Division of Research Graduate School of Business Administration The University of Michigan

MANAGING INTERPERSONAL CONFLICT IN PROJECT TEAMS

Working Paper No. 144

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Raymond E. Hill

The University of Michigan

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In recent years the use of project teams as an organization design strategy has become increasingly frequent. Their increased use by organizations is essentially a response to information overload under traditional organizational forms and to increased complexity of organizational mission. This trend has also spawned a variety of studies aimed at examining the management processes attendant to project success. Central to much of the research surrounding project team functioning has been the study of conflict and how managers as well as team members cope with it, and how it affects performance. Organizing work by project teams, or matrix forms as it is sometimes called, inevitably involves conflict. Usually the group is composed of persons with different professional identities and with different orientations toward work. Informal authority relations are often ambiguous and formal authority is typically split between a project leader and a functional superior. In addition, the task itself tends to be substantively complex, open-ended, and stress inducing.

There are a variety of issues around which conflict arises, and Thamhain and Wilemon [20] have reduced these issues to seven fundamental areas which include the following: project priorities, administrative procedures,

¹ See Galbraith [3].

²See Gemmill and Wilemon [5], Gemmill and Thamhain [4], and Lawrence and Lorsch [9].

³See Thamhain and Wilemon [20], Evan [2], and Wilemon [22].

See Nielsen [14] for a discussion of the conflict inducing nature of these factors.

technical opinions and performance trade-offs, manpower resources, cost estimates, scheduling and sequencing of work, and personality conflict. An interesting aspect of the Thamhain and Wilemon research was the variation in intensity of the seven conflict types over the life cycle of a project. Data from one hundred project managers indicated considerable variation over time in the intensity of conflict from almost all sources except personality clashes. Personality conflicts seemed to be relatively constant during all phases of a project life cycle (there are typically four phases: project formation, buildup, main program phase, and phaseout). In discussing personality clashes as a source of conflict, Thamhain and Wilemon suggest that while it is not as intense as some other conflict types, it is nevertheless problematical. In particular, they note, "Project managers emphasized that personality conflicts are particularly difficult to handle. Even apparently small and infrequent personality conflicts might be more disruptive and detrimental to overall program effectiveness than intense conflict over nonpersonal issues, which can often be handled on a more rational basis" (Thamhain and Wilemon [20, p. 39]). It is the purpose of the present study to relate a framework for conceptualizing personality conflict and to report on an investigation of how personality conflicts are handled by managers of effective project teams.

A Conceptual Framework of Personality Conflict

It is important to recognize that the location of the problem in most so-called personality conflicts does not reside solely in one person. Most social conflicts are inherently relational; that is, a problem does not exist until two or more persons have to work together, or live together, etc. The dysfunction then is typically not located in one person or the other, but rather is located in their relationship. Thus any framework which systematically attempts to explain personality conflict must in fact be a theory of interpersonal relationships. The framework used in the present study was developed by W.C. Schutz [16], and is both concise and operational in the sense that it provides for a method of assessing the degree of potential interpersonal strife or incompatibility in any relationship. It is not the only theory of interpersonal behavior extant in the behavioral sciences, but is one which has been found to be useful in a variety of social and work contexts.

In the following discussion, interpersonal <u>incompatibility</u> will be used as synonymous with "personality conflict," whereas interpersonal compatibility suggests harmony and lack of conflict. The basis of Schutz's theory is the individual's <u>fundamental interpersonal relations orientation</u>, or FIRO as it is usually abbreviated. One's FIRO is an "interpersonal style" which is hypothesized to be rather stable and to have developed from psychological forces in the person's childhood and developmental history. That is, people learn a way of relating to others along certain dimensions, and they tend to carry that style around with them as a rather stable aspect of their personality which affects their work and social relations. The FIRO is in fact a set of three basic interpersonal needs which are common to all persons in greater or lesser degrees. These three needs are inclusion, control, and affection and are considered to be

predictive in a general sense of the fundamental behavior that occurs interpersonally. Inclusion refers to the need to be included in other people's activities, or to include others in one's own activities, and is analogous to the introversion-extroversion dimension of other authors, or to sociability. It entails moving toward or away from people psychologically. Control refers to the need to give and receive structure, directions, influence, power, authority and responsibility and corresponds roughly to authoritarianism or the need for power. Affection is concerned with emotional closeness to others, friendship, liking or disliking, and refers to the need to act close or distant toward others. In most work organizations affection is seldom overt, but rather takes the form of friendship.

There are two aspects to each of the three interpersonal needs. One is what we do or have a need to express toward others, and the second is how we want others to behave toward us. This is shown schematically in Table 1. That is, people have a need to both give and receive in each need area and this forms the basis for interpersonal harmony or strife. Harmony (compatibility) results when one party has a need to give (or express) what the other party is interested in getting (or wants). If we symbolize the need to express behavior as "e," the need to receive from others as "w," and the three need areas of inclusion, control and affection as I, C, and A, then any individual can be characterized by the six scales: eI, wI, eC, wC, eA, wA. Schutz has developed a questionnaire, referred to as FIRO-B, which is designed to measure an individual's need levels in each of the six categories (the "B" indicates the questionnaire is designed to predict behavior). The six categories are measured on a scale from a low of zero to a high of nine.

Table 1
THE FIRO FRAMEWORK

	Need Area		
	Inclusion	Control	Affection
What I need to express to others (symbolized as e)	need to initiate interaction with others - need to reach out and include others in ones activity	eC need to assume leadership, responsi- bility, control and exert influence	eA need to act close and personal towar others - express friendship
What I need or want from others (symbolized as w)	need to be invited to join others - need to be included in interaction	wC need to receive directions, guidance, assume followership roles, receive influence	wA need to be on the receiving end of friendship and personal closeness

This scaling provides a way of assessing the potential conflict or incompatibility in an interpersonal relationship. Suppose for example that persons, A and B, each have hypothetical FIRO-B scores on the control dimension of eC equal to nine and wC equal to zero as shown in Figure 1. Both would be trying to exert control and influence, but would be unwilling to receive influence from the other. A power struggle would be going on under the surface, and would likely be acted out around task issues, often in unproductive ways. In this situation, the parties would be said to be "originator incompatible" in an aggressive way. example of parties C and D reflect an opposite problem of unwillingness from either party to exert influence. Thus each would be wanting direction, but none would be present in the relationship. This example also illustrates "originator incompatibility," because there is no reciprocity, or complementarity with respect to who originates and who receives. The parties E and F illustrate an example of "originator compatibility" where E is willing to originate influence and F is willing to receive it. The control would be unilateral in that E would be in practically exclusive command, but nevertheless the relationship would be characterized by compatibility with regard to who originates and who receives influence. Parties G and H would also reflect an "originator compatible" pair, but control would be shared, and their relationship would be characterized by an exchanging of leadership and followership roles.

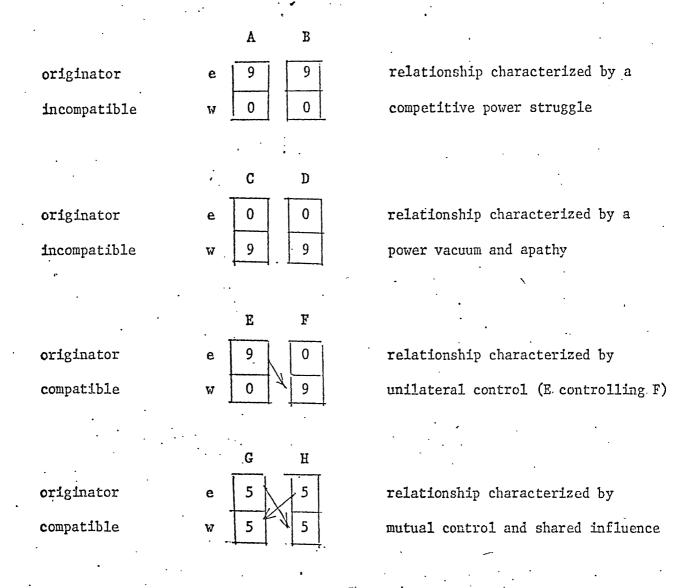


Fig. 1. Hypothetical FIRO-B scores on the control

dimension (eC and wC) illustrating originator

compatibility concepts

These examples serve to illustrate the essential nature of the FIRO framework. Schutz has developed methods for scaling the degree of interpersonal incompatibility in a group by combining the FIRO-B scores of all individuals in the group according to certain formulas. These methods were used in the present study to quantify the degree of potential strife in a given project team.

One important comment should be made before moving on to the main part of the study. The type of conflict we are discussing here flows largely from unconscious processes. People simply have "interpersonal reflexes" in response to others which are either positive or negative, and are not particularly open to rational analysis in the short run. In the longer run, they are amenable to management, however.

The Research Design

The present research grew out of an earlier study of project teams in which it was found that higher levels of interpersonal conflict as scaled by the FIRO system were associated with higher team performance. This prior result was somewhat surprising since interpersonal conflict can often eventuate in unproductive behavior and depress the performance of a team. The prior research by Hill [8] was a study of twenty-two project teams in the systems analysis department of a large oil company. The more productive teams were generally characterized by more potential interpersonal conflict, although there were some exceptions. Apparently, there were some internal

A technical discussion of these formulas is beyond the scope of this paper; however, a more technical discussion can be found in Schutz, [18] or [19].

⁶See Hill [8].

See Reddy, W.B. and Byrnes, A. [15] and Schutz [19].

management processes occurring in the high performance teams which resulted in the productive utilization of the energy generated by interpersonal In extending the research further, an attempt was made in the present study to return to the original site and discover what management practices differentiated high conflict-high performance teams from high conflict-low performance teams. Accordingly, in-depth interviews were conducted with the managers of twenty-six high conflict-high performance projects and sixteen high conflict-low performance projects. These are not particularly large sample sizes; however, identifying teams which fell into these categories was a difficult process since the majority of teams are simply moderate conflict-moderate performance projects. Approximately one hundred fifty projects were reviewed for potential inclusion in the study. first step was to ask the director of systems analysis to identify as many high and low performance teams as possible. "Performance" in this case was defined as the amount of work accomplished per unit of time and "high" and "low" was defined as the upper and lower third of the performance distribution. Project teams in the systems department worked fairly autonomously, and the director simply did not feel able to make judgments in many cases. To generate a larger sample, the project managers involved were asked to nominate projects they felt were "superior" and those they felt were "average." The director of systems indicated there would probably be resistance to asking project managers to nominate their peers as being in the "bottom third." Thus it was felt the terms "superior" and "average" would not be offensive, but still provide some performance differences. Needless to say, there is a problem as to comparability across project managers as different

experience could lead to different ideas about where to anchor a hypothetical performance scale. In spite of this limitation, subjective judgments by involved parties was the only practical method of separating high performance projects from others. Thirty-five "average" (or lower) performing teams and sixty high performing teams were identified (obviously this reflects an upward bias in performance evaluation).

Using the thirty-five low performing teams, FIRO scores were obtained from all team members and team compatability indexes were calculated. The same analysis was completed on the high performing teams, and in both cases, approximately the top half of the teams on the compatibility scale were selected as being "high conflict" (higher numbers on the group compatibility scale represented more potential conflict). Thus two groups of managers were generated for intensive study: the high conflict-high performance team managers and the high conflict-lower performance team managers.

The project leaders were interviewed using a relatively unstructured format in which they were asked to describe cases involving personality conflicts among their subordinates and then to describe in detail how they responded to the conflicts. In addition to the author, one research assistant was also present recording interview impressions. The content of records was then analyzed as to the common dimensions which differentiated the high and low performing teams. Two additional research assistants also analyzed the content of interview records in an attempt to reach some consensus and provide the findings with some degree of reliability.

The managers in the sample were cautioned to try to focus on personality or emotional clashes per se rather than disagreements over substantive issues. This was difficult because many personality clashes are acted out around substantive issues.

Thus there is usually a proliferation of "objective" issues around which two parties conflict even though the original genesis was largely emotional. In short, emotional conflict creates substantive conflict (and vice versa). Chronic, long-standing interpersonal conflict, however, is usually of an emotional origin and can be recognized as such after prolonged familiarity with the parties involved.

The Project Teams

Before discussing the findings, it is appropriate to clarify the nature of the project teams. Most teams were composed of computer programmers, systems analysts and occasionally a representative from the internal user of the system. Team size varied from three to eight persons with the majority of teams being either four or five in size. The project goal was always the design of large internal systems, although some systems also directly affected customers and outside suppliers. All subjects (except the internal users) were members of the systems analysis and computer services department of the corporate headquarters of a large oil company. All projects had been in operation for at least one year, and some had recently been completed.

Results of the Study

There seemed immediately to be two general aspects in which high performing managers differed from the lower performing in terms of responding to internal team conflict. First, the high performers reflected a much larger repertoire of responses. They simply had more ideas and choices about how to deal with conflict generally. Second, they seemed much less afraid of disagreements, and intimated much more willingness to approach conflict rather than avoid it. This latter point is a common theme in

management literature and has been noted by other authors as a preference for confrontation rather than withdrawal as a conflict handling mode. 8

The lower producing managers had a more prevalent feeling that conflict would "go away" if left unattended.

With these general differences in mind, the next question becomes what specific behavior did the higher performing managers report which distinguished them from their lower performing counterparts?

Personal Absorption of Agression

Being willing to hear subordinates out when they are particularly disturbed by a peer was a common theme. One manager made the following observation, "You have to learn to listen, keep your mouth shut, and let the guy get it off his chest....sometimes, it's not that easy though, because you get the feeling the guy is yelling at you, but if you lash back, you're finished....it just compounds the problem." The same manager went on to add, "Usually, when someone blows their stack, it is short-lived, but at the moment it is pretty important to the guy involved."

A second manager described a situation in which two subordinates were making life rather miserable for a third and had essentially rejected this third subordinate. When confronted on their behavior, one of the two team members launched a brief personal attack on the manager himself. Instead of counterattacking, the manager simply asked the subordinate involved what was really bothering him, as it appeared that some hidden agenda was more responsible for the anger. The subordinate declined to answer, and abruptly walked away. At this point, the manager felt some unease as to whether he

See Burke, R. J. [1] and Lawrence and Lorsch [10].

had Jost respect from the two subordinates. However, the next day they both came to his office, apologized, and explained their feelings that the third subordinate did not take enough initiative and do his share of work, which subsequently left them carrying most of the load. Whereas the manager had originally feared loss of respect, it now appeared that perhaps he had gained respect. And equally as important, he had started a process of owning up to interpersonal antagonisms which could then be worked on with future benefits to team functioning.

A third manager related an episode in which he was standing between two subordinates who were in the middle of an altercation, while at the same time, all three were late to a meeting with the manager's organizational superior. His response, however, was to remain calm and patient in the face of stress, and in fact to draw out the parties more by asking questions and listening.

The picture which emerged was one of a manager who did not flinch in the face of negative interpersonal feelings, and who accepted them as a normal part of working life. In short, differences between people were viewed as legitimate and their expression was not inhibited. This is closely related to the next differentiating characteristic.

Encouraging Openness and Emotional Expression

Interpersonal relationships as well as leadership behavior have long been characterized by at least two fundamental dimensions: instrumental and expressive behavior. Leadership behavior in both areas has been linked with effectiveness (see Likert [12]). In the present study we have some impressions relative to the expressive behavior of high and low performing managers. The higher performing managers seemed more concerned with how

their subordinates felt about work, the organization, their peers, etc., and reported more initiative in attempting to allow expression of those feelings. More of the high performing managers claimed to have an "opendoor" policy in which subordinates were free to speak with them anytime. However, there was much more to the picture than just a manager sitting passively in his or her office with the door open. One manager started out by stating that "the guys can talk to me anytime," but then went on to relate a story of how he in effect initiated conversation with them "anytime" and frequently. The same manager ended his story with the idea that "a project leader must show an interest in members (of the project), and let them know he's willing to be open about their concerns....I don't like to be in the dark about what's going on out there or what people are thinking."

In addition to encouraging expression and being employee centered directly, a more subtle difference seemed to characterize the high performing managers as a group. One got the impression that they simply enjoyed social interaction more than their less effective counterparts. Although there were exceptions, as a group they talked more enthusiastically, spontaneously, and longer during the interviews. This impression led the author to compare the magnitude of the total interpersonal needs on the FIRO-B scale for the high and low performing project managers. All six FIRO-B scales can be summed to obtain an index of how "active" an individual wants to be interpersonally. The scale would run from a low of 0 to a high of 54 (a score of nine on all six subscales). The higher performing managers averaged 27.2 whereas the lower group averaged 22.9. This was not

statistically significant at the usual 5 percent level but was in the direction expected from clinical observation (i.e., the higher performers reflected a greater propensity for interpersonal activity).

Norm setting, role modeling and counseling

One of the most fascinating aspects of the study involved managers who in essence "taught" their subordinates how to cope with interpersonal conflict in productive ways. Several of the high performing managers felt it was important for them to "set an example" when it came to reacting to personality clashes. They felt it was more legitimate for them to urge a subordinate to listen to his or her emotional rival with more understanding if they in fact did that themselves. One manager noted that "An effective supervisor teaches others to listen by doing it himself. Some analysts have trouble listening...they keep talking when it is inappropriate. A good boss will be emulated, though, and I find that is one of the best ways to get across an idea on how to behave."

An interesting correlate of this process was the observation that a peer would often intercede and act out a third party conciliation role much like the role the manager might normally perform. Thus two parties in conflict would find themselves the target of peer pressure to live up to a norm which involved at least trying to understand the other party's point of view. At the same time, each party would also be likely to find other peers who tried to be impartial, but reassuring that it was okay to feel hostility. The norm seemed to be one of acceptance rather than suppression of conflict, and

was apparently felt by members of high producing groups more often than lower producing teams.

Some managers resorted to counseling and in some cases exhortation to try to influence some subordinates to behave differently toward their perceived rival. One manager recounted advice he had given a subordinate, telling him "not to lash back at Eddie....all it does is set off another round of charges."

Other comments which reinforced the idea that supervisors served as role models was the observation that managers set the "climate" in the group, and that if conflict was handled poorly in a group, it was usually because people did not feel free to "open up" in front of the supervisor. In fact, one manager observed that many groups seem to take on the personality characteristics of the supervisors. Of course, it is not the "group" which takes on the manager's characteristics, but rather the individuals who comprise it. Lower producing managers seemed to verbally encourage openness with admonishments about the value of keeping people informed, but did not report as many instances where they actually practiced it themselves or taught it by example.

Awareness of the utility of conflict

The higher producing managers seemed to more frequently evidence the attitude that conflict could be harnessed for productive ends. One manager very actively took this stance, and counseled his team with the admonition, "You never know where a good idea is going to come from next," as if to legitimize broad participation and differences of opinion. On the other hand, the lower producing managers seemed to speak more frequently of the disruptive effects of conflict.

Another high producing manager noted that, "You have to break people in to the idea that conflict does not have to be personally destructive, but can be important toward task accomplishment.... I try to encourage freedom of expression, and consensus on issues with my team."

Pacing and control of potential conflict

While the prior factors suggest a pattern of high producing managers confronting differences, they also intimated a sense of when to do just the opposite. There were cases when they delayed face-to-face group meetings because they felt two rival members were on the edge of acrimonious outbursts. The higher producing managers seemed more willing to stop work and socialize with two or three persons over coffee, and on occasion would take the entire team out to lunch as a way of getting away from work pressures. In fact, it seemed that informal work stoppages were more frequent during periods of high work stress such as deadlines and project phaseout. Sometimes, however, the process was more formal and involved allowing team members time off from work (with no pay penalty) because they had recently put in a large amount of overtime. People were becoming exhausted and tempers were getting short.

The extreme of this general containment strategy involved removing people from teams; only one high producing manager had actually done this, although others reportedly threatened it on rare occasions.

The important aspect of pacing and control of conflict as a coping strategy was that high producing managers seemed to be in close enough touch with team members that they could judge whether it was appropriate to approach or avoid conflict. The lower producing managers did not exude the same sense of relatedness to subordinates and interpersonal sensitivity.

Summary

Table 2 summarizes the above discussion by illustrating relative frequencies for six conflict coping responses. Definitive categorization was difficult in some cases however; for example, willingness to absorb aggression and setting an example of listening sometimes appeared to entail almost identical behavior. These dilemmas were resolved primarily by reliance on the larger context in which the behavior occurred.

The composite picture which emerged was one of a high producing manager who "came on straight" with subordinates and who was open in dealing with their conflicts. He also encouraged subordinates to express their problems, and signaled to all concerned that he was tolerant of negative and hostile feelings. High producing managers also "taught" their team members through example as well as direct counseling how to respond to conflict. This appeared to be a critical phenomenon since it apparently expanded the conflict managing capacity of the entire team. While the high producing manager exuded a belief in approaching conflict, he also had enough knowledge of his subordinates to know when to avoid conflict, and was willing to postpone meetings or confrontations when necessary. Thus while conflict was generally confronted, its expression was also paced and controlled at times.

Conclusion

The composite picture which emerged from the interviews was that the higher producing managers tended to play out a third party conciliation and interpersonal peacemaking role. It is important to re-emphasize,

Table 2 RELATIVE FREQUENCY OF REPORTED COPING RESPONSES TO CONFLICT BY HIGH AND LOW PRODUCING MANAGERS

<u>7111111</u>	High Producing Managers (N=26)	
	Low Producing Managers (N=16)	
Willingness to personally absorb agression	//////////////////////////////////////	
Encouraging openness and emotional expression	(7) 44%	73%
Setting norms of listening to others and serving as role model by own behavior	(16) 62% (4) 25%	-
Counseling or exhorting parties to behave differently	(6) 37.5%	
Awareness of the utility of conflict	(3) 19%	
Pacing and control of potential conflict	(5) 31%	
•	50%	 100%

however, that these actions were taken primarily in response to what was perceived to be personality clashes rather than disagreement over substantive issues (even though they are often difficult to separate). As Walton [21, p. 75] notes, "The distinction between substantive and emotional issues is important because the substantive conflict requires bargaining and problem solving between the principals and mediative interventions by the third party, whereas emotional conflict requires a restructuring of a person's perceptions and the working through of feelings between the principals, as well as conciliative interventions by the third party. The former processes are basically cognitive; the latter processes more affective."

The particular kinds of third party conciliative roles involved several. First, empathic support and reassurances that hostile feelings are accepted in someone's eyes is important in getting parties to express real differences between themselves. Second, helping parties express their differences by patient listening is crucial to the management or resolution of them. As Walton [21] suggests, differentiation puts a certain reality and authenticity into the relationship of the principals to the conflict. In addition, it provides information as to opinions and attitudes in the relationship which can be checked and corrected as to accuracy. In short, an expressional function is critical to interpersonal conflict because a person cannot begin productive resolution of differences until he or she is clear what the real differences in fact are. In addition, under stress one usually has to be emotional before they can be rational.

Third, superior knowledge of the principals' situation and feelings helped the higher producing managers pace the confrontation of conflict. Confrontation per se is not universally a panacea for conflict management, but rather confrontations in which the principals can exhibit a modicum of rationality and problem solving behavior are what is needed. Fourth,

so-called counseling tended to place the manager in the role of an interpersonal process consultant to some degree although this was minimal when compared to Schein's [17] formal treatment of the subject.

There are some crucial limitations on the effectiveness of organizational superiors as third party conciliators of subordinate conflict, however Walton [21] suggests that effective third party consultants should not have power over the fate of the principals, and should also be neutral as to the substantive outcome. This is rarely if ever approximated in most organizational settings. However, the fascinating aspect of the present study suggested that team member peers often acted out third party conciliator roles by modeling and identification with their manager. Peers usually have no formal power over the fate of the principals to the conflict, and are potentially abla to be more neutral as to the outcome. Thus, peer members of a conflict pair often supplied a third party influence which the manager could not. This phenomenon, however, appeared to depend critically on whether subordinates identified with the manager. By creating a more open interpersonal climate, the high performing managers apparently leveraged their ability to manage personality clashes by stimulating resolution responses from the conflicted parties' peers. This is similar to Likert's [12, p. 101] observation that participative management systems stimulate leadership behavior from subordinates themselves (or "peer leadership" as he calls it).

A more subtle process may have been operating also through the mechanism of identification with the superior. Heider [7] proposes a "balance theory" of interpersonal conflict which suggests that two

parties find it more difficult to maintain negative feelings toward each other when they both feel positively toward a third party. Thus the higher producing managers who created positive subordinate relations may have ameliorated conflict largely by an unconscious process. Levinson [11, pp. 163-164] expands on the dynamics of the process by saying that "A generalized process of learning how to behave and what to become occurs through identification....By acting as the focal point of unity—the ego ideal of the group or organization—the leader serves as a device for knitting people together into a social system. With such a leader, said Freud, a group is capable of high achievement, abnegation, unselfishness, and devotion to an ideal. Without such a leader, the group falls apart because people then lose their medium for establishing ties through each other — identification with the leader."

Along a different vein, the FIRO system used to conceptualize interpersonal strife in this study deserves some mention in relation to conflict management. Probably its greatest value lies in diagnosing and defining the kind of conflict likely to occur in a group. By administering the FIRO-B questionnaire to a project team, a profile could be obtained of the potential points of friction, and the manager could then be more informed as to the likely origin and nature of conflict in the team. This procedure would probably best be carried out with the assistance of a staff specialist, and in an open manner wherein the results were fed back to the entire team, and the meaning and nature of the FIRO system fully explained. In short, all of the usual organizational development ground rules regarding survey feedback (i.e. voluntary participation, disclosure of results, etc.) would ideally be

adhered to, and the feedback effort itself would become a diagnostic intervention to generate valid and useful information.

The FIRO system is used analogously in marriage counseling where the therapist would like to get to the basic issues quickly [16]. It is also used by a variety of human relations trainers in the NTL network for workshops on interpersonal relations and conflict. The Diamond Shamrock Company has used it in an organization development effort similar to what is being suggested here, except the application was to management groups rather than project teams [13].

In conclusion, some comments should be addressed to methodological issues surrounding the research effort reported in this study. First, the differentiating characteristics between high and lower performing managers are clinically derived and impressionistic. As suggested earlier, multiple judges analyzed the interview transcripts; however, the author knew when he was interviewing managers which category they fell into, and could easily have biased what was transcribed. Some check on this bias was introduced by having a competent research assistant set in on all interview. views and react to the transcript notes immediately following the interview.

Second, there was no attempt to standardize project team members as to technical competency in systems and computer work. Furthermore, there was no attempt to standardize project difficulty itself. It would not seem to the author that systematic biases should apply to either the high producing or low producing teams, although quantitative measures were not taken to assess the possibility. A last issue involves the inference of

causality. The conflict management practices articulated in the results were simply associated with the higher producing managers; it does not necessarily follow that those same practices were the cause of higher team performance. There are a variety of factors which contribute to team performance, not all of which were assessed in the present research. On the other hand, conflict management practices are likely to affect some intervening variables which in turn affect performance. In particular, Hackman and Morris [6] have postulated that group performance is influenced by three general summary variables: effort exerted by members, performance strategies used by the group, and knowledge and technical skills. The management of conflict can logically affect the effort exerted by members, since the energy generated by conflict must ideally be turned back toward the task rather than toward destructive interpersonal tactics if a group is to be productive. Finally, task performance strategies may be enhanced if members constructively challenge each other. Hackman and Morris [6] note that groups rarely discuss performance strategies explicitly. On the other hand, conflict raises the potential that the performance strategy issue will be confronted and managed rather than left implicit.

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