as would have been useful in the present study.

Future studies of Chusmir's (1985) model might also attempt to take into account factors other than job descriptions in matching jobs to motive profiles. For instance, Medcof (1985, 1987), has proposed a role for organizational structure in determining optimal n-pow profiles for job incumbants. Considering such factors could increase the ability of the model to predict accurately.

The supportive findings for Chusmir's (1985) model in the present paper encourage one to consider the practical uses of the model if it is fully developed. Activities associated with job placement will be enhanced by a model that allows matching of individuals to jobs which fit their motives, including selection, promotion and career counselling. Further, diagnosis of some kinds of pathologies (eg. alcoholism) which may arise from poor individual to job matching could also be enhanced by such a model as well as activities concerning job design. Given these potential uses and promising empirical results, future development and evaluation of Chusmir's (1985) model is indicated.

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Table 1

Predictions and Results for Intra-job Motive Comparisons

Jobs		Predictions	Motive Scores			Unsupported Comparisons
Name	(n)		pw m(SD)	ac m(SD)	af m(SD)	
Dep	(33)	pw>ac>af	37(36)	30(34)	50(40)	pw>af, ac>af
Exc	(14)	pw>ac>af	85(19)	63(27)	15(19)	
Mgr	(53)	pw>ac>af	74(29)	62(26)	25(27)	
Min	(20)	pw>ac>af	56(27)	37(30)	61(29)	pw>af, ac>af
Nse	(19)	af>pw=ac	51(26)	49(26)	63(23)	
SpN	(6)	pw>ac>af	63(5)	71(28)	43(25)	pw>ac
SpT	(6)	pw>ac>af	81(29)	63(26)	44(27)	
Tch	(127)	ac>pw>af	48(29)	71(26)	29(27)	
VMO	(24)	af>ac>pw	32(26)	48(21)	70(19)	

Notes. Dep - deputy sheriffs; Exc - executives, senior; Mgr - middle managers; Min - ministers; Nse - nurses; SpN - supervisors, nursing; SpT - surpervisors, technical people; Tch - technical people; VMO - vending machine operators; pw - need for power; ac - need for achievement; af - need for affiliation. For each job the predicted order of magnitude of the three motives was broken down into three comparisons each involving two of the three motives. These were compared to the empirically observed motive scores. The pairs of motives whose predicted orders of magnitude were not supported by the data are shown in the last column.

Table 2

Predictions and Results for Inter-job Motive Comparisons

Motive	Chusmir Levels	Occupations at Chusmir Level	n	Observed mean	Unsupported Comparisons
pw	0	VMO	24	38	1<5, 2<5, 4<5
	1	Nse	19	51	
	2	Tch	127	57	
	4	Exc, Mgr, SpT	73	73	
	5	Dep, Min, SpN	59	50	
ac	1	Nse, VMO	43	48	2<3
	2	Exc, Min, SpN	40	54	
	3	Dep, Mgr, SpT	92	54	
	4	Tch	127	65	
af	1	Dep, Exc, Min, SpN, Tch	200	41	
	2	Mgr, SpT, VMO	83	43	
	4	Nse	19	61	

Notes. Dep - deputy sheriffs; Exc - executives, senior; Mgr - middle managers; Min - ministers; Nse - nurses; SpN - supervisors, nursing; SpT - supervisors, technical people; Tch - technical people; VMO - vending machine operators; pw - need for power; ac - need for achievement; af - need for affiliation. All levels (0-5) are not included for each motive because with the jobs sampled here there were no predictions for some motive levels. For each motive, the predicted order of magnitude of the occupational groups were broken down into comparisons each involving two groups. These were compared to the observed means. The pairs whose predicted orders of magnitude were not supported by the data are shown in the last column.

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