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TECHNICAL REPORT # 122

TR-122

SYSTEMATIC BIAS IN PERCEPTIONS OF SUPERIORS

IN MISSILE COMBAT CREWS.

72 p.

by

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-AF-AFOSR-2441-71

2313   A3   AFOSR   TR-77-0987

Published by

Center for Human Appraisal

Wichita State University

June 1977

408 269

Abstract

    The author has studied the superordinate-subordinate relationships
within a strategic Missile Operations Squadron. Thirty-five crews of four
men each were given instruments to test their role preferences, pressures,
and perceptions of their subordinates. Inter-correlations were found between
scales within each dyad using Pearson-Product-Moment coefficients. The
author focused on role relationships which influenced upward perceptions
by subordinates. Rebels tended to perceive their bosses as authoritarian
rather than equalitarians while ingratiators and critics saw their super-
iors as equalitarian and not authoritarian. Similar patterns to a lesser
degree were found in the crew commanders' perceptions of site commanders.
These relationships were true for role preferences and role pressures.

    Superordinates also effected the upper perceptions. Authoritarians don't
see their bosses as authoritarian but either as equalitarian or permissive.
Equalitarians perceived equalitarianism while permissives perceived
equalitarianism in their bosses. These results parallel very closely the
results found in other studies.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1

INTRODUCTION

The Air Force spends approximately $140,000 training its
Titan II missile crew commanders in the technical aspects of the
Titan II launch facilities. That is to say, it is well understood
that these officers do not initially have the technical ability to
assume the responsibilities for this fifteen million dollar piece of
hardware. Just as important in the supervision of this particular
system is an ability on the part of the missile combat crew commander
(MCCC) to effectively manage the personnel and equipment on his
complex. The Air Force has taken for granted that its officers are
sufficiently trained in personnel management to be able to cope with
the problems presented them in their special environment.

For years we have known that management styles differ from
one individual to another; equally true, but less realized, is the
fact that subordinate roles also change from person to person and
situation to situation. It was a hypothesis based upon the above that
became the foundation for this study. In particular, it was the
author's belief that the management techniques of any given crew
commander elicit varied results when combined with the available
subordinate styles. This idea was supported through observation of
several crews while they performed in a simulated launch complex.
While the Air Force personnel assignment policy does not account for

1

these management/subordinate differences, this military organization might increase its efficiency if it did. Once it is established which superior style is the most effective for a Titan II crew, then we can turn our attention to subordinate roles and determine which combination of superior/subordinate styles will make the launch crew most functional. The purpose, then, of this study is to measure response behavior of superior-subordinate roles and role perceptions of supervisory-subordinate behavior.

REVIEW OF THE LITERATURE

To the author's knowledge there have been no previous comprehensive studies involving the social perception within the superordinate-subordinate framework. Since the model used in this research is a recent development, it has not been exploited in many of these systematic and obvious areas of application. The research background, however, is necessary to explain some of the findings of the results chapter. The citations can be classified according to a number of general titles: Social climate and leadership styles, subordinate behaviors, superordinate-subordinate interactions, interpersonal perceptions, subordinate's perceptions of superordinates, and superordinate's perceptions of subordinates.

Social Climate and Leadership Styles

In the late thirties during the period of time when the world was concerned about the possibilities of efficient dictatorship, a number of social psychologists instituted a search into the areas of

leadership and social climate. The most effective and articulate of these groups was the Research Center for Group Dynamics at MIT. Many studies were conducted but the most comprehensive were reported in the journal articles of Lewin, Lippit, and White (1939). These particular studies involved the naturalistic observations of subordinate behavior where supervisors were simulating three basic management styles: authoritarian, democratic, and laissez-faire. The term social climate was developed to imply the interpersonal context of the leadership process. The initial focus was directed toward questions of aggression as an outgrowth of the leadership style but the research ultimately established a context of studying wider manifestations of the reactions to leadership styles.

Some later studies within the same vein were conducted by Coch and French (1948) and Katz (1950). These studies replicated the general findings that laissez-faire or permissive management was least effective and that authoritarian-directive management and democratic-participatory management had succeeded in various areas with the former having the greater tendency to generate open hostility or passive aggressive behavior.

A decade later Adorno and Frenkle-Brunswik, Levinson, and Sanford (1950) developed a through treatise on the "authoritarian personality." In this work they succeeded in integrating a wide variety of divergent concepts and dynamics into a central syndrome or type. These findings were that fascism ethnic racism, dogmatism, counterdependency and some specialized forms of rigidity were highly interrelated and functionally determined from early childhood training

and via exposure to prevailing cultural value system.

Under the concepts of authoritarianism it became apparent that hostility and simple paranoid behavior were associated with high needs for structure and intolerance for ambiguity. A thorough follow up of the research in this area since that time is in a review reported by Kirsch and Dillehay which reports over 200 studies in authoritarian personality. There are probably another 1000 studies utilizing the "E" and "F-S" scales which were not reported there.

A return to the environmental as well as personality interpretation of other leadership behaviors can be seen in later works of Lavena (1949), Stodgill (1948), and Berkowitz (1956). These studies emphasized the role aspects of leadership styles indicating the situational factors entering into most management style decisions.

In the last two decades leadership styles have become a central issue in areas of organizational behavior and social psychology as applied to industry. McGregor (1960) suggested that the differences in leadership styles could be associated with basic differences in assumptions held by the superordinate concerning the work process. The "Theory X" assumptions are that: workers dislike their occupations, motivations are primarily induced from without, and continual vigilance is necessary if any project is to be accomplished. These assumptions lead to supervisory behavior which is autocratic, directive and coercive. The "Theory Y" assumptions are at the opposite end of the pole and suggest that man is internally motivated and has no reason to dislike his work if allowed to develop his own pay-off system.

Another model for understanding leadership behavior within the work setting was presented by Blake and Mouton (1964) in their managerial grid. The typology employs the interaction of two basic dimensions, concerns for people and orientation toward the task. All positions within the Cartesian Grid formed can be described but the usual typology involves the four corners and the center as discreetly different management styles. The 1,1 position implies no management; 9,1 is task-oriented, and associated with authoritarianism; 1,9 is the benevolent-missionary type manager; the middle or 5,5 position is sometimes called the compromiser; and 9,9 represents a fusion of the two characteristics considered the most favorable position. This model has high communication value but has not been particularly successful in generating research.

The model having the greatest methological sophistication and theoretical responsibility is Fiedler's (1967) Contingency Model. His basic typology involved task-oriented leaders and relationship-oriented leaders but he demonstrated that his effectiveness is contingent upon the nature of the task which they are performing. His research results show that task-oriented leaders are more effective under very favorable or unfavorable conditions. The curvilinear of relationships suggest why only low relationships have been found in the past between management styles and measures of performance.

Other meaningful but related models and typologies can be found in the work of other research writers. M. Weber (1947) established the typology of organizational situations and leaders' behaviors. He outlined them to be traditional, bureaucratic, and

entrepreneurial. Likert (1961) presents four systems of management to replace the three originally presented by Lewin, Lippit, and White. Tannenbaum and Schmidt (1958) established a typology of superordinate styles based upon dominant behavior: tells, sells, consults, and joins; Tuckman (1965) another functional taxonomy with his forming, storming, norming, and performing. Misumi and Tasaki (1965) established a taxonomy similar to that used in the Blake and Mouton Grid, yet couched in slightly different terminology. They emphasized performance maintenance, both performance and maintenance, and neither performance or maintenance. Because of the similarity of the grid many of the results can be directly translated in those terms, even though they probably owe their terminology to the work of Cattell (1950) and his work with small groups where he discriminated group energies into effective synergy for the performance area and into maintenance synergy directed at sustaining intra-groups needs.

Most of the models for viewing leadership behavior have been logical ones rather than empirical. Some major exceptions, however, are the factorial work of Hemphill (1949) and Wofford (1971). The latter found five factor dimensions from his empirical data. These factors were identified with leader's needs systems and were entitled group achievement and order, personal enhancement, personal interaction, dynamic achievement and security maintenance. His studies indicate that these five management styles engender very little difference in behaviors in subordinate but lead to vastly different outcomes.

In a return to logical models, Sweney (1970, 1971) presented

his Response to Power Measure Model to explain subordinate and super-
ordinate behavior. The model represented the superimposition of
Rosenzweig's frustration reactions, upon the Lewinian social climates.
This resulted in three basic leadership roles: The autocratic-
extrapunitive role is associated with confrontive-rejection behavior
employed as an ego-defense against frustration; the permissive-
intrapunitive role employs laissez-faire management tactics as a
defensive measure to appease subordinates to avoid mistakes and
criticism; the equalitarian-impunitive roles are perceived as a
rational solution orientation which is free from ego defensive
contaminants. These behaviors are perceived to be the result of long
term social role learning. The theory postulates that the role
confusion which is inherent in any person's behavior results from the
cultural conflict surrounding two basic survival needs, confrontive-
competitive behavior which is essential for individual dominance and
survival and supportive behavior of the permissive leader which is
essential for the survival of the species. It thus becomes contingent
upon the situation which of these two management styles is more
appropriate. Out of this conflict and as a response to objective
problem solutions and proactive rather than reactive behavior another
superordinate role is forged. This rational, objective role has been
identified as equalitarian because it derives its impetus from neither
coercion or seduction but from mutual self interest.

Subordinate Behavior and Styles

The emphasis upon leadership characteristics and styles has
all but obliterated studies in the subordinate areas. It could be

interpreted that the original Lewin, Lippet, and White (1939) study
was directed towards the subordinate's behavior contingent upon
experimentally manipulated leadership styles. In this study as well
as more of these that followed, subordinate behavior was perceived to
be a dependent variable rather than an independent one. As such it
was not properly appreciated as an essential element in the total
management system.

Mechanic (1964) and Zaleznik (1965) fielded independent
researchs which established the subordinate as a theoretically
respectable part of management systems research. They each discussed
functional behavior but neither developed a taxonomy for subordinacy
nor established any rules for superordinate-subordinate interaction.

Peripheral research on subordinacy resulted from some of
the sociometric studies of leaders particularly in the study of
emergent leaders. Holland and Webb (1965) found high correlations
among persons chosen as leaders and those selected as followers when
the selection was a spontaneous process. Gibb (1964) would explain
this correlation by his research which indicates that followers
subordinate themselves selectively to members who are perceived to be
most like them but having a superordinate position at that time.
Leadership and followership would thus seem to follow many of the same
dynamics. Nelson (1964) compared liked and disliked followers to
discover which system of dichotomization discriminated best. He found
that liked leaders were similar to liked followers in being more
satisfied, emotionally controlled, and acceptant of authority.
Leaders in both categories were more alert, job motivated, and aggressive

than were the followers in both categories. This emphasizes the fact
that leaders do vary significantly from followers but along charac-
teristics not studied by Hollander, Webb and Gibb.

By applying Rosenzweig's model for the reaction to frustration
to the subordinate areas, Sweney (1970) completed his two-level
Response to Power Model (RPM). Although coordinated in special ways,
the subordinate roles are unique and differ from the superordinate
roles. The confrontive subordinate is extrapunitive and identified as
the rebel. The supportive subordinate is intropunitive and fits the
behavior described by Jones (1964) as ingratiation. The objective,
nonpunitive subordinate has been identified as the critic cooperator,
but has no research counterpart and was difficult to name since all
terms in this area seem to be connotively biased toward supportiveness
or confrontiveness.

Jones reported a program of research involving the needs for
projecting a favorable self image. He and his associates found that
this was done primarily by the subordinate and by using the two basic
behaviors. Taguiri (1958) showed flattery or other enhancement
and conformity in opinion, judgment and behavior. Taguiri found a
strong relation between liking someone and perceiving the
attraction to be reciprocated. Thus the ingratiator incorporates the
procedure of liking and other enhancement to generate positive feelings
in the other toward himself. The ingratiator is also conforming in
opinion and independent, and his behavior has been identified as a
"yes-man" by Whyte or an organizational man. Tossi (1971) described
the ingratiator when he discusses subordinate authoritarianisms

although he doesn't use the identification. His total tolerance for
freedom fits the ingratiator role and seems to operate best in the
context of authoritarian superordinate. Jones found empirical support
for the relationship between conformative and ingratiating behavior.
Christie and Morton (1958) and Rosenbaum (1960) in studying
Machiavellian behavior indicate that individuals with low self esteem
were more desperate for external reinforcement and thus more
likely to use other ingratiating behaviors. This behavior fits the
other-directedness pattern described by Reisman (1958).

The rebel subordinate role has been identified by sociologists
as being directed toward power equalization and hence as pro-active
manipulative tactic. The psychologists have largely studied
rebelliousness as a specialized form of hostility and hence a re-active
state. The rebel is counter dependent in terminology by Adorno (1950)
and is a negative attitude changer per McGuire (1964).

Superordinate-subordinate Interaction

Hierarchial interaction has always been implicit in the
research for the areas of social climate. This interaction however
usually has been considered one-sided with the superordinate providing
the major inputs and the subordinate's reactions serving as dependent
variables. The full impact of the nature of the "superordinate-
subordinate" system has still not been fully realized. Blau
and Scott (1962) emphasize leadership styles as being dependent upon
the social environment factors which were operating upon them.
Fiedler (1967) indicates that his contingency model is related to

environmental factors. Scrutiny of his examples suggests however that his contingency variables are primarily structural rather than social aspects of the environment. Little or no attention is given to subordinates. Hollander and Julian (1969) emphasize the melding of leadership behavior with situational characteristics and follower's perceptions in the development of a unified system.

Kipnis and Lane (1962) systematically studied subordinate's effects upon superordinate behavior. In their simulated management exercise there were established significant patterns of superordinate behavior based upon subordinate's variables. The subordinate who lacks understanding illicits expert power on the part of the superordinate. The discipline problem however illicits coersive or persuasive power. They found that the supervisors who were less confident were less willing to use power but they did not make the logical connection between the confidence and whether the superordinates' power was being reinforced by subordinates.

House, Filley and Gujarati (1971) found that the subordinate's satisfaction primarily depends upon the degree to which a super-ordinate fulfilled role expectations.

Goodstadt and Kipnis (1970) found that the reluctance to use power on the part of the low self confidence manager was limited to personal power. It was discovered that they did apply formal power as related to the rules and regulations to substitute for their reluctance to use more subjective kinds. In their study they found the personality of a single hostile subordinate increased the likeli-hood that positive rewards were given to the other individuals. Their

interpretations for these findings included unconscious bribery or
the application of some distributive justice concept. They did not
consider the possibility of perceptual bias and anchoring effect which
the negative subordinate was having upon his superordinate's
perceptions of the other subordinates. In their study they also found
that, as the number of subordinates increased, the coercive and formal
power was increased among them. Their results involved lack of
confidence and feeling of inexperience supported by earlier findings
by French and Synder (1959). The studies of others suggest that the
superordinate can not be discussed meaningfully without introducing
variables relating to the behavior of the subordinates who make up the
remainder of the people system. The Response to Power Model (Figure 1)
by Sweney emphasizes the symbiotic relationships between certain roles
played by superordinates and subordinates. In the authoritarian
personality, Adorno emphasized the ingratiating behavior that an
authoritarian personality exhibits in dealing with authoritarian
superordinates. The RPM model emphasizes this symbiotic relationship
between the authoritarian and ingratiator In addition the model
indicates permissives and rebels also are playing complimentary roles
and would operate symbiotically in superordinate-subordinate relation-
ships. The equalitarian-critic combination is also perceived to be
interrelated since objectivity demands objectivity. This matter of
fact climate maximizes effective synergy and minimizes the manipu-
lative maintenance synergy associated with the other roles.

With the RPM model satisfaction is perceived to be related to
the matching of superordinate and subordinate roles in some complex

13

SUPERIOR ROLES

EQUALITARIAN

impunitive
"truth-sayer"
objective
shares power
respects
subordinate

AUTHORITARIAN

extrapunitive
"no-sayer"
subjective
retains power
diminishes subordinate

PERMISSIVE

intropunitive
"yes-sayer"
subjective
gives power
exalts subordinate

REBEL

extropunitive
"no-sayer"
subjective
seeks power
diminishes
superior

CRITIC

impunitive
"truth-sayer"
objective
shares in power
respects superior

INGRATIATOR

intropunitive
"yes-sayer"
subjective
respects power
exalts superior

SUBORDINATE ROLES

Figure 1. A Heuristic Model for Predicting Superior and
Subordinate Role Behaviors (Sweney, 1970)

forms. The Harmony Index RI (Sweney, Weber, and Fiechtner, 1971, 1972) is the rationale for various formulations to optimally summarize the merging of complimentary roles between the superior and subordinates. The Interpersonal Power Profile (Sweney, 1972) is the basis for descriptively plotting the outcomes of role interactions between them.

The total impact of subordinate-superordinate interactions has recently been studied by Sweney and Fiechtner (1972). Questions which must be answered include the direction of influence and the nature of influence which exist between levels within the hierarchical structure. Since the model being applied is a simple one, the relationships of these questions should serve as basic.

Subordinate Perceptions of
Superordinates

The process of perceiving a superordinate's behavior to be non-functional or inappropriate is a common phenomenon in organizational life. Considering its prevalence it was somewhat surprising than there was such a scarcity of research devoted to it. No single study was found that was centrally devoted to subordinate's perception of superordinates.

Bales (1950) presented a rating system for viewing behavior in group settings. The observer system has been applied by some researchers as a system for rating superordinate's behavior. Being simple in conceptualization, it required a greater amount of inference and translation for its implementation. By and large it has not been too successful in its application to this particular area. Carter's

system is much more highly articulated and employs more directly observable variables but has so many categories that it is extremely cumbersome for a single individual to record and hence also fails to provide a suitable basis for upward ratings.

Their results indicate that theirs was a positive manifold perception among the subordinate's perceptions of the superordinate on all five areas being measured: consideration, structure, decisiveness, hierarchical influence and competence. The lack of specificity in upward ratings suggest a positive halo effect to be operating. Earlier studies by Likert (1961), Pelz (1952) and Wagner (1966) have all indicated that the subordinate experiences a greater job satisfaction and hence a more positive perception of the super-ordinate if he exhibited upward hierarchical influence rather than downward. Although the results of House, Filley and Gujarati did not support the position there is sufficient evidence to suggest that the interaction of the subordinate's style may be an essential connecting link; Likert's linking pin theory points to this basic interaction. Sweney (1974) postulates that the symbiotic dyadic relationships between superordinate and subordinates prescribe certain kinds of perception for their maintenance. After conducting several attitude surveys on job satisfaction, Wernimont, Toren, and Kapell (1970) found that employees of 2 to 7 years had a greater concern for their supervisor's regard than did those with longer tenure.

Interpersonal Perceptions

Ashour and England (1972) tested the assumption made by Jaques (1961) and Thompson (1967) that the superordinate delegates discre-

tionary task to the subordinate in accordance with his capacities.
They hypothesized that the authoritarian leaders would be negatively
associated with this tendency. The capacity assumption was verified
but a slightly positive correlation was found with authoritarianism
which they had difficulty explaining. They suggest delegation of
uncertainty and retaining the more structured tasks. They suggest
some models of the delegating process, design of the subordinate's
frequency of checks of subordinate's behavior, and the manipulative
of the criteria by which the subordinate is evaluated.

Kipnis and Consentino (1971) found that the corrective powers
utilized by superordinates in the military varied significantly from
those utilized in the industrial sample studied. Extra instruction
and reassignments were more highly used by the military supervisors
and verbal talks and reprimands were more frequently used in industry.
A study of interactions between problems and powers showed that
increased supervision with work problems while discipline and
attitudinal problems were handled with diagnostic talks. They suggest
that because of curtailments of the formal powers of the supervisor
in industry, it is necessary for him to fall back upon persuasion and
indirect influence.

Superordinate's Perceptions of
Subordinates

The sparsity of interpersonal perception studies of the
subordinates is a replication on the superordinate level. McGregor's
assumptions of "Theory X" and "Theory Y" leaders could be considered
as one spring board, but there is little evidence that this has

been followed.

Haire and Porter (1963, 1966) have shown that considerable variability exists among the fourteen countries studied in the super- ordinate's perception of his subordinates. They found that all countries were autocratic in assuming low leadership potential among subordinates but all were on the democratic side in verbalizing a wish that their employees develop an internal locus for control in Rotter's terminology, 1966.

Clark and McCabe (1970) found that Australians' managers perceived their subordinates much like their counterparts in England and the United States and that they shared in a superficial endorse- ment of participative management without the supporting "Theory Y" assumptions concerning capability and initiative. They seem to question whether subordinates can be trusted to act responsibly.

Kipnis and Cosentino (1971) found significant differences in how military and industry viewed their subordinates. Military subordinates were perceived as having fewer discipline problems and more appearance problems.

Often the superordinate's perceptions of a subordinate are never made explicit except in the context of a formal performance appraisal system. Considerable research has been recently devoted toward this specialized problem. The research and emphasis in this area, however, has not been toward perfecting accuracy in the perceptual process but its utilization or basis for promotion or manipulating performance. Work by McGregor (1957), Meyer, Kay and French (1963), Thompson and Dalton (1970) and Oberg (1972)

emphasized this.

Recent work by Beason (1972) in gaming performance appraisal had led to the study of sources of bias in downward ratings due to the role preference and the personality of the rater. He found that experienced and non-experienced raters behave significantly different.

Chapter 2

METHODOLOGY

The body of this report is directed toward uncovering the subtle interaction among roles between superiors and subordinates. The data was gathered from missile combat crews and involved the development of a fairly comprehensive system for viewing the role of perception as a reflection of the observed roles as well as the product of successful communication.

Instruments

The instruments utilized in this study have been developed prior to the onset of the research, but had been relatively untried. They represent a comprehensive system of self-perception and other perception instruments for viewing superior and subordinate behavior. This battery of five tests includes: the Response to Power Measure (RPM), Supervise Ability Scale (SAS), Responsibility Index (RI), Supervisor Role Rating (SRR), and Subordinate Behavior Rating (SBR).

The RPM was developed as an attitude measure which would successfully reflect preferred superordinate-subordinate role behavior. The model used for its development is found in Figure 1 of the preceding chapter and represents a basis for role identification and theoretical expectations. This instrument is highly subtle and very difficult to fool. It reflects an individual's basic value system and

19

not necessarily his concept of socially desirable behavior in any precise context. The instrument measures six roles: authoritarian, equalitarian, permissiveness, critic, ingratiating, and rebel; but has some ancillary scales measuring a tendency to agree and a tendency to equivocate. The latter characteristic has been identified with indecisiveness but can also be equated with caution or lack of rigidity.

The RPM is a Likert type opinionnaire instrument with ninety-six items equally divided into six scales none of which have self ipsatized quality of the other members of the battery. The consequence of this quality is that a subject may be high on all six role styles simultaneously or on none and that in some circumstances the three superordinate or the three subordinate role styles can be all positively correlated with each other. This characteristic gives a greater freedom of the research results to reflect more accurately the attitude structures of the respondents. The research results with this instrument, however, have shown that in most populations the roles are fairly well defined and fairly independent. Equalitarians and authoritarians are usually negatively correlated and hence have opposing relationships with other roles and other measured behavior.

The validity of the scales on the RPM are hard to determine since this battery of instruments is the only one directed toward the measurement of these particular characteristics as specifically defined. The intercorrelations within the battery indicate validities in the high 50's and low 60's for the subordinate scales and slightly lower validity for the superordinate scales. The reliabilities have

been found in the high 70's and low 80's, but high contamination of acquiescence response style is indicative of the spurious nature of most reliabilities and calculations.

Table 1 indicates some typical items for the six role styles and the degree of correlations with the construct which they measure.

Table 1

Typical Items From the Response to Power Measure (RPM)
and Their Correlations with Appropriate Role Scales

Item	Scale	Correlations
Power only understand power	Authoritarian	+.43
Most people are waiting to be led	Authoritarian	+.53
I want more respect	Equalitarian	-.46
I trust most people	Equalitarian	+.33
I often wonder if anyone likes me	Permissive	+.40
Other people's needs should come first	Permissive	+.37
I enjoy my work	Critic	+.49
My opinions are highly respected	Critic	+.43
I don't respect many people	Rebel	+.54
Nice guys finish last	Rebel	+.44
I'm loyal to those above me	Ingratiator	+.49
I want everyone to like me	Ingratiator	+.52

It should be noticed that one of the equalitarian items shown is answered in the false direction. Most of the items on this one scale are answered false. Equalitarianism is thus defined more by what a person would not do than by what he would do. This conforms to

the concept of cool removal and restraint which the model suggests to characterize this role.

The SAS was developed by Elsass and Sweney (1970) to measure the three superordinate roles. The items provide situations to which the respondent is expected to rank the three responses given, each being one of the three superordinate roles from the model. In this way, the test includes thirty three part items which in turn can be considered three, thirty item scales with the opportunity for three responses to each item. Because the three responses are ranked, the respondent's behavior is circumscribed and the three derived scales are self-ipsatized. On this instrument, the authoritarian scales are negatively correlated with the equalitarian and permissive scales. Whereas on the RPM, the permissive is somewhat positively correlated with the authoritarian as the model would predict.

Although the SAS has something of an attitude flavor to its contents, the research results indicate the responses on this instrument are much more a function of social desirability and role expectations. These items, being short, may take on some of the characteristics of paired words used in the motivational measurement by Cattell and his associates (1963). For this reason it seems to tap the gamma or superego component of motivation. This characteristic has been defined as "role pressure."

It thus has been contaminated by social desirability response style while avoiding the acquiescence problem found on the RPM. This particular balance is useful since the test authors do not feel that response style should necessarily be avoided. The measured

contribution of these qualities are central to the construct being measured and hence their influence can be considered a positive fringe benefit in the measurement process. It is highly important, however, that the nature of the construct be identified with this particular measurement method since it is theoretically expected that authoritarians measured by RPM will vary from these as measured by the SAS. The validity measured by comparing these two instruments indicates that the two instruments do measure highly different constructs. In most populations, however, these constructs are more positively correlated with each other across instruments than they are to other roles either within the same instrument or across instruments.

The item validities for the SAS are somewhat higher than those found on the RPM, and hence it can be assumed that the reliability for these scales is also somewhat higher. Since the comparison of these two instruments has been used for comparison validities, it is somewhat difficult to determine actually which validities are higher since the scales are intended to measure somewhat different constructs. The predictive validities obtained from comparing test behavior on the SAS with other kinds of test behavior place the validities somewhat higher than those found for the RPM. In similar circumstances there are many instances, however, when the RPM was found to have a higher validity for predicting non-test behavior.

The RI was also developed by Elsass and Sweney (1970) to measure subordinate role preferences. The social desirability set is given both by the title and the instructions and, thus, utilizes a social desirability orientation as an inherent component of the test

Table 2

The Correlations of Items on Supervise Ability
Scale (SAS) with Appropriate Role Scales

Item	Responses	Scale	Correlation
For growth, one needs	freedom	Equalitarian	.28
	affection	Permissive	.34
	direction	Authoritarian	.39
I like to	resolve arguments	Equalitarian	.43
	avoid arguments	Permissive	.37
	win arguments	Authoritarian	.49

methods. Its format is similar to the SAS, but contains thirty-four
three part questions involving subordinate behavior. In this case
each of the three subordinate roles can be considered to have thirty-
four items, on each of which three different responses could be given:
a 1, a 2, or a 3.

The format and instructions establish a basis for measuring
"role pressure." This can be equated with role expectation coupled
with precise perceptions of what would be socially desirable responses.
The pressure to select "good" responses on the test acts to govern
the person's actual behavior in the organization. The prescriptive
pressure patterns found on the test can be expected to have consider-
able predictive value.

The three scales on the RI (ingratiator, critic, and rebel) are
all negatively correlated with each other with a somewhat less negative
correlation existing between critic and ingratiator. This

configuration corresponds very closely to the scale pattern found on the RPM, and accounts to some degree for the high intercorrelations found between these two instruments. In spite of the highly different methods of measurement, agreement between these two instruments gives correlations in the high 50's and lower 60's for a normally heterogeneous population. The greatest difficulty of separation lies in discriminating critics from ingratiators, but this reflects both the novelty of this discrimination and also the similarities of the constructs in the perception of the naive responding population.

The social desirability set and the superego motivation component does not seem to constitute as high a contamination or distortion as it does on the SAS. This may result from the fact that subordinate roles have not become as subject to social desirability pressures as have superordinate roles. The somewhat longer scales may also have added to the validity of the measures.

Table 3

The Correlations of Items on the Responsibility
Index (RI) and Appropriate Role Scales

Item	Responses	Scale	Correlation
Rules are	to be broken	Rebel	.41
	to be followed	Ingratiator	.36
	to be used	Critic	.32
I'd like to change	my boss	Rebel	.43
	myself	Ingratiator	.29
	my job	Critic	.35

The SRR was developed to measure the perception by subordinates of their supervisors. It consists of twelve questions directed to describe their boss's behavior by allowing the respondent to rank the three responses which correspond to the three superordinate role styles being measured. The items have an open evaluative quality to them and can be considered to separate the equalitarian from the authoritarian and permissive on a fairly subjective level. Because of the evaluative tone, the responses are highly subjective and thus provide a great deal of information concerning the perceiver along with the information concerning the person perceived.

The SRR is a relatively new instrument developed by Sweney (1971) and has no counterpart against which validity can be estimated. The contents of this study should represent the most comprehensive report to date of the operations of this instrument, and should show both its sources of contamination but also the utility of this contamination making other kinds of measurement possible.

The twelve item scales are highly homogeneous and hence have a fairly high degree of reliability when applied to the heterogeneous sample. The coefficients are in the mid 70's for equalitarian and authoritarian scales, and the high 60's are common for the permissive scale. The social desirability set does not seem to operate with this instrument, but the evaluation set does. Some of the reliability and homogeneity of the instrument does seem to be a result of the halo effect so completely covered by the measurement literature. This is diminished somewhat by successful efforts to direct responses into three areas as opposed to two, and in this way permissive sometimes

Table 4

Correlations of Items on the Supervisor Role
Rating (SRR) with Appropriate Role Scales

Item	Responses	Scales	Correlations
My boss usually	givos in is fair says "no"	Permissive Equalitarian Authoritarian	.32 .71 .54

is considered good and the other time somewhat bad with authoritarian
being perceived as being dominantly bad and equalitarian being
perceived as good.

The SRR was developed in 1971 to measure subordinate roles as
perceived by the superordinate. In order to make the superordinate's
activities easier, the subordinates on this instrument are handled as
a group and the superordinate rates them categorically rather than
individually. In this case, the superordinate is evaluating as well
as describing the three subordinate roles for the items. There is a
highly favorable or unfavorable connotation to many of the items and
the instrument, thus, reflects acceptance or rejection on the part of
the superordinate. The sophisticated rater could easily perceive that
his ratings of his men might reflect negatively upon him as their
supervisor and hence, it can be expected that the ratings obtained on
this instrument have been filtered through a certain amount of self-
protective mechanisms.

The validity of this instrument is still inaccurately

Table 5

Correlations of Selected Items from the Subordinate
Behavior Rating (SBR) and Appropriate Role Scales

Item	Responses	Scale	Corre-lation
My men can be trusted to	work without me goof-off without me ask me for details	Critic Rebel Ingratiator	.58 .50 .32
When problems arise, they	ask for help blame me work it out them- selves	Ingratiator Rebel Critic	.25 .42 .60

determined but the contents of this study should represent the

greatest amount of information concerning it. Currently the available

reliabilities on this instrument are not quite as high as those on the

SBR because the rating task is more diffused. The internal consistency

reliabilities can be estimated in the high 60's and low 70's. The

stability of the measurement seem to be considerably less since the

measurements themselves seem to be highly contaminated by subjec-

tivity.

SUBJECTS

The subjects for this study were the missile combat crews of

the 533 Strategic Missile Squadron. Of the thirty-five line crews in

the squadron, thirty were tested in this study.

These crews man the nine Titan II missile complexes east of

Wichita, Kansas. The primary duty of the missile combat crew is to monitor missile alert status and properly react to authentic launch orders. The missile combat crew is composed of two officers and two enlisted personnel. The Missile Combat Crew Commander is a Captain or First Lieutenant who has served as a deputy crew commander. The Deputy Missile Combat Crew Commander is a Second or First Lieutenant who has had special training in the Titan II weapon system. The two enlisted crew members have also undergone extensive weapon system training. One is the Ballistic Missile Analyst Technician and the other is the Missile Facilities Technician.

These crews work twenty-four hour shifts at the missile complex. They also are given training and evaluations at McConnell Air Force Base. Some of the training evaluations are accomplished on the Missile Procedures Trainer. This trainer is a realistic mock-up of the control center of a missile complex. The consoles and equipment are all attached to a computer and control room. The equipment is capable of simulating all types of hazards, launches, launch holds, and malfunctions. The instructor crew evaluates the line crew's reaction to these simulated conditions from the Missile Procedures Trainer control room through a one-way mirror.

ADMINISTRATION

The test instruments were distributed to each consenting crew and taken with them when they went on an alert. They were completed and returned to the data collection team. It was stressed that cooperation would be appreciated, but that no pressure was being

exerted on anyone to participate in the test examination. It was also
emphasized that all information would be confidential and no names
were required on the tests. The concentration of this particular study
was on crew commanders and as a result, the subordinates were given
the SRR, the RPM, and RI. The crew commanders, however, were given
the RPM, SAS, RI, SRR, and SBR.

EXPERIMENTAL HYPOTHESES

The focus of this study is upon the role interactions involved
in perception. Previous studies have shown that self role perception
corresponds very weakly to the role perceptions of others leaving
considerable variance to be explained by other dynamics. If the
impact, therefore, of superordinate or subordinate role styles are
to be more fully understood, it is highly important that the nature of
perceptual bias and distortion be understood and utilized. The
hypotheses underlying these studies can be classified into four major
areas: perceptual accuracy, misattributions, frame of reference
distortions, and superior-subordinate role confusion.

Perceptual Accuracy

The question of accuracy of perceptions is assumed to be
unnecessary to study and yet much of the previous data indicates that
perceptions are most frequently related to the actual object condi-
tions. Nevertheless, assuming validity within the instruments, it is
expected that a certain component of the rater's response will reflect
accurate perceptions of attitude-based behaviors of the person

perceived. Based on this assumption, the following hypotheses are
presented as testable consequences.

Hypothesis 1:   The superordinate will be perceived by his subordinates
                with a certain degree of accuracy and this will be
                reflected in positive correlations between the three
                roles as measured by the SRR and the measures of
                superordinate roles reflecting the superordinate's
                self ratings on the SAS and the RPM.

Hypothesis 2:   The superordinate's perception of his subordinates as
                measured by the SBR will be positively correlated with
                the subordinate self ratings on the RI and the RPM.

These two hypotheses postulate accuracy which is superimposed
upon a wide variety of dynamics operating simultaneously. They make
no assumptions but that the variance and ratings in this area are
associated. For this reason the correlations are expected to be low
but positive.

Need-related Misattributions

Within the context of this study, need-related distortions must
be defined in terms of supplementary role needs or expectancies. This
general area has been defined in this study as "misattributions" and
is clearly distinguished from the frame of reference questions which
are related to anchoring and the role confusion found when inferring
superordinate roles from observed subordinate behavior.

This introduction of subordinate roles into the model
establishes a basis for predictable expectations on the part of the
subordinate concerning his superordinate's behavior. These lead to
distinct perceptional distortions which should be manifested in their
rating behavior. The superordinate also has needs which cause

distortion in his ratings of his subordinates. These can be clearly defined in the context of the research conducted.

Hypothesis 3: The perception of superordinates by subordinates measured on the SRR will be highly correlated with the subordinate roles of the subordinate's measured on the RPM and the RI.

Hypothesis 4: The ratings of the subordinate's by superordinates as measured on the SBR will be highly correlated with the superordinate's roles of the crew commanders measured on the RPM and the SAS.

Frame of Reference Distortions

The process of perception depends upon the anchoring and centering of the perceptual field. The perceptions of what constitutes average behavior are often identified with the respondents own values and own behavior. The term "Frame of Reference" is often applied to this perceptual field, and how this frame of reference is anchored plays an important part in the perceptions of others. It is, therefore, expected that the perception of appropriate behavior of superordinates or subordinates will reflect the individual's perception of his own role behavior and his own value system.

Hypothesis 5: A subordinate's ratings of his superordinate on the SRR will reflect his own frame of reference by providing a negative correlation between the role found in himself and the role found in the superordinate.

Hypothesis 6: The superordinate will rate his subordinates on the SBR as using his own subordinate behavior as an anchor point and hence a negative correlation will exist for rebel and ingratiating, and a positive correlation on the critic scale.

The "Frame of Reference" distortion is subject to training and

education and should not be too strong within this fairly sophisticated sample. It is also subject to an opposing perceptual bias introduced by the naive projection that others behave like the respondent.

Superordinate-Subordinate Role
Confusion

Behavior is not usually classified by the perceiver into superordinate or subordinate classes. For this reason, it is easy for the rater to make inferences concerning superordinate roles based upon observed subordinate behavior. Confusing the rebel role with an authoritarian role is a common confusion of this type.

Hypothesis 7: Subordinate's upward perceptions of superordinate roles will be meaningfully correlated with the subordinate roles of that superordinate on self perception instruments such as the RPM and the SAS.

Hypothesis 8: The downward perceptions of superordinates will be meaningfully correlated with the superordinate's behavior of the subordinates observed. There will be significant relationships between the SBR and superordinate scales on the RPM. Since this is a less likely mode of confusion, the correlations should be smaller than those found for Hypothesis 7.

Chapter 3

RESULTS

The purpose of this study is to determine the properties of
the perceptual process within the close confines of Missile Crews.
Since the behavior and attitudes are both determiners and manifesta-
tions of the perceptual field, it is extremely important to study
morale and job satisfaction. It, therefore, is the intent of this
study to outline the results obtained in as systematic a way as possible
with the ultimate aim of accounting for variance associated with the
process.

The simple correlations are calculated between role perceptions
of superordinates and subordinates and role perceptions of subordinates
by superordinates as measured on the Supervisor's Role Rating (SRR)
and the Subordinate's Behavior Rating (SBR) respectively. The studies
conducted in this area are categorized as: accuracy of perception,
upward perception as a function of a subordinate's role, upward
perception of superordinate roles, downward perception as a function
of subordinate roles, and downward perception as a function of super-
ordinate's roles.

Accuracy of Perception

In the controversy over who is correct in perceptions, the
external perceiver or the subject himself becomes important to

perceptions how much common variance exists between these two perspectives. It can be assumed that some communality exists between rating scales of the individual and his responses on the self report instruments designed for measuring the same dimension.

Table 6 indicates some degree of agreement between the super-ordinate ratings of his crew as a whole and the average scores on a self report instrument measuring subordinate role preferences and the subordinate role pressure. Since it is assuming that both role preference and role pressure are developed by social desirability affecting role performance, it is assumed also that both these dimensions would influence the superordinate's perception of the subordinate's behavior.

Table 6

Concurrent Validity of RI and SAS Scales
Using the RPM Scales as a Criteria

SAS & RI Scales	RPM Scales	Correlation
Rebel	Rebel	+.43
Critic	Critic	+.32
Ingratiator	Ingratiator	+.39
Authoritarian	Authoritarian	+.45
Equalitarian	Equalitarian	+.16
Permissive	Permissive	+.20

Although it seems clear that the Response to Power Measure does not measure the same aspect of role behavior as the Supervise Ability

Scales and the Responsibility Index, they can be used to obtain a crude measure of validity for each other. Table 6 provides the comparison between roles measured by these two classes of instruments. The fact that the correlations are so low the superordinate scales can be attributed to some radical differences between personal preference as measured by the RPM and social pressure which is tapped by both the SAS and the RI.

These roles indicate that rebel role preferences and pressures are more readily perceived by the superordinate. Three of the correlations were found significant and the remainder was a trend in the right direction. The next area of greatest accuracy was the ingratiating role. The authoritarian behavior was much more discernable and hence probably much more frequently displayed in all cases. The relationship between self perception and the perception by the subordinates was in the positive direction, and it was high enough to be considered significant.

The greatest confusion in perception was that directed toward the critic. The persons receiving the highest score on both the critic scales were perceived as ingratiating by their superordinates and, hence, the accuracy in this dimension was quite low.

Table 7 describes the accuracy of perception of crew members in describing their crew commanders. The results related the superordinate's role rating with the superordinate's role preference as measured on the RPM and his role pressure measured on the SAS. In this area of upward perception, it is even lower. None of the relationships were found to be significant and from those that were, they were even

in the opposite direction from the relationship which would be antici-
pated. From the data it becomes highly apparent that the upward
ratings are largely a function of the other dynamics rather than the assess-
ment of the behavior directly eminating from the superordinate's
attitude and value systems. It is reassuring, however, to note the
equalitarianism as measured on the instruments is viewed by the
subordinate as being the most related to the superordinate's own self
rating. The configuration of the positive significance represents a
form of significance in its own right. The difficulty in separating
the authoritarian from the permissive supports the relatedness of
these two constructs within the RPM model. Although the distinctly
different behavior is manifested in these two roles, the assumptions
and motives underlying them have many areas of communality.

Table 7

Perceptual Accuracy of Crew Members in Attributing
Superordinate Roles to Their Crew Commanders

Crew Commander's Superordinate Roles	Roles Attributed to Them by Crew Members	Correlations
Authoritarian - SAS	Authoritarian - SRR	+.11
Authoritarian - RPM	Authoritarian - SRR	+.08
Equalitarian - SAS	Equalitarian - SRR	+.27
Equalitarian - RPM	Equalitarian - SRR	+.07
Permissive - SAS	Permissive - SRR	+.01
Permissive - RPM	Permissive - SRR	-.06

From these results, the need for further study concerning systematic bias in role perception is obvious. It becomes apparent that some nucleus of agreement does exist in the superordinate's self perception and those perceptions provided by his subordinates, but it can be assumed that the majority of the variance is related to other dynamics.

Upward Perception as a Function of Subordinate Roles

Inherent in the conceptualization and execution of subordinate's roles certain basic assumptions concerning a superordinate's attitude and behavior. Loyalty to a supervisor as implied in the ingratiation role requires that a positive perception of him be held by the subordinate. By the same token, the discrediting and obstrusive behavior provided by the rebel subordinate implies that this attitude concerning his superordinate must be largely negative. It, therefore, is highly suspected that much of the variance associated with upward perception can be identified with the subordinate's role needs of the perceiver.

Table 8 presents the perception of the crew commander with their site commanders which correlates with his own subordinate role pressures measured on the RI. A very clear pattern emerges at this point in the investigation. The rebel subordinate largely perceives their superordinate to be authoritarian and not equalitarian or permissive. Critics perceive their superordinate to be not authoritarian but equalitarian with some tendencies toward permissiveness. The ingratiators show a similar pattern to that found on the

Table 8

Perceptions by Crew Commanders of Their Site
Commanders as a Function of Their Own
Subordinate Role Pressure

Crew Commander's Subordinate Role RI	Role Attributed to the Site Commander SAS	Correlations
Rebel	Authoritarian	+.48
Rebel	Equalitarian	-.41
Rebel	Permissive	-.02
Critic	Authoritarian	-.39
Critic	Equalitarian	+.48
Critic	Permissive	+.07
Ingratiator	Authoritarian	-.28
Ingratiator	Equalitarian	+.30
Ingratiator	Permissive	+.08

critic with some differences found on the attitudes toward permissiveness.

A further study of the site commander's perception was made using the RPM which is a role preference instrument. The results from this study are reported in Table 9 and indicate less relationship between other perceptions and self report attitudes. These are the same patterns as those found with the Responsibility Index measure of role pressure. The more minimal correlations suggest that role preference has less to do with perceptual processes of the subordinate than do the role pressure measures. It should be remembered again, that the site commanders being rated were few and, therefore, may provide a biased base upon which the perceptions were founded.

Table 9

Perceptions by Crew Commanders of Their Site
Commanders as a Function of Their Own
Subordinate Role Preference

Crew Commander's Subordinate Role RPM	Role Attributed to the Site Commander SRR	Correlations
Rebel	Authoritarian	+.12
Rebel	Equalitarian	-.07
Rebel	Permissive	-.09
Critic	Authoritarian	-.05
Critic	Equalitarian	+.13
Critic	Permissive	+.27
Ingratiator	Authoritarian	-.50
Ingratiator	Equalitarian	+.55
Ingratiator	Permissive	-.03

In order to get a large sample to study the upward process,
the crew members and deputy commanders of the operations crew were
asked to rate their crew commanders. Table 10 indicates those
perceptions of the crew members' subordinate role pressures as measured
on the RI. The same pattern for upward perceptual distortion was
found. The highly significant correlations were found in this table
indicating the rebels uniformly perceive their superordinates as
authoritarian and not equalitarian, while the critic and ingratiator
uniformly perceive the reverse to be true. Correcting these sten
results as calculated on the systematical unreliable instruments, it
can be assumed that the variance accounted for approximately fifty
percent if the correlations were corrected for attenuation due to

Table 10

Perceptions by Crew Members of Their Crew
Commanders as a Function of Their Own
Subordinate Role Pressure

Crew Member Subordinate Role RI	Role Attributed to Crew Commander SAS	Correlations
Rebel	Authoritarian	+.46
Rebel	Equalitarian	-.54
Rebel	Permissive	+.00
Critic	Authoritarian	-.39
Critic	Equalitarian	+.48
Critic	Permissive	-.04
Ingratiator	Authoritarian	-.28
Ingratiator	Equalitarian	+.30
Ingratiator	Permissive	+.04

unreliability. The subordinate pressure role, largely defined in terms of perceptions of role expectations, seems to be an important factor in determining the perceptual field in which behavior is ultimately exhibited.

Table 11 shows the pattern of perceptual bias related to the subordinate role preference as measured on the RPM. This table illustrates the same pattern of subordinate role influences found on upward perception as the other three tables and indicates that, in a larger sample, role preference has a significant effect on upward perception.

Table 11

Perceptions of Crew Commanders by Crew Members
as a Function of Their Own Subordinate
Role Preference

Crew Member Subordinate Role RPM	Role Attributed to Crew Commander SRR	Correlations
Rebel	Authoritarian	+.24
Rebel	Equalitarian	-.35
Rebel	Permissive	+.13
Critic	Authoritarian	-.29
Critic	Equalitarian	+.35
Critic	Permissive	-.07
Ingratiator	Authoritarian	-.34
Ingratiator	Equalitarian	+.34
Ingratiator	Permissive	-.01

Upward Perception as a Function of Superordinate Roles

In spite of the high proportion of perceptual variance related to the subordinate roles, it is hypothesized that the superordinate roles also affect the upward perception process by establishing the frame of reference for appropriateness of behavior in these roles. The subordinate's own superordinate role preference and pressure establishes the context within which he judges the superordinate role behavior of another person.

Table 12 shows the relationship between the perception of the site commander by crew commanders and the crew commander's own superordinate role. The most dominant set of relationships is found between

Table 12

Perceptions by Crew Commanders of Their Site
Commanders as a Function of Their Own
Superordinate Role Pressures (SAS)

Crew Commanders Superordinate Roles	Role Attributed to Site Commanders	Correlations
Authoritarian	Authoritarian	-.33
Authoritarian	Equalitarian	+.45
Authoritarian	Permissive	-.11
Equalitarian	Authoritarian	-.22
Equalitarian	Equalitarian	-.02
Equalitarian	Permissive	+.46
Permissive	Authoritarian	+.80
Permissive	Equalitarian	-.62
Permissive	Permissive	-.48

the permissive role in the crew commanders and their perceptions of
their superordinate to be critic and not equalitarian or permissive.
Other significant relationships are found between the equalitarian
rater and his perception of equalitarian in his site commander. This
study showed that the authoritarian perceived his superordinate not
to be authoritarian but equalitarian. The frame of reference theory
would support these findings. It is quite clear that superordinate
role pressure does play a significant part in the upward perceptual
process.

Table 13 shows that less distinct relationships exist between
superordinate role pressure measured on the RPM and upward perception
of the site commander by crew commanders. The permissive commander

perceived his site commander to be authoritarian and not permissive. The authoritarian role preference is negatively correlated with perceptions of equalitarian and positively correlated with perceptions of authoritarianism. These trends would be significant in larger samples.

Table 13

Perceptions by Crew Commanders of Their Site
Commanders as a Function of Their Own
Superordinate Role Preferences (RPM)

Crew Commanders Superordinate Role	Role Attributed to Site Commander	Correlations
Authoritarian	Authoritarian	-.28
Authoritarian	Equalitarian	+.19
Authoritarian	Permissive	+.18
Equalitarian	Authoritarian	-.03
Equalitarian	Equalitarian	+.28
Equalitarian	Permissive	-.35
Permissive	Authoritarian	+.20
Permissive	Equalitarian	+.06
Permissive	Permissive	-.26

Since the Supervise Ability Scale (SAS) was not given to crew members, measures of the superordinate role pressures are not available on the crew member level. Table 14, however, indicates the relationships between superordinate role preferences measured on the RPM and the upward perception by crew members of their crew commanders. The low correlations found on this suggest that there is only a small amount of variance in the perceptual process relating to this area.

Table 14

Perceptions of Crew Commanders by Crew Members
as a Function of Their Own Superordinate
Role Preference (RPM)

Crew Members Superordinate Role	Role Attributed to Crew Commander	Correlations
Authoritarian	Authoritarian	-.07
Authoritarian	Equalitarian	+.12
Authoritarian	Permissive	+.00
Equalitarian	Authoritarian	-.07
Equalitarian	Equalitarian	+.05
Equalitarian	Permissive	-.03
Permissive	Authoritarian	+.20
Permissive	Equalitarian	-.09
Permissive	Permissive	-.15

The consistencies of the patterns of significance, however, suggests
that some general pattern persists. The equalitarian role preference
is positively correlated with upward perceptions of equalitarian and
authoritarianism. The permissive role preference is positively
correlated with perceived authoritarianism in the superordinate.
Generally, the correlations found are similar, and, therefore, can be
disregarded as a major source of variance in upward perception.

Downward Perception as a Function
of Superordinate Roles

Although Table 7 indicates that the downward perceptual
process is much more accurate than the upward one, nevertheless, it
can be assumed that systematical bias can be found within the

superordinate role which the commander exhibits.

Table 15 illustrates some systematical role perception biases on the part of the superordinate as a function of his own superordinate role. Authoritarians seem to perceive their subordinates as ingratiators, not critic or rebel. The crew commanders with high equalitarian role pressures tend to perceive the subordinates as rebels. These findings describe perceptual bias based upon needs for supplementation and may actually describe behavior which has been reinforced in the subordinate.

Table 15

Perceptions of Subordinates by Crew Commanders
as a Function of Their Own Superordinate
Role Pressure (SAS)

Superordinate Roles of Crew Commander	Role Attributed to Subordinates	Correlations
Authoritarian	Critic	-.21
Authoritarian	Rebel	-.14
Authoritarian	Ingratiator	+.32
Equalitarian	Critic	+.30
Equalitarian	Rebel	-.09
Equalitarian	Ingratiator	-.17
Permissive	Critic	-.06
Permissive	Rebel	+.28
Permissive	Ingratiator	-.22

The supplementation of roles by these findings are not sufficiently confirmed in self reports to substantially support the model. There is no doubt that these role perceptions are dependent

upon the question of basic satisfaction with subordinates. Assuming those perceptions do reflect satisfaction, thus it is possible to speculate that each superordinate role defines the satisfactory subordinate in a slightly different way. This seems to be most likely interpretation of the difficulties found in relationships in this study. Thus, when the authoritarian describes a satisfactory employee, he describes an ingratiator. When the equalitarian describes a satisfactory employee, he describes a critic, and the permissive describes a rebel. These speculations should be tested under explicit set of conditions to establish whether these are dynamics operating to explain this form of downward perception.

Table 16 indicates the effect of the superordinate role preference upon downward perception and a different pattern emerges. In these cases the subordinates fit the non-functional relationship. Thus, the authoritarian perceives his employees as rebels; the equalitarian perceives them as ingratiators; and the permissive makes no significant pattern in terms of his perceptions. Why role preference and role pressure should have different relationships is not clearly understood. The uniformity of the pattern, however, suggests that meaningful differences are involved. It is conceivable that the natural equalitarian would perceive ingratiation in a subordinate and that the authoritarian would perceive rebellion; but these perceptions would be associated with dissatisfaction with subordinates and no reasonable rationale on how a single set of responses could at one time reflect a favorable set of ratings where on another occasion they would reflect disfavorable revaluations.

Table 16

Perceptions of Subordinates by Crew Commanders
as a Function of Their Own Superordinate
Roles (RPM)

Superordinate Role of Crew Commanders	Role Attributed to Subordinates	Correlations
Authoritarian	Critic	-.15
Authoritarian	Rebel	+.45
Authoritarian	Ingratiator	-.31
Equalitarian	Critic	-.06
Equalitarian	Rebel	-.25
Equalitarian	Ingratiator	+.30
Permissive	Critic	-.13
Permissive	Rebel	+.02
Permissive	Ingratiator	+.09

Part of the difference lies in the lack of agreement in the role preference and role pressure measures, but the search for the systematic difference is only further confounded by these findings.

Perceptions by Crew Commanders as a Function of Their Own Subordinate Role

The RPM model hypothesizes that a superordinate responds to his subordinate primarily through his own superordinate role. However, the process of perception related to the frame of reference would link the subordinate roles to perceptual process. Table 17 shows the relationships between the crew commander's own role pressure as measured on the Responsibility Index to his perceptions of his subordinates on the Subordinate Behavior Rating. The superordinate

who place a high social desirability on ingratiating roles perceive their crews to be ingratiating. Other commanders who place a higher preference on the rebel role as measured on the Responsibility Index perceive their subordinates to be critics.

Table 17

Perceptions of Subordinates by Crew Commanders
as a Function of Their Subordinate Role
Pressure (RI vs SBR)

Subordinate Role of Crew Commander	Role Attributed to Subordinates	Correlations
Rebel	Rebel	-.01
Rebel	Critic	+.14
Rebel	Ingratiator	-.11
Critic	Rebel	-.09
Critic	Critic	+.14
Critic	Ingratiator	-.04
Ingratiator	Rebel	+.08
Ingratiator	Critic	-.06
Ingratiator	Ingratiator	+.16

Chapter 4

DISCUSSION

Speculation

The qualities of a relationship may only partially reflect actual behavior and objective dynamics. In many cases the intersection is characterized by each party's perceptions of what is transpiring. Role intersections seem to be particularly rich in perceptual distortions which stem from the needs and assumptions which each role implies.

This study indicates that the perception of subordinates or superordinates is more related to perceiver variables than to target variables. The roles measured by the self-rating instruments predicted very highly the role which would be ascribed to the alternate in the interaction. Rebels tended to see their subordinates as rebels. Ingratiators saw their superordinates as equalitarians, and equalitarians perceived their subordinates to be both ingratiators and critics. Permissives perceived their subordinates to be rebels.

There seem to be consistent differences in the interaction of role preference and role pressure with perception. As this differentiation becomes clearer it is highly likely that the nature of interpersonal perception at each role intersection will become more dynamically recognizable. An example of this was that the authoritarian role pressure was contaminated by socially desirable

50

answers and found positively correlated with perceptions of sub-
ordinates as rebels, and that authoritarian role preference was
positively correlated with perceiving them as ingratiators. The nature
of these kinds of reversals will have to be more completely understood,
if the full richness of the role intersection is to be realized.

Another consideration helpful for understanding the inter-
sections between the role configuration of the superordinate and the
subordinate is how they effect each other as change agents. Because
of the various value systems and the injunctions placed on their
behavior by their assumptions, they will be pressuring each other to
change or in some cases not to change. These pressures will manifest
themselves in terms of manipulative behaviors which constitute
schedules of positive and negative reenforcement.

The amount of behavior modification inherent in a particular
role intersection may not depend directly upon the pressure developed
by the disparity between roles. There are some indications that
equalitarians and critics are the most effective in inducing change
because their position on questions is most frequently perceived to
be reasonable by any of the other roles.

The intersection between individuals having similar personal
value systems but contrary organizational systems lead to pressures
of behavioral modification which may be misdirected, misperceived, and
may prove to be largely dysfunctional either in inducing change in the
alternate or in the pursuance of organizational goals. By illustration
it has been found that power conflict arising out of the intersections
between an authoritarian superordinate and a rebel subordinate provides

the pressures for behavioral modification but most frequently induces short term retrenchment to counteract each other. Over the long term, however, there are low correlations which indicate that an actual change of roles does occur in the direction of the three organizational patterns. In this way either the authoritarian induces the rebel to assume ingratiating behavior or the rebel induces the authoritarian to be more permissive. In some cases both change toward the objective roles as the only neutral ground on which they can successfully meet.

The needs for the kinds of re-enforcement that come from the symbiotic roles lead the individuals to fall into these organizational patterns through role change. In most cases the individual does not change his role preference very rapidly, but his concept of role pressure may differ from one person to another and he may develop a very flexible program of contingent role behavior. His role preference may ultimately coincide with his acknowledgments of pressure depending upon the relative strength of the re-enforcement which has sustained over the longer period.

Implications

Certain implications become readily apparent from the research included in this study. Three areas deserve mention here: (a) role definition/perception, (b) interpersonal relationships, and (c) job satisfaction.

In reference to role definition this study has alluded to the contrast which exists between the "real" and the perceived. The actual role definition is seen as described by Air Force manuals as one of

authority. In contrast to the actual definition perceptions of the role exist. It is from the framework of these perceptions that "real" day-to-day interactions between the superordinate-subordinate operate. The key to a more thorough understanding of the role is not the actual Air Force description, but the perceived role description. It is in this area that this paper becomes significant. A working knowledge of the RPM model would provide a frame of reference from which one could improve interpersonal relationships through a better understanding of perceived role definitions.

Interpersonal relationships are based upon communications both verbal and non-verbal between superordinates-subordinates. Both the day-to-day relationships and the total job perception are effected by communication. An understanding of the RPM model permits one to place himself within the model at the point reflecting his perceived role. Once perceived role position is understood, open communication is possible between superordinate-subordinate. Open communication, in turn, enhances job proficiency, job efficiency, and job satisfaction. This leads to a higher level of overall mission accomplishment.

Job satisfaction is seen as a result of a combination of many variables, among which are day-to-day interpersonal relationships, working conditions, role perception, and superordinate-subordinate evaluation of job performance. Once perceived roles are accepted within the superordinate-subordinate environment, and open communication channels exist, the opportunity for better working conditions is enhanced. Once working conditions improve, it can be assumed that objective evaluations of subordinate work will occur. Objective

evaluation leads to job satisfaction.

It can be seen from the implications pointed out that the development of good superordinate-subordinate relationships is an on-going phenomenon. The perception of "role" is what in reality is important. It is from these perceptions that the superordinate-subordinate relationship operates. The RPM model brings to focus the varying roles and intersections which can develop. As such, the RPM model becomes the key to the improvement of the superordinate-subordinate function.

Future Research

This study has already been conducted throughout the entire 381 Strategic Missile Wing. The results from the other tactical squadron were very similar. If more testing is to be conducted, it is recommended that a questionnaire be devised to obtain a meaningful morale variable. The morale variable would be valuable when investigating the motivational aspects of missile combat crew duty.

A great deal of interest was generated by this study in the 533 Strategic Missile Squadron. Many individuals wanted to know the results and meaning of the various tests. It was recommended that feedback, on a confidential basis, be included in any future program.

This study centered on the Missile Combat Crew Commander. Future studies might also examine the Deputy Missile Combat Crew Commander. If he is really what his title implies, then he has managerial responsibilities. If he does in fact manage, then this information would be relevant to the study.

More specific correlations between superordinate-subordinate

relationship and job motivation and satisfaction should be studied. Sweney's 1974 Motivation Recruitment Model conceptualizes the direct relationship between the Interpersonal Power Profile provided by this research and "intrinsic motivation" and "the threshold for considerations." These relationships should be empirically tested in order to validate the assumptions. The Role Reaction Model (Sweney and Fiechtner, 1972) may provide clearer patterns for perception, since it differentiates different kinds of authoritarians, permissives, rebels and ingratiators. Research in this area is under way but not yet reported.

After examining the results and implications derived from this study, it would be well worthwhile for the Air Force to conduct similar studies in both Minuteman missile and aircraft units.

Chapter 5

SUMMARY AND CONCLUSION

The Air Force spends approximately $140,000 training its
Titan II Missile Combat Crew Commanders (MCCC) in the technical aspects
of the Titan II launch facilities. The Air Force automatically assumes
that its officers are sufficiently trained in personnel management to
be able to cope with the problems presented them in their special
environment. Researchers have conducted many studies over the years
in this area. Their results have shown that management styles differ
from one individual to another, and that subordinate roles also change
from person to person and situation to situation. Although many
studies have been conducted in the superordinate-subordinate inter-
actions and styles, very little research has investigated the
perceptual aspects of superordinate-subordinate roles. The purpose,
then, of this study was to measure response behavior of superior-
subordinate roles and role perceptions of supervisory-subordinate
behavior.

This study has allowed one to gain some insight into the
operations of a particular missile combat crew organization. While the
conclusions obtained from this report reflect a certain amount of
judgment on the part of the author, one believes that they are well
founded in the results and the tables.

One of the most meaningful ways in which to present the

56

conclusions of this report might be to envision the role of the MCCC as twofold. The first portion would deal with how his supervisors and inspecting officers view his effectiveness as a manager and as a crew commander. The second phase would be how he perceives himself as a manager and a subordinate.

When dealing with the evaluation of the MCCC there are several topics that seem to be applicable. The commander seems to obtain the best results when he is not an ingratiating subordinate. This is especially true of his own subordinate role pressures measured on the Responsibility Index (RI). There seems to be a tendency for greater job proficiency demonstrated by those crew commanders that are perceived to be either rebels or critics. Another factor to be considered is that the correlations indicate there is very little correlation between the rebel and the permissive intersections. The correlations also indicate that there is a high correlation between rebel and authoritarian intersections.

The actions that the MCCCs display tend to indicate that the commander perceives that he must act as a sycophant to his site commander. This action seems to bother him to the point that he often rebels against actions initiated by people other than the site commanders. The average MCCC sees himself as possessing the traits of an equalitarian manager, but says that when in a subordinate position he feels a strong tendency to act as a rebel.

While the conclusions drawn from this study are not iron clad, one believes that the data derived from this investigation will be of real and tangible benefit to other studies of this nature. In these

days of austerity, the Air Force can no longer afford to neglect the effects that perceived superordinate-subordinate roles have on mission accomplishment.

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFOSR-TR- 77- 0987	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER

4. TITLE (and Subtitle) SYSTEMATIC BIAS IN PERCEPTIONS OF SUPERIORS IN MISSILE COMBAT CREWS	5. TYPE OF REPORT & PERIOD COVERED Interim Scientific Report
	6. PERFORMING ORG. REPORT NUMBER 122

7. AUTHOR(s) Frank G. Zauner Captain, U.S. Air Force	8. CONTRACT OR GRANT NUMBER(s) AFOSR 71-2001

9. PERFORMING ORGANIZATION NAME AND ADDRESS Wichita State University Center for Human Appraisal and Comm. Research Wichita, Kansas 67208	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 61102F 2313/A3

11. CONTROLLING OFFICE NAME AND ADDRESS Air Force Office of Scientific Research Bolling AFB DC 20332	12. REPORT DATE May 1975 JUNE 1977
	13. NUMBER OF PAGES 62

14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)	15. SECURITY CLASS. (of this report) Unclassified
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Authoritarianism
Perception
Superordinate Roles
Frame of Reference
Response to Power

Supervise Ability Scale
Attribution
Subordinate Roles

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The author has studied the superordinate-subordinate relationships within a strategic Missile Operations Squadron. Thirty-five crews of four men each were given instruments to test their role preferences, pressures, and perceptions of their subordinates. Inter-correlations were found between scales within each dyad using Pearson-Product-Moment coefficients. The author focused on role relationships which influenced upward perceptions by subordinates. Rebels tended to perceive their bosses as authoritarian rather than equalitarians while ingratiators and critics saw their superiors as equalitarian and not authoritarian.

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Similar patterns to a lesser degree were found in the crew commanders' perceptions of site commanders. These relationships were true for role preferences and role pressures.

Superordinates also effected the upper perceptions. Authoritarians don't see their bosses as authoritarian but either as equalitarian or permissive. Equalitarians perceived equalitarianism while permissives perceived equalitarianism in their bosses. These results parallel very closely the results found in other studies.