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A TEAM DEVELOPMENT MODEL BASED ON MYERS BRIGGS PERSONALITY TYPES AND ACTION RESEARCH TO IMPROVE TEAM PERFORMANCE AND PARTICIPANT SATISFACTION

by

Carolin Dorothy Rekar

A thesis submitted in conformity with the requirements for the degree of Doctor of Education
Department of Adult Education,
Community Development and Counselling Psychology
Ontario Institute for Studies in Education of the
University of Toronto

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ABSTRACT

The purpose of this study was to determine whether a team development model designed by the investigator could help organizations develop and sustain high performance teams. Specifically, does this model improve team performance and participant satisfaction? The model is based on action research and focuses on helping teams comprehend the complexities inherent in personality style differences, and on developing an approach to managing personality diversity.

In order to determine the effect of this model on team performance and satisfaction, an experimental research design was formulated involving 118 participants. They were randomly assigned to the experimental and control conditions and participated in a series of experiential exercises and focus group discussions. After each experiential exercise, team performance scores were recorded and surveys to determine participant satisfaction were administered.
Data were tested both quantitatively and qualitatively. The results from the quantitative data analysis revealed that the experimental groups' performance and satisfaction scores were greater than the control groups' scores and the results, in most cases, were statistically significant at the .05 and .001 levels. The qualitative data compiled from the focus group interviews revealed that the experimental and control groups showed marked differences in the following categories: change management, team development, valuing personality diversity, conflict management, and transference of learning.

The implications of this model are numerous and demonstrate its applicability to various organizational settings in either self-directed or leader-facilitated teams. The model is an effective tool for developing not only an understanding of personality style differences and the impact they have on team functioning, but also developing strategies to manage the differences so that teams can function as high performers.
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CHAPTER 1
INTRODUCTION

1.1 Purpose of the Study

The purpose of this study is to assess the effectiveness of a model designed to improve the performance and satisfaction of teams. The two key components that the investigator built into this model are personality assessment and action research, with the overall intent of increasing people's awareness of personality style differences and helping them develop strategies to work more effectively with others who have diverse personality profiles. The investigator wanted to find out if an understanding of style differences coupled with strategies to deal with differences improve team functioning. At a time when teams have become a pervasive phenomenon in organizations, it is incumbent upon us to examine the varied components of team effectiveness. This model enables us to explore how the management of personality differences contributes to the successful implementation and sustainability of teams.

Using quantitative and qualitative analysis techniques this model will be rigourously assessed to gauge its value in training teams. Details of the model appear in Chapter 3.

1.2 Background to the Study

In a knowledge-based economy with rapidly advancing technology, work has become so sophisticated that people struggle to develop the competencies needed to complete assigned tasks and to remain current in their areas of expertise. Subsequently, teams have emerged as the foundation for organizing much of the work that needs to be completed.
Most organizations have experimented with team-based work and can identify where teams play a dominant role in their business operations. Since 1987, the use of teams has been steadily escalating (Lawler, 1992). According to Gordon (1992), 80% of American organizations employing in excess of 100 employees have integrated teams into their organizational structures, and 50% of these employees hold membership in more than one team. A recent study conducted by Hewitt & Associates (1995) concurred with these results, reporting that two-thirds of 1811 North American employers use formal teams to conduct work. Cleland (1996) suggested that this increase in the use of teams is a response to the changing market and increasing competition. Effective teams have a proven track record for resilience in times of change, especially given their ability to collectively pool resources to manage transitions. In order to win the competitive race, many organizations rely on teams to respond to the challenges inherent in doing business in the fast-paced global economy.

The introduction of teams has proven beneficial to organizations. Researchers reported that organizations experience more integration of individual skills, improved productivity and product quality, and greater employee satisfaction (Applebaum & Blatt, 1994; and Hewitt & Associates, 1995). Corton (1993) and Levine, D’Andrea, & Tyson (1990) who studied the effects of employee participation on productivity, found that long term increases in productivity resulted from the high degree of employee involvement associated with working in teams. According to Stewart, Manz, & Sims (1999), recent studies reported that the financial gains of companies are enhanced by the use of teams. Given these benefits, it is evident that the number of organizations integrating teams into their work environments will continue to flourish and teams will remain a dominant form of structuring work.
A review of the literature on teams has uncovered a substantial number of factors contributing to team success. Most frequently cited are: leadership, the organizational context, team composition, goal setting, and performance assessment. For teams to generate high-impact results the dismantling of traditional management paradigms is an integral preliminary step. The traditional management role of controlling, enforcing, and driving employees in some predetermined direction is not conducive to high performance in teams.

The changing demographic composition of the labour force demands changes in contemporary managerial practices. The Scientific Management movement, with its mechanistic approach to managing employees and organizing the completion of work may have been appropriate during the Industrial Revolution, but for the 21st century this is highly antiquated. Today's workforce comes equipped with higher levels of education and the expectation that advanced levels of schooling will lead to enriched jobs characterized by autonomy, challenge, and opportunities for decision-making. In order to accommodate these changes, it is incumbent upon contemporary managers to move toward more modern management approaches.

At the forefront is participatory decision-making. In this environment employees are empowered with many of the traditional management responsibilities and expected to exercise their decision-making capabilities. According to Rothschild-Whitt (1979), participation in decisions that effect work yields benefits. Employees develop a greater sense of commitment to organizational goals if they have input into shaping the direction to be taken. Participation also increases the degree to which members feel they "own" their work practices and this, in turn, increases the likelihood that the team will develop a norm of support for these practices.
As a result, leaders in teams will need to serve in a developmental capacity to facilitate self-direction. According to Orsburn, Moran, Musselwhite, Zenger, & Perrin (1990), managers have four key responsibilities in shaping teams: encourage the team to develop a strong identity; help with the alignment of team and organizational missions and goals; ensure the team develops a strong sense of responsibility; and ensure that the team functions within the legal and cultural boundaries of the organization. Manz & Sims (1989) concurred and added that leaders need to assist members in developing self-controls so that they can regulate their own performance. This process evolves throughout the life cycle of the team, and eventually leaves leaders to function in an advisory capacity, providing guidance and support (Jessup, 1990). According to Larson & La Fasto (1989), support includes acknowledging performance that meets and exceeds standards, and encouraging the team to take risks and challenge their skills and abilities. Leaders whose actions reflect modern management principles create a work environment where personal empowerment is experienced. It is only in this environment that teams can flourish and reach the highest levels of their potential.

More comprehensive coverage of leadership and the other factors effecting team performance appear in Chapter 2.

Although there is considerable literature on this topic, organizations continue to struggle with developing and sustaining effective teams. There remains a great deal to be explored in the area of how to cultivate high performance. From a review of the literature, the following three areas warrant further investigation.

First, there is a deficiency of studies on how personality fits into the team effectiveness equation. The current research in this area focuses almost exclusively on the personality traits of people who prefer team-based work and those who experience the greatest satisfaction and
success in teams. Most frequently referenced in the literature are The Big Five personality traits consisting of conscientiousness, extraversion, agreeableness, openness to experience, and emotional stability (Costa & McCrae, 1995). These personality traits are considered the main competency measures of good team players. This presupposes that personality both determines suitability for teams and is a predictor of team success.

If membership was based on personality, then only a select few would be eligible to work in teams. The exclusion of people whose profiles are purportedly incompatible with that of a team player would rob the team of the rich mosaic of ideas that emerge with the integration of diverse personality profiles. Studies show that heterogeneous teams generate more innovative solutions to complex problems because of the mix of ideas that are exchanged as different backgrounds merge (Brightman, 1988; and Jackson & Ruderman, 1995). The high degree of similarity found in homogeneous teams may curtail the breadth of ideas required to solve problems, since the members do not have different backgrounds and experiences from which to draw (Jackson & Ruderman, 1995). This could stifle a team's ability to generate the best final product but, more importantly, selecting members based on their personality profiles is highly discriminatory.

If heterogeneity is preferable, then attention should be drawn to how diverse personality style differences should be managed. In order to capitalize on the diversity stimulated by style differences, the focus of team training should be on managing the dynamics that emerge from the combination of diverse personality profiles. According to Becker-Reems (1994):

The teams that are most effective have learned to value, work with, and balance member differences so that the team and the organization benefit from the synergy they create. (p.223)
If personality is constant, that is minimal change is expected over the course of one's lifetime, then managing style differences to increase the probability that teams are functional is an appropriate intervention. This area, however, is underrepresented in the literature. A team development model that helps members manage personality differences would enable teams to capture the benefits of diverse team composition.

The second area requiring further study is team evaluation. Relatively little research has been geared toward developing the tools to help teams assess their performance (Swezey & Salas, 1992). The predominant focus of training is on how to communicate, co-operate, and co-ordinate responsibilities efficiently. Specifically, the focus is on conflict management, change management, goal setting, problem solving, and collaborative task completion. Armed with these learnings members are expected to return to the workplace and apply the appropriate skills. In reality, teams become entrenched in their daily activities battling deadlines and constant change, and subsequently, little if any collective consultation takes place on how the team is functioning. Teams become engrossed in task completion and evade discussions about the process unless performance is severely skewed. In most cases, individuals reflect on process-related issues, and as problems surface they take initiative to make personal, behavioural changes in order to cope.

For high performance teams to develop and continuously grow, regular assessment of their progress followed by modifications to the process is mandatory. According to Becker-Reems (1994), teams need to be trained in performance assessment procedures so that they develop the skills to effectively monitor and revise their work. Orsburn et al. (1990) stated that effective teams must commit to ongoing restructuring of both work processes and communication channels so that they can more efficiently reach performance standards.
This cycle of evaluation and modification is the basis of action research. According to McNiff (1988), action research is a highly systematic, continual process of exploring and solving problems for the purpose of change. Its methodology involves a high degree of self-reflection as members engage in a cyclical process of collecting data, analyzing it for causes of problems, devising and implementing solutions, and then collecting additional data to assess the results (Stenhouse, 1980). Lewin (1946) saw this type of participative process as most effective in managing interpersonal difficulties. He stated that the most effective way to move people toward change is to actively engage them in the change process by having them evaluate and restructure their own direction. Action research promotes a highly democratic process of change that enhances the likelihood that members will be committed to ongoing performance assessment needed to achieve excellence.

According to Quinn (1996), the excellence to which teams aspire is an organic state that cannot be sustained indefinitely. To achieve excellence teams must commit to reinventing themselves, that is breaking from the status quo and engaging in ongoing experimentation, reflection, and evaluation. It is only through regular assessment and realigning behaviours to adapt to changing circumstances that a team is able to remain a high performance entity.

Building components of action research into a team development model would give teams the much needed opportunity to reflect on their progress and modify their directions as warranted. Sundstrom, DeMeuse, & Futrell (1990) agreed that teams need to regularly assess and possibly change their interpersonal processes, norms, and roles in order to adapt to the changing work environment. Regular assessment drives learning and growth and ultimately leads to excellence.
The third area requiring further study deals with the transferability of learning. More comprehensive training focused on workplace application is needed so that teams are better able to manage the realities of daily functioning within work teams. There is insufficient emphasis on the transferability of classroom-taught theories to workplace team interactions. Swezey, Llaneras, & Salas (1989) questioned the effectiveness of team training as it is presently delivered, because it lacks the specific application-based strategies to help teams cope with the difficulties inherent in workplace teams.

Learners face many personal and organizational barriers that hinder the transference of theories and concepts into practice. The most well organized, professionally facilitated training session has limited value if learners cannot apply that which is taught. When the gap between theory and practice cannot be bridged, learners fail to integrate new learning. This is a serious deficiency in training. It is difficult to justify the expenditure of resources when the learning does not result in measurable, behavioural change. According to Kirkpatrick (1975), the ultimate measure of training effectiveness is its ability to elicit behavioural and organizational changes. Disappointingly, only 23% of Canadian organizations assess the degree to which training has contributed to behavioural changes on the job, and 16% of Canadian companies search for evidence that training has effected the organizational level, such as improved productivity (Saigue, 1996).

A team development model with a focus on transferability would help teams transfer learning to the workplace so that the results of change can be measured for their impact on the organization. As organizational change becomes the norm in the modern industrialized world, it is imperative to review and revamp team training to include the mechanisms for ensuring that learning becomes a usable commodity.
The intent of this study is to present a team development model that amalgamates the three areas that are underrepresented in the literature on team training: personality, action research, and transferability of learning. This model makes an important contribution to team training since no model exists combining these components, which are critical to a team's development and viability. As well, this is one of few studies that qualitatively and quantitatively assesses the effectiveness of teambuilding interventions. According to Allen (1998):

"Our unquestioning belief in the value of teams has meant that we have placed very few demands on researchers to examine the complexity of teamwork. We have embraced the team concept in a reverential way that is way out of proportion to what we know scientifically about how real teams in real organizations actually work." (p. 2)

Since most organizations struggle with developing and sustaining teams, this model is timely. It is a vehicle for shaping co-ordinated teamwork for successful task completion.

1.3 Potential Implications of the Study

There is universality to the model proposed in this study. Its applicability spans organizational settings and occupations, with implications for any organization integrating teams into its structure.

Traditionally, many organizations have grouped employees into teams with minimal, if any, planning on how teams will be integrated into the organization. Even less thought has been devoted to the type of training that should be given to a team and how this may contribute to performance and satisfaction. Organizations promote and encourage teamwork, but little is known about the mechanisms responsible for their success. Since many organizations are building teams into the organizational structure, it is worth furthering the research on the type of training that will enhance team functioning and satisfaction.
Teams often disband because organizations are ill equipped to deal with the challenges that they pose. Especially disconcerting are the conflicts arising from personality differences. Personality clashes often derail working relationships. They intensify to the point of becoming the preoccupation of team members, eventually stifling the creative process as the team progresses toward task completion. Often the task is completed hurriedly so that the team can separate and flee an unpleasant working relationship. This culminates in a final product that is not reflective of the team’s collective competencies. To minimize the effects of personality clashes, more focus needs to be given to managing style differences.

Practitioners who oversee teams will be able to use this model as a training tool to help teams develop not only an understanding of personality style differences and the impact they have on team functioning, but also develop strategies to manage the differences. The action research component of the model will enable teams to regularly review their progress in managing differences and modify their behaviours as required. The model equips teams with the skills and abilities to pool their collective resources and work to their full potential.

Myers-Briggs personality types have been incorporated into this model as the personality assessment tool to heighten team members’ awareness of their own and others’ personality types. The Myers-Briggs Type Indicator (MBTI) was selected because it is one of the most widely used instruments for personality assessment (McCrae & Costa, 1988) with over fifty years of research to support it (Myers & McCaulley, 1985). It has credibility as an assessment tool and, therefore, practitioners may be more inclined to use the model presented in this study because of their familiarity with the MBTI.

At this point it is important to note that personality is not the exclusive factor responsible for functional or dysfunctional team behaviour. Differences inherent in culture,
race, gender, and socio-economic background are equally responsible for shaping team dynamics. The significance of these diversities is acknowledged, but for the purpose of this study, the investigator will be isolating one variable, personality, and testing its impact on team performance and satisfaction. This will enable the investigator to study the extent to which there is a correlation between these variables. Diversity issues are more thoroughly addressed in Chapter 3.

As well, personality has been earmarked because it is underrepresented in the literature on teams. Team members may gain, not only an appreciation of their own personality profile and how it affects the team, but also an awareness of how style differences affect team dynamics. People need to learn to work with different personality types, whether they are polar opposites to their own style or the same personality types that exhibit differences in other ways. This could lead to valuable collaborative inquiry about how personality affects the synergy in teams and what can be done to improve performance.

Furthermore, strategies used to deal with style differences may be transferable to teams that are managing other diversities among members. The universality of this model will be more thoroughly discussed in Chapter 6.

1.4 Statement of the Research Problem

The purpose of this study is to find an answer to the following research question:

Will a team development model designed to help people develop strategies to manage personality style differences amongst team members have an impact on team performance and satisfaction?

Two subsidiary questions originating from the primary research question were also
deemed worthy of investigation:

1. How does an awareness of one’s personality style and style differences help us adjust to team members with different personality styles?

2. What are the components of an effective training program to help team members manage style differences and work more cohesively?

1.5 Overview of the Thesis

This dissertation consists of six chapters.

Chapter 1 includes the purpose of the study, rationale for the team development model, and a statement of the research questions.

The second chapter reviews the literature on team effectiveness, action research, and the MBTI. The major purpose of reviewing the literature is to determine what has already been discovered that relates to the research question. This knowledge not only prevents duplication, but also provides understanding of the framework within which the investigator’s model is housed.

Chapter 3 describes and explains the methodology used.

Chapters 4 and 5 include the presentation and analysis of results using both quantitative and qualitative methodologies.

The implications for practice and further research, as well as a summation of the study appear in Chapter 6.

Attached are a number of appendices that supplement the main text.
CHAPTER 2

LITERATURE REVIEW

A critical review of literature summarizes the research that has been conducted in the areas related to the research questions. Familiarity with this research reveals where advances in a particular field of study have yet to be made. In this dissertation the literature review legitimizes the need for new approaches to developing and managing more effective teams based on Myers-Briggs personality types and action research.

The review of literature in this chapter includes the following topics: factors that contribute to team effectiveness, a summary of action research, studies on Myers-Briggs personality types, and research on the validity and reliability of the MBTI and the Keirsey Temperament Sorter. The Keirsey Temperament Sorter replaces the Myers-Briggs Personality Inventory in identifying personality types in this study. The rationale for this choice will be discussed later on in this chapter and in Chapter 3.

2.1 Team Effectiveness

2.1.1 The Transition from Traditional to Team-Based Work Environments

Since 1990, the number of companies using teams has grown from 7% to 47% and continues to flourish (Cohen, Ledford, & Spreitzer, 1996). This growth can, in part, be attributed to international competition that is forcing organizations to employ more efficient ways of doing business in order to compete in the global market (Boyer & Pond, 1987). Teamwork has become a critical survival tool on the international stage because many tasks in today's organizations impose demands that are too overwhelming for one individual to perform alone. If such tasks are to be completed successfully, individuals must work together
as a team. According to management expert Tom Peters (1987), "the self-managing team should become the basic organizational building block if we are to win out against other world economic powers" (p.297).

The changing demographic composition of the labour force is also imposing changes in how work is organized. The traditional mechanistic approach to managing employees and organizing the completion of work is perceived by the new generation of workers as highly antiquated and dysfunctional. This new generation, labeled "baby busters" and "Generation X", enter the workforce with higher levels of education and the expectation that more advanced levels of schooling will lead to enriching careers characterized by challenge, responsibility, and opportunities for decision-making. In order to accommodate their aspirations, modern day managers must move away from conventional approaches to managing employees and structuring work, and move toward more contemporary management approaches. At the helm of this transition, are team-based work environments that have a unique ability to satisfy the expectations of the new labour force, as well as produce results that benefit the organization (Bradford, Raines, & Martin, 1992). According to Stewart et al. (1999), even though teams satisfy the new labour force, increased productivity and quality improvements are still the overwhelming reason why organizations shift to team-based work environments.

Although empirical research is scarce, the transition from traditional organizational structures to team-based work environments has proven beneficial to organizations (Pearce & Ravlin, 1987). Emerging studies are providing evidence that there is a correlation between teams and the financial success of organizations (Stewart et al. 1999) Researchers report that the use of teams results in increased productivity, quality improvements, enhanced employee
satisfaction, and cost-savings (Beekun, 1989; Cotton, Vollrath, Froggatt, Lengnick-Hall, & Jennings, 1988; Guzzo, Jette, & Katzell, 1985; Lawler, 1986; Lawler, Ledford, & Mohrman, 1989; and Wellins, Byham, & Dixon, 1994). Researchers at the University of Minnesota studied the implementation of teams at a manufacturing facility and concluded that, over time, the introduction of teams improved productivity and product quality (Banker, Field, Schroeder, & Sinha, 1996).

According to Katzenbach and Smith (1993), teams can transform individual efforts into extraordinary successes. High performing teams provide evidence that teams can often convert average individual effort into superior collective achievements. When faced with high demands, teams often find more effective ways to solve problems than do individuals working on their own. According to Buchholz, Roth, and Hess (1987), the quality of decisions made by teams is relatively high because the team members who make the decisions are the most knowledgeable about the work. Teams have also been credited with producing highly innovative results because they are involved in all aspects of the work process (Hitchcock & Willard, 1995), which Hackman and Oldham (1980) referred to as experiencing “task identity”.

Before proceeding further, it is critical to differentiate between groups and teams. Often these terms are used interchangeably without regard for their differences. Teams differ from groups in the following ways: they have a wider range of cross-functional skills; they exercise greater decision making power; they have better access to information and resources; and they control a broader range of responsibilities once marked as the exclusive domain of supervisors (Orsburn et al. 1990). Katzenbach and Smith (1983) stated that groups become teams when
they develop shared commitment for the direction and goals of the team, and they strive for
dynamic interaction among members.

A team is a small number of people with complementary skills who are committed
to a common purpose, set of performance goals, and approach for which they hold
themselves mutually accountable. (Katzenbach & Smith, 1983, p. 12)

Teams are groups of interdependent individuals who have the technical and administrative
skills to complete a task (Goodman, Devadas, & Hughson, 1988; and Wall, Kemp, Jackson, &
Clegg, 1986).

Cleland (1996) introduced the term “teamocracy” which depicts teams as fundamental to
cross-functional work and the development of organizational strategy. Teams are considered
a dynamic force empowered to make decisions for themselves, as well as having input at the
corporate level. In order to sustain high levels of performance and contribute to continuous
improvement, the corporate infrastructure provides ongoing training, access to operational
and strategic plans, and sophisticated communication networks by which information is
shared. Over time, teams gradually develop the skills and abilities to lead and manage
themselves within the larger context of the organization. According to Cleland (1996):

The forces unleashed by teamocracy will affect product concepts, design, production,
marketing, and after-sales logistic support. The move to teamocracy is an intellectual
revolution for which there is no precedence in the history of management. (p. 34)

Given the trend toward team-based work environments, it seems appropriate to review
the literature in this area to better understand what is already known about teams and the
factors that contribute to team effectiveness. We can then chart new directions for designing
and managing more effective teams.
2.1.2 **Theoretical Models Explaining Team Effectiveness**

A number of theoretical models attempt to explain team effectiveness. Even though these models were originally formulated to explain group behaviour, theorists claim that they are equally valid in identifying the variables that contribute to high performance in teams (Cohen et al. 1996; Cummings, 1981; and Hackman, 1986). A critique of the models uncovers the similarities and differences in the factors that could have an impact on team performance.

The majority of the models are adaptations of the systems model. They were constructed from the input-process-output framework, with “input” representing the environment and resources available to teams; “process” being the means by which “inputs” are converted into “outputs”; and “outputs” depicting the results of what is transformed by the system (Baron & Kreps, 1999).

The theoretical models encompass relatively similar perspectives on the team and organizational factors that foster team effectiveness. Repeatedly cited as contributors to performance are the following factors: work design, team processes, team characteristics, and organizational factors. The most comprehensive descriptions come from Cohen (1994); Campion, Medsker, & Higgs (1993); and Hackman (1988).

Cohen (1994) identified four sets of input factors contributing to team success: task design, team characteristics, supervisory behaviour, and the organizational context. Task design factors, originated by Hackman and Oldham (1980) and Turner and Lawrence (1965), enrich jobs by providing variety and autonomy. If these qualities are inherent in the design of the job then team members will experience meaningfulness, high levels of motivation that yield quality performance, and job satisfaction. The second input factor, team characteristics,
includes team composition, team norms and efficacy, and team co-ordination. According to Cohen (1994), the greatest volatility in this area occurs when turnover is relatively high causing difficulties maintaining co-ordination, effective communication, and sustaining team norms. The third factor involves encouraging team members to develop and practice supervisory behaviours which focuses their attention on the behaviours deemed critical to team performance. These include setting their own performance goals and regularly monitoring their progress. It is the responsibility of management to assist the team in developing these skills.

The final set of variables identified by Cohen (1994) pertains to the organizational context and has been adapted from Lawler (1986, 1992). Five major factors at the organizational level have an impact on team effectiveness: decision-making authority; accessibility of information to make quality decisions; rewards contingent upon meeting or exceeding performance standards; ongoing training to develop the knowledge, skills, and abilities to contribute to the organization; and sufficient resources to complete tasks according to specifications. According to Cohen (1994), all four of the input factors must be present within the organization in order to generate high team performance.

Campion, Medsker, and Higgs' (1993) meta-analysis of team effectiveness resulted in the identification and testing of nineteen variables potentially contributing to team performance. Their nineteen factors are housed within five major categories: job design, interdependence among team members, composition, organizational context, and intragroup process. Empirical testing by these researchers led to the conclusion that all nineteen factors predict some degree of team effectiveness, but job design and group process variables were
more highly correlated with team effectiveness than interdependence, composition, and organizational context.

For each of the five categories, Campion et al. (1993) provided additional insights into team effectiveness. The most critical components of job design contributing to overall team success were self-management and participation. Interdependence was found to be important to employee satisfaction. Under the category of team composition, they found that heterogeneity had no effect on the team and larger groups with seven or eight members performed at a higher level than groups with four or fewer people. Within the organizational context area, managers perceived training as most important to team performance, and employees cited management support as important. The process characteristics were found to be most highly associated with productivity and satisfaction.

Hackman (1988) differentiated between two sets of input factors: organizational level inputs and team level inputs. Organizational factors having an impact on team performance include rewards for exemplary performance; clear communication of challenging goals; allocation and easy access to resources to expedite task completion; and access to information systems. Team factors influencing team performance include job characteristics (i.e. skill variety, task identity, and task significance) which have an impact on motivational levels; and team composition consisting of team size, interpersonal skills, and heterogeneity of team members. According to Hackman (1988), team co-ordination and co-operation lead to high levels of commitment and motivation which translate into more effort applied to the work. As Hackman (1988) explained:

When individuals value their membership in the group and find it rewarding to work collaboratively with their teammates, they may work considerably harder than they would otherwise. (p. 326)
The essence of Hackman’s model is the organizational context within which the team is expected to function. The process and performance may be either promoted or stifled depending on the environment. In this case, Goodman et al. (1988) recommended that teams be observed and trained in their actual work setting so that we can fully comprehend the factors influencing their performance, and manage teams more effectively.

Unfortunately, the explicitness found in the descriptors of “inputs” is not as pronounced in the “process” components of the models. It is here that the models become evasive in how teams can manage the environment and their resources to become high performers.

McGrath (1964), who gained notoriety because he proposed one of the original theories for comprehending team performance, defined process variables as the means by which team members communicate and co-ordinate tasks. Gladstein (1984) concurred and added supportive management and open communication, especially about organization strategy, to the criteria. According to Gladstein, these process factors will only be effective if the team structure has clear roles and performance expectations. The process component of Hackman’s (1988) model differed significantly from other theoretical models in that it omitted interpersonal factors. Hackman defended interpersonal factors as components of team composition that should be housed within input factors because they supplement work process criteria. Specific process criteria in Hackman’s model included effort exerted by the team members, their knowledge and skill contributions to a given task, and the approaches used to complete assigned tasks. Campion et al. (1993) postulated that the development of specific strategies for enhancing team performance should be left to the discretion of organizational practitioners who are experts in managing the change process. The purpose of their research was simply to identify the characteristics of effective teams.
Across the theoretical models there appears to be agreement on the "outputs" or results expected when a team is given a particular set of resources and how they are utilized. Team effectiveness can be measured three ways: the degree to which the final outcome meets organizational standards (Cohen, 1994; Campion et al. 1993; Gladstein, 1984; Hackman, 1988; and McGrath, 1964); the team's ability to sustain working relationships over a long period of time (Hackman, 1988; and McGrath, 1964); and the degree to which members experience satisfaction by participating on the team (Campion et al. 1993; Gladstein, 1984; Hackman, 1988; and McGrath, 1964).

In general, the models provide a useful introduction to the variables that promote team performance, but they are not without their shortfalls. First, there is limited empirical testing on the models, leaving speculation about their effect on performance. Second, because there are complex organizational milieus within which teams must function, to what degree are these models generalizable across organizational settings? Third, they lack applicability in practice, as they do not describe the processes for creating a work environment conducive to high performance. They promote comprehension of the factors that contribute to team effectiveness, but do little to merge theory and application. Fourth, the models exclude references to individual competencies and behaviours that may contribute to team productivity and satisfaction. If team members are expected to be accountable for their actions and team success, then the input criteria should reflect this. Finally, there is lack of clarity in the definition of effectiveness. Across the models, there is no consensus on the dimensions of effectiveness beyond Hackman's (1988) description of the three ingredients of effectiveness. It would be helpful if each model included a clear, measurable definition of effectiveness as a basis from which factors can then be identified that influence the measures.
However, Cohen (1994) cautioned us that it may be somewhat idealistic to assume that effectiveness can be defined.

In many cases, no good objective measures of team performance exist. If good objective measures exist, they may not be comparable across teams and across organizations. (p. 69)

Even with these limitations, the models provide us with a myriad of variables assumed to contribute to team effectiveness. In order to make these concepts viable and useful, human resources practitioners need to facilitate the process by which organizations make the changes needed to create work environments conducive to team effectiveness. It is only through this initiative that the theoretical models gain applicability in practice.

To facilitate understanding of the theoretical models that explain team effectiveness, the investigator of this study designed Table 2.1, which appears on the next page.

### 2.1.3 Factors Contributing to Team Effectiveness

This section examines empirical research on teams with emphasis on the factors that contribute to team success. Since no single factor can be isolated to account for effectiveness, it is necessary to examine a full range of factors including leadership, the organizational context, team composition, establishing the mission statement, and ongoing training and development.

#### 2.1.3.1 Management's Role in Fostering Effective Team Performance

For managers to foster effective team performance they must be amenable to changing their role from supervisors to team facilitators. They need to abolish the traditional leadership paradigm that condones control and direction, because teams require a fundamentally different type of interaction with management. According to Orsburn et al. (1990), "If you
<table>
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<th>Theorist</th>
<th>Input</th>
<th>Process</th>
<th>Output</th>
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<tr>
<td>McGrath (1964)</td>
<td>- individual, group, &amp; environmental factors</td>
<td>- communication channels</td>
<td>- quality &amp; quantity of work</td>
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<td></td>
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<td>- task co-ordination</td>
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<td>- cohesion &amp; satisfaction</td>
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<td>Gladstein (1984)</td>
<td>- team interdependence</td>
<td>- open communication</td>
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<td>- role &amp; task clarity</td>
<td>(org. strategy &amp; supportive management)</td>
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<td>- clear standards</td>
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<td>Hackman (1988)</td>
<td>- org. level inputs (reward system, goal clarity, resources for task</td>
<td>- knowledge, skill, &amp; effort exerted by team</td>
<td>- output meets org. standards</td>
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<td>completion, information access)</td>
<td>- task co-ordination</td>
<td>- sustained working relations</td>
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<td>Campion et al. (1993)</td>
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<td>- job design</td>
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<td>Cohen (1994)</td>
<td>- task design</td>
<td>- no details provided</td>
<td>- high team performance</td>
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<td>- organizational context</td>
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<td>- team characteristics (norms, efficacy &amp; co-ordination)</td>
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are looking for twenty-first century productivity from your self-directed teams, you can’t leave them to the mercy of nineteenth century managers” (p.18).

The traditional supervisory role is distinguished by the regulation of tasks and the work environment; enforcement of rigidly prescribed policies and procedures; and exercising authority over employees. Supervisors in this role concentrate on steering employees in some predetermined direction usually grounded in their perception of organizational needs. They oversee work performance and initiate corrective action when employees stray. As a result, they cultivate work environments characterized by submission, complacency, and subordination (Walton, 1985). McGregor (1960) claimed that this approach to managing employees is driven by “Theory X” assumptions about people which will be discussed in greater detail later on in this chapter.

Some supervisors oppose the paradigm shift in the leadership role. Such a change elicits a host of responses including: fear of diminishing power and status; apprehension about the new relationship with employees; ambiguity surrounding the emerging team leader role; and despair over the disintegration of supervisory rights and responsibilities. Consequently, some supervisors abort the transition from individually-based to team-based work environments even before roles can be redefined and barriers removed (Stewart et al. 1999).

For those employees who function within teams, they will need to assume management responsibilities and must work in environments where autonomy and decentralized decision-making prevail. Leaders of these teams will need to serve in a developmental capacity facilitating collaborative inquiry and action (Laiken, 1998; and Orsburn et al. 1990). In self-directed work teams, according to Kanter (1989), leaders will be expected to create other leaders capable of leading both themselves and their teammates. Preferably, according to
Laiken (1998), leaders will teach team members how to share the leadership roles among themselves, which is more aligned with “self-direction”.

There is considerable evidence in the writings of Hersey and Blanchard (1988) that changing from a traditional supervisor to a team leader can be challenging. It requires assessment of the developmental level of the employees, and an analysis of the leadership style conducive to the ability and willingness of employees to take responsibility for directing their own behaviour. The greatest challenge for the leader is knowing when to provide the right style at the appropriate time and helping the team mature to the point where they do not require external leadership intervention.

Numerous models present a new look at expectations and roles for leaders in organizations that promote a team environment. Manz and Sims (1989) developed one of these models and, according to them, effective leaders “lead others to lead themselves” (p. 11). Effective team leaders assist members in developing self-controls so that they can regulate their own performance on the job. They recommended that leaders teach members goal setting approaches, procedures for collecting data about their performance, and strategies for assessing their success. The critical point is that leaders promote and coach others to internalize and self-manage their behaviour. Self-leadership is expected to have an effect on performance effectiveness because team members will learn how to manage the behaviours that were once controlled by management. Effective team leaders understand that employees perform more favourably when they are given more discretionary decision making authority and broader responsibilities.

Jessup (1990) stated that effective leaders must act as administrators, coaches, and advisors. The administrator assists the team to meet its objectives by helping members in
goal setting and problem solving, but only until the team is able to do so on its own; the coach fosters team development toward self-management; and the advisor provides the team with the technical support to convey skills and knowledge team members need to make their own decisions. Employees tend to support strategies that they have had a role in developing, especially if they recognize how their contributions have shaped team strategy. According to Cleland (1996), improved productivity found through the use of self-directed work teams can be attributed to the involvement of team members in leading and managing teams.

According to Laiken (1998) and Orsburn et al. (1990), managers who are effective in the leadership role recognize that the transition from traditional work systems to self-directed work teams evokes anxiety for both parties. To minimize this anxiety, managers must gradually relinquish authority to teams by giving them the resources as needed, yet still leading them in the process of developing a clear framework within which to function. Orsburn et al. (1990) proposed four key responsibilities of managers in shaping functional teams: encourage the team to hone a distinct identity; help the team align its mission and values with organizational objectives; ensure the team develops a strong sense of accountability; and ensure that the team functions within the legal and cultural framework of the organization.

Support and encouragement from team leaders are touted as the cornerstones of effective teams, according to Sims and Lorenzi (1992). Larson and LaFasto (1989) concurred and added that management support includes fostering team autonomy, trusting that the team can achieve performance standards without supervisory intervention, providing assignments that challenge the skills and abilities of team members, and acknowledging performance that meets and exceeds expectations. Orsburn et al. (1990) added the following behaviours as
evidence of management support: refraining from making decisions for the team; consulting the team on issues of relevance; and being available as team members require assistance.

The primary difference between managers in traditional organizations and managers in empowered teams is in their paradigms about management (Walton, 1985). Senge (1990) referred to these paradigms as "mental models". Beliefs about people will affect one's ability to work successfully in a self-directed work environment. One's values, assumptions, and management paradigms will ultimately become one's behaviour, unless there is a gap between one's "espoused theories" and "theories-in-use" (Argyris & Schön, 1978). Until one's beliefs about people change, one's actions toward them are not likely to change.

McGregor (1960) described a set of attitudes held by managers about the nature and behaviour of people that will be reflected in how successful the manager is in leading people toward organizational goals. Managers with "Theory X" assumptions operate from the premise that employees have an inherent dislike of work; prefer to be controlled and directed; and are in need of coercion and the threat of punishment to perform accordingly. "Theory Y" assumptions about human behaviour are diametrically opposed to "Theory X" assumptions, and include a belief that people like work and will seek experiences enabling them to exercise autonomy and self-reliance (McGregor, 1960). Without "Theory Y" assumptions we are simply incapable of being effective leaders in the paradigm being described because we do not have faith in our employees' abilities to contribute to the organization. With "Theory X" assumptions about team members, we resort to criticism and nonparticipative behaviours which only submerge the potential of the work force by breeding anxiety and apathy. Management's assumptions actually restrict team performance. This creates dissonance between the self-directed work team concept and management practices.
Consideration should also be given to the strategies leaders need to use in order to empower employees to be self-directed. Empowerment, according to Kizolos (1990), originates in work environments characterized by respect, collaboration, and trust. Fraser (1993) defined empowerment as a function of shared resources, information, and responsibility. It should include a vision statement that supports empowerment, and a set of guiding principles that illustrate how empowerment will function in teams. Specifically, the vision statement should detail how authority and accountability in the completion of job assignments will be shared. A vision keeps the team aligned, enables members to measure progress, and helps team leaders discern when to offer guidance and when to grant the team liberty to pursue their goals. Team leaders help teams self-correct by inquiring if they are progressing along the lines that will enable them to achieve the vision, and helping them surface and solve problems. According to Orsburn et al. (1990), successful leaders can communicate a clear vision or help the team design its own vision, in the midst of ongoing organizational change, and exercise the ability to surmount barriers that impede change.

Leaders, in general, can enhance team effectiveness by creating a work environment that is conducive to maximum performance. This should include, not only autonomy and decentralized decision making, but also information systems that provide current data for decision making, performance appraisals and recognition systems that reward exemplary performance, and training programs to keep the team’s knowledge and skills current.

2.1.3.2 The Organizational Context

Leadership is only one of many variables that can influence a team’s performance. Although a leader may exemplify all the qualities and behaviours that foster team
effectiveness, the organizational context within which the team must function plays a pivotal role in either promoting or stifling team progress. According to Hackman and Walton (1986):

A leader or consultant can do much to promote team effectiveness by helping team members learn how to work interdependently – although this is probably a hopeless task if the group has an unsupportive organizational context or was poorly structured in the first place. (p. 85)

High performing teams exist within organizations that have a culture that supports work teams. The organizational culture which is conducive to team effectiveness encourages interdependence instead of competitiveness; sharing of information and resources; training to develop both technical and interpersonal skills; and performance appraisals and compensation systems that reward teamwork (Yeatts & Hyden, 1998). Within this culture, teams find it easier to obtain assistance when needed; easier to access accurate and timely information and resources for planning, scheduling and making key decisions; and report higher levels of interaction with others (Rose, 1988). The organizational culture affects the team’s ability to set clear, measurable goals, identify solutions, and make sound business decisions (Johnson & Johnson, 1994). According to Yeatts and Hyten (1998), when the organizational culture fails to support teams, it adversely affects the team’s goal setting because the information system is ill equipped to give the team data needed to gauge performance. If information is lacking, it is unlikely that the team will select the best course of action or make the most appropriate decision.

Overall, the organizational context has a direct effect on the team’s ability to function effectively and reach established performance standards.
2.1.3.2 Team Size

An extensive body of literature exists on the optimal size of a team. According to Frank and Anderson (1971), both the type of work that needs to be done by the team and the type of decisions that need to be made should be determinants of team size. Cohen (1994), Hackman and Oldham (1980), and Steiner (1972) stated that the size of a team is dictated by the expertise needed to achieve the team's mission.

According to Wellins, Byham, and Wilson (1994), the best work teams tend to be small. A team should include as few members as possible to complete a given task. Large numbers of people grouped together have difficulties developing cohesiveness, commitment, and mutual accountability necessary to achieve high performance. There are also problems interacting constructively and reaching consensus. Katzenbach and Smith (1993) claimed that teams should be large enough to provide the necessary competencies and perspective to perform the work, yet small enough to maintain efficient coordination and involvement of each member. Other studies have shown that large groups have less coordination (Frank & Anderson, 1971), are less cohesive (Caron, 1990), and are more critical of group members (Valacich, Dennis, & Nunamaker, 1992) than small groups.

Researchers are in general agreement that the optimal team size for effective performance should be four to seven members (Bass, 1982; Brightman, 1988; and Ray & Bronstein, 1995). Laiken (1998) questioned whether a team comprised of four members can generate a variety of ideas and, therefore, recommended teams consist of six to eight members. Many positive outcomes are associated with teams of this size including: higher levels of cohesion and motivation; frequent communication among members; more opportunities for team members to get to know one another; greater sense of responsibility for
task completion; and a greater sense of achievement when performance standards are met (Brightman, 1988).

As the number of people in a team increases, there is a heightened probability that interpersonal problems will surface (Becker-Reems, 1994; Johnson & Johnson, 1994; and Katzenbach & Smith, 1993). As well, increased team size makes it more challenging for members to get to know their colleagues on a personal level. If they take time to socialize, it may reduce the amount of time and energy needed to complete tasks. However, if time is not taken to get to know teammates, then communication and cohesion in the team are reduced and cliques can develop. According to Neuhaus (1990):

In teams where there are several people involved, the communication process can be quite complicated. The opportunity to misinterpret information, ideas, and messages is great. (p. 94)

In smaller teams the misinterpretation of exchanged information is minimized because there are more opportunities to share ideas and seek clarification without robbing the team of the time necessary to complete assignments.

As the size of the team increases, there are also other side effects. According to Nieva, Fleishman & Rieck (1978) and Tjosvold (1986), task coordination is more difficult as new members join the team and there is evidence that overall performance may decline. Kidwell and Bennett (1993) noted that within large teams there is more likelihood for members to engage in power struggles and political maneuvering to secure these positions of power. Johnson and Johnson (1994) concluded that the decision making process is likely to be lengthy as members attempt to express their views and this may create dissatisfaction among members.
As team size increases, "social loafing" potentially permeates the structure of the unit. "Social loafing" is the process where team members decrease their efforts and involvement as the size of the team increases (Johnson & Johnson, 1994; and Latane, Williams, & Harkins, 1979). In large groups, team members may perceive less accountability for task completion and less personal contribution to the team and, as a result, display signs of withdrawal from the team's initiatives. Some members may decrease their involvement in team projects, knowing that they will still benefit from the team's performance. "Social loafing" is a serious ramification of team size because it diffuses effort that ultimately affects team performance.

However, there are unavoidable situations where the size of the team is not controllable. In such situations, "social loafing" can be minimized when outputs expected from each member are clearly communicated, accountability for task completion is expected by the team, and members have high personal involvement in decision making. It is also possible to arrange subgroups that periodically meet as a large group for reporting progress.

2.1.3.3 Membership Diversity

Another issue to contemplate in team composition is the degree to which team effectiveness is affected by membership diversity, that is, the mix of personalities, gender, values, academic background, experiences, race, class, and ability. This section will specifically explore the extent to which homogeneous and heterogeneous teams differ. This topic is loaded with controversy because of the contradictory findings.

Homogeneous teams are characterized by their similarities that often lead to positive social interactions. People are attracted to others with similar interests and beliefs, and this often leads to decreased conflict, increased social interactions, and higher levels of satisfaction participating on the team. Consequently, homogeneous teams tend to be more
effective on tasks requiring a high degree of co-operation and co-ordination (Barrick, Stewart, Neubert, & Mount, 1998).

Homogeneity, however, does pose difficulties for some teams. According to Jackson and Ruderman (1995), homogeneity may be detrimental for teams that require innovative solutions. Because there is a high degree of similarity, homogeneous teams may not generate a variety of ideas to solve problems since they do not have different backgrounds and experiences from which to draw. Jackson and Ruderman (1995) proposed that homogeneous teams may experience more success completing routine tasks that require cooperation. Pearce and Ravlin (1987) concluded that homogeneity in teams can increase competition for tasks since members have similar training and perceive themselves as capable of doing the tasks.

Shephard (1964) summarized the strengths and limitations inherent in homogeneous teams:

Similarity is an aid to developing cohesion; cohesion in turn is related to the success of a group. Homogeneity, however, can be detrimental if it results in the absence of stimulation. If all members are alike, they may have little to talk about, they may compete with each other, or they may all commit the same mistake. Variety is the spice of life in a group so long as there is a basic core of similarity. (p. 84)

Research findings on how heterogeneous teams influence performance revealed that heterogeneous teams experience more interpersonal conflict and take longer to develop, but they are generally more effective than homogenous teams on complex projects and problems requiring innovative solutions (Bass & Ryterband, 1979; Daily, Wheatley, Ash, & Steiner, 1996; and Nieva, Fleishman, & Rieck, 1978). Brightman (1988) and Jackson and Ruderman (1995), who studied team heterogeneity in diverse organizational settings, concurred that creativity and decision-making capabilities tend to be heightened where there is membership diversity because of the rich mix of ideas that are exchanged as different backgrounds merge.
Bantel and Jackson (1989) added to this research with their findings from financial institutions where they found that the success of executive teams was credited to the heterogeneity of members particularly in the area of technical expertise. According to Pearce and Ravlin (1987), diversity in expertise offered by members can decrease the amount of competition among members to do the same task. Each member offers unique skills, which means limited competition for tasks. However, diverse teams need to work harder than homogeneous teams to manage their differences.

In a comprehensive study on homogeneous and heterogeneous teams, Munro (1979) grouped learners according to their motivational patterns as determined by McClelland's Thematic Apperception Test (T.A.T.). Based on their dominant need for either achievement, power, or affiliation, learners were assigned to teams with members who had the same or different dominant trait. Results indicated higher levels of satisfaction and learning in teams that consisted of a mix of motivational profiles. In response to the results, Munro developed the "Matched Group Inquiry Model" to help facilitate learning and manage the challenges faced in heterogeneous teams that have a mix of motivational needs.

Differences, however, erode the interpersonal process. According to Tannen (1990), as the team becomes more diverse with regards to not only skills, but also gender, race, and age, communication channels will most likely be eroded and negatively affect the interpersonal process. Bettenhausen (1991) reported that different values found in each profession account for the interpersonal clashes that may surface in heterogeneous teams. On the other hand, Yeatts and Hyten (1998) found the lowest levels of interpersonal interaction in teams that were homogeneous in gender, age, and race.
A longitudinal study by Watson, Kumar, and Michaelsen (1993) quantitatively investigated the performance differences between culturally homogeneous and culturally heterogeneous teams. In the early stages of team performance more favourable social exchanges and performance were demonstrated by the homogeneous team. After four months, the heterogeneous team surpassed the homogeneous team in measures of creativity, specifically in the area of brainstorming alternative solution strategies and tackling problems from diverse perspectives. Overall, this research shows that both kinds of teams can be highly effective.

Reflected in our work environment is our society's cultural heterogeneity. Consequently, there is a higher probability that heterogeneous teams will exist in the work force and individuals will need to develop the skills to manage the differences. According to Becker-Reems (1994):

The teams that are most effective have learned to value, work with, and balance member differences so that the team and organization benefit from the energy they create. (p. 223)

This position reflects the philosophy behind the model that is being presented in this thesis. In this model, team members will be exposed to the process by which they will understand personality differences and then develop the skills needed to manage these differences. As previously mentioned, the investigator is isolating personality style from all of the other possible differences in order to help team members manage this specific difference, which has an equally profound effect on team functioning.

2.1.3.4 Team Cohesion

Cohesion is defined as the degree to which team members enjoy being with their colleagues and are compelled to stay in the team (Bettenhausen, 1991). Team cohesion has
been correlated with interaction, satisfaction, and performance (Evans & Dion, 1991; Lott & Lott, 1961; and Shaw, 1976). Mullen and Copper (1994) concurred, stating that the bonds established among team members fuel the exceptional effort exerted by members to achieve team goals. Bass (1982) claimed that cohesion surpasses skills and abilities as the most integral component of team effectiveness. He argued that a lack of team cohesion may prevent talented and knowledgeable teams from achieving their goals, because team members are unable to interact effectively to facilitate task completion.

Cohesion has a positive influence on the amount of effort exerted by the team (Bettenhausen, 1991). According to Yeatts and Hyten (1998), increased levels of effort are common in cohesive teams because members are committed to each other and will exert additional effort for their colleagues. Watson et al. (1991) and Lott and Lott (1961) reported that camaraderie is partially responsible for the improved problem solving and decision-making abilities found in cohesive teams. Members feel more comfortable disclosing opinions, ideas, and insights that facilitate the decision-making process. Yeatts and Hyten (1998) claimed that higher levels of cohesion are more visible in small groups of five or six members because there are more opportunities for individual members to speak and share information. In cohesive teams, members are less preoccupied with censoring their own ideas and judging the behaviours and comments of others, and they devote more time to the task (Larson & LaFasto, 1989).

Cohesive teams are more prone to encounter conflict. Because of the extensive interaction that accompanies cohesive teams, conflict may surface as members become more psychologically comfortable and take additional risks to disclose diverse opinions and ideas.
According to Laiken (1994), conflict is unavoidable and should be regarded as a normal, healthy occurrence as teams progress through the developmental stages.

When group members begin to value the very differences which seem at the heart of conflict, and focus on reaching a solution which meets the basic needs of all concerned, the process can release a creative energy which builds its own momentum. The synergy which results is one of the major reasons why well-functioning teams are often more effective at solving complex problems than are 'expert' individuals. (p. 5)

When conflict is suppressed or mismanaged it perpetuates undue stress and fragments the social fabric of the team. Conflict can lead to the following consequences: a disproportionate amount of time dealing with conflict, instead of completing assignments; avoidance or apathy; and damaged relationships between members who are unable to compromise (Ephross & Vassil, 1988).

If, however, training is provided to manage differences, then conflict can enhance team effectiveness. Training can equip members with the skills to address the source of conflict and work toward a mutually beneficial outcome (Jandt & Pedersen, 1996).

In minimizing adversarial relationships and developing positive attitudes toward conflict, team facilitators play a salient role. They need to create a supportive, collaborative environment by encouraging team members to focus on the opportunities faced when conflicting viewpoints emerge. Members are expected to clearly and concisely express their opinions and be receptive to input from colleagues. When non-defensive behaviours and responses become the norm, then the team is more likely to work its way through conflict (Laiken, 1994). Teams can increase the probability of becoming optimal performers once they value conflict and master the skills necessary to manage differences.
2.1.3.5 Establishing a Mission Statement

Most mission statements include the following information about an organization: nature of the business; future direction; competitive strengths; and commitments to stakeholders (Nash, 1988). Inherent in the mission statement are answers to questions regarding the purpose of the organization; distinctive characteristics of the organization that provide competitive advantage; principal clients and customers; and the company's philosophy, values, and aspirations. By answering these questions, the mission statement guides leaders and teams in establishing the company's strategic direction and assessing performance.

Hackman and Walton (1986), Laiken (1998), and Orsburn et al. (1990) found that a clear sense of what is expected and why it is important is a prerequisite condition for effective team performance. According to Yeatts and Hyten (1998), teams with clear mission statements outperform teams with no mission statements or ones that are ambiguous. Orsburn et al. (1990) stated that establishing clear boundaries provides "an operational and psychological anchor for teams" (p.24). The absence of a clear framework within which to function would make it difficult to establish measurable goals. A team would have difficulty measuring success because there would be no mission statement against which to measure performance (Katzenbach & Smith, 1993; and Myers, 1991).

The decision making process is also influenced by the team's mission statement. When deciding what course of action to follow in task completion or deciding which new projects to pursue, the team should consider which activities are more likely to help the team achieve its mission. Because the mission statement states the team's overall goal and purpose, it serves as a motivator and a positive influence on effort. (Becker-Reems, 1994; Buchholz, Roth, & Hess, 1987; and Orsburn et al. 1990).
To ensure ownership, team members should be accountable for establishing their mission statement within the framework of the organization's mission. This reserves authority for the team members to develop a statement of their direction based on their needs and expectations, while it is still aligned with the organization's strategic direction. The probability of the team honouring and following their mission statement increase if they have the authority to shape it (Hackman & Walton, 1986).

2.1.3.6 Team Goal Setting

Team effectiveness relies on goal clarity and commitment to the established goals. In effective teams, members feel responsible for team goals as well as for their own contributions to them. Members of successful teams put a tremendous effort into discussing, shaping, and agreeing upon a purpose that belongs to them both collectively and individually. Successful teams translate their common purpose into specific, measurable, and realistic performance goals. Their specific goals facilitate clear communication and help teams maintain their focus on getting results (Buchholz & Roth, 1987).

Goal theory has surfaced as an explanation for varying levels of motivation, effort, and performance (Locke, 1968; and Locke & Latham, 1990). A commitment to team and organizational goals is critical for goals to affect performance. Commitment to goals is attained when team members value the goals and perceive them as reachable (Locke & Latham, 1990). Katzenbach and Smith (1993) added that goal commitment is highest when the team sets its own goals aligned with the mission statement and values. It would appear to be most logical for the team to set its own goals, since members have the best perception of what is realistic and attainable within the organizational structure and environment within which they function. Locke and Latham (1990) disagreed, stating that goal commitment can
be equally as high if management predetermines the goals. It is assumed that the team would commit to the goals, because management holds legitimate position power and because the goals provide clear standards. This would perhaps be the case under the following conditions: strong management-employee relations; the team’s perception of management as credible; and management’s expertise in setting clear, realistic, and measurable goals. Perhaps joint responsibility for goal setting and monitoring the process would be beneficial, so that the perspectives of both management and team members can be incorporated.

There is an extensive body of research comparing teams that are proactive goal-setters and teams for whom goal setting is not mandatory. Clear, measurable goals shared by team members that challenge the team’s skills and abilities lead to greater outputs than ill-defined goals or the absence of goals (Ilgen & Klein, 1988; Manz & Sims, 1989; and Weldon & Weingard, 1993). With clear goals, there is little ambiguity about what tasks need to be completed. As a result, team members require less time clarifying the expected outcome and the appropriate course of action. According to Orsburn et al. (1990) and Becker-Reems (1994), when goals are absent or not clearly stated, team members consume significant amounts of time trying to comprehend the goal instead of focusing on task completion. Goals that are perceived as challenging have been found to result in higher levels of effort than easy ones, because the team will strive to obtain the goals until they are achieved or until the team decides to change its direction (Sims & Lorenzi, 1992).

2.1.3.7 Team Norms

Effective teams are also identifiable by the clearly established norms that they set in the early stages of their interaction. According to Steers (1981), norms are the standards shared by team members that guide their behaviour. Norms help the team communicate to members
which behaviours are considered acceptable and help the team monitor and control behaviours so that they are aligned with the team’s standards. According to Cohen (1994), the team’s ability to regulate member behaviour is restricted without norms that have been established and accepted by the team. Cohen (1994) reported that self-managed work teams are more likely to have more comprehensive norms than other groups, consequently enabling them to more effectively regulate member behaviors. According to Cohen, Ledford, and Spreitzer (1986), few studies have been conducted on the degree to which team effectiveness is influenced by norms.

However, there has been documentation of the types of norms commonly established by teams. Research by Yeatts and Hyten (1998) found that successful teams set norms for open communication and ongoing training. Ephross and Vassil (1988) found that the high levels of cooperation found in effective teams can be traced to norms that encourage members to regularly exchange information, respect each other’s opinions, freely exchange resources and encourage interdependence during task completion. According to Cohen and Denison (1990) and Larson and LaFasto (1989), team self-efficacy, that is the team’s belief that they can be effective, also influences performance.

2.1.3.8 Performance Assessment

High performing teams not only establish clear and concise performance goals, but they also develop procedures for regularly monitoring their success at achieving their goals. They acknowledge strengths in their performance so that they can continue the behaviours that lead to their success, and they identify areas for improvements. By monitoring their own performance, they take ownership of both the problem and the solution. According to Becker-Reems (1994), performance assessment results in better focusing of team efforts,
talents, resources, and procedures because the team is routinely evaluating whether its current work processes are resulting in high performance. According to Orsborn et al. (1990), highly effective teams constantly restructure work processes and communication channels so that there is greater efficiency in reaching performance standards. As more advanced technology emerges and more current trends surface, teams need to reassess their work practices to determine if there is a more efficient way to complete tasks.

High performing teams need to be trained in performance assessment procedures so that they develop the skills to effectively monitor and revise their work (Becker-Reems, 1994). Sink and Tuttle (1989) and Meyer (1994) developed assessment tools for gauging the achievement of performance goals. Common to their measurement tools are feedback mechanisms and strategies for problem solving. Without these measurement tools, teams would experience difficulties determining the impact of their performance on task completion.

Teams can seek out data on their performance without relying on another level of management to supply it. Given that one philosophy of teams is to empower employees, the ability to monitor their own performance data seems to be inherent in that empowerment. Therefore, a valid and comprehensive performance measurement system is essential for team success, and access to the data for purposes of feedback is a key to team empowerment. As Zigon (1995) stated, performance feedback facilitates self-management, because it enables the team to solve many problems on its own without management intervention.

2.1.3.9 Training and Development

One of the most integral ingredients for team success is ongoing training and development. To ensure that employees function to their full potential within work teams,
ongoing training and development is imperative. Employees need the tools and the training to work in a way that is conducive with the values of high involvement.

According to Belcourt (1996), training is the continuous process of acquiring the knowledge, skills, and abilities to complete the multitude of tasks that are assigned to teams. Belcourt explained that learning is organic, that is, it is a way of organizational life, not an imposed process for achieving higher standards.

Training has been identified as the key process that equips team members with the skills, abilities, and knowledge to meet and exceed performance standards (Becker-Reems, 1994; and Johnson & Johnson, 1994). Because teams, in general, are expected to apply a broader range of skills than employees in more traditional work settings, they require more extensive, ongoing training (Hackman & Oldham, 1980; Laiken, 1998; and Lawler, 1986). Yeatts and Hyten (1998) observed that teams experiencing interpersonal and work processing difficulties were exposed to insufficient education and training to prepare them for team interaction and task completion. Wellins and George (1991) identified inadequate training and development as the primary inhibitor to effective team implementation.

The type of training that should be provided to teams is determined by the roles the team performs and the tasks to be completed. Because of the constant changes that teams experience as they move through various stages of development, a comprehensive training program that enables them to manage these transitions is mandatory (Orsburn et al. 1990). The kind of training that should be provided is dependent upon the needs of team members at each stage, and should be delivered at a pace which allows learners to integrate key concepts prior to tackling more challenging skills. Included in all team training, according to Orsburn et al. (1990), should be extensive development of technical, administrative, and interpersonal
skills. Especially critical for team success is interpersonal development which includes problem solving, conflict management, and collaborative task completion. According to Orsburn et al. (1990), training managers to manage the transition to work teams is equally critical to the success of the team. As both parties move from one stage to the next they can voice the difficulties they experience and can work on solutions to manage the challenges faced. As both management and team members work co-operatively to solve problems, the management-employee relationship may be enhanced.

According to Katzenbach and Smith (1993), team training can be organized into four areas: technical, interpersonal, management, and problem solving. Technical training is needed so that the team can produce the product or provide service according to the organization's specifications. Interpersonal skills are critical to ensure that the team can communicate, co-operate, and co-ordinate responsibilities efficiently and deal with conflict. Management development is recommended so that team members can take over some of the tasks once reserved for management. The final category of training equips the team with problem solving expertise. Training in this area should be detailed and comprehensive since few team members were expected to exercise these skills prior to joining a work team. According to Lawler (1986), problem-solving training should include strategies for problem identification, investigating possible causes, proposing solution strategies, and selecting the most proactive solution to rectify the problem.

Because multi-skilling is the norm within teams, it is imperative that cross training is provided (Fisher et al. 1995). In traditional work environments, each employee is responsible for mastering one or a few skills. Today, most teams expect that their members be multi-skilled in order to have the flexibility to complete many aspects of a task. Consequently,
cross training must be accessible in order for team members to develop competence in diverse skill areas. Stevens and Campion (1994) concurred. No team can achieve its performance potential without developing a multitude of skills in each of its members.

Overall, high performing teams receive comprehensive, ongoing training in technical and interpersonal areas. Training enables team members to develop the skills to weather the most drastic organizational changes. Swezey, Llaneras, and Salas (1989) agreed that training is essential to team success, but question the effectiveness of team training as it is presently delivered. According to Swezey et al. (1989), most team training programs lack the specific application-based strategies to help teams cope with the difficulties inherent in transitioning through the various stages of team development. More comprehensive training focused on workplace application is needed so that teams are better able to manage the realities of daily functioning. As organizational changes become the norm in our modern industrialized world, it is imperative to review and revamp team training to better equip teams to cope with ongoing change. This is an area for additional research and development.

2.2 Action Research

Since action research is a key component in the team development model presented in this dissertation, a section in the literature review should be devoted to the characteristics of action research and the action research process. This will clarify the role action research plays in the model.

2.2.1 Overview and Historical Perspective

The action research movement began in the 1940s with studies conducted by social scientists John Collier, Kurt Lewin, and William Whyte. They discovered that research
needed to be closely linked to action if organizational members were to use it to manage change. A collaborative effort was initiated between organizational members and social scientists to collect research data about an organization's functioning, to analyze it for causes of problems, and to devise and implement solutions. After implementation, further data were collected to assess the results, and the cycle of data collection and action continued. The results of action research were twofold: members of organizations were able to use research on themselves to guide action and change, and social scientists were able to study that process to derive new knowledge about group process (Whyte & Hamilton, 1964).

In the 1960s, there was a shift away from action research. Critics, such as Hodgkinson (1957), argued that action research failed to meet the criteria prescribed by traditional scientific inquiry. Action research did not reappear until the 1970s at a time when there was escalating dissatisfaction with rigidly dictated research approaches. The pinnacle of discontent was the linear approach to research in which researchers tested hypotheses, developed research models, and presented them to practitioners for application. Practitioners often struggled with the application of new practices, because these practices were dissociated from the realities faced, making assimilation of practices into their work environments unwieldy (Cassidy, 1986; and Somekh, 1995). Assimilating new procedures into their practices was challenging since practitioners had not been directly involved in the research. (Elliott, 1991).

Action research is an alternative to traditional research approaches (Pollard, 1988). In action research the accountability for bringing about changes to practice rests with practitioners. Lewin (1946) contended that the most effective way to move people toward change is to actively engage them in the change process by having them define, structure, and
assess their own direction. According to Elliott (1985), it is incumbent upon practitioners to become actively involved in the development of theories and practices which arise from their concerns in order to make meaningful changes in their practice. Only through involvement in all phases of planned change will participants acknowledge and utilize research findings (Anning, 1986).

A number of definitions of action research are available in the literature (Borg, 1965; Chein, Cook, & Harding, 1948; Ebbutt, 1983; and Rapoport, 1970). Kemmis and Carr (1986) have provided the most widely accepted definition:

Action research is a form of self-reflective enquiry undertaken by participants in social situations to improve the rationality and justice of their own social or educational practices, their understanding of these practices, and the situation in which these practices are carried out. (p. 43)

According to Stenhouse (1980), action research is a systematic, continuous cycle of reflection, learning, and action-taking for change. It involves a high degree of self-reflection, as members define the issues and areas to be developed and changed, and plan the change process. Since members control the process, it is considered highly democratic.

Consequently, equality, co-operation, and independence are cultivated (Lewin, 1946). Kemmis (1983) addressed the significance of action research:

It allows participants to influence, if not determine, the conditions of their own lives and work, and collaboratively to develop critiques of social conditions which sustain dependence, inequity, or exploitation in any research enterprise, in particular, or in social life in general. (p. 179)

The capacity to chart new directions requires us to rely on what Hunt (1992) referred to as “practitioner’s experienced knowledge”. This is the wealth of accumulated knowledge from our personal experiences that formulate our implicit theories and guide our actions. Hunt encouraged practitioners to capitalize on knowledge gained from personal experiences,
as it is as valuable as expert knowledge attained through formal learning, and it represents the uniqueness of the human condition. Trusting our personal knowledge base to guide change adds to the richness of ideas and course of action generated through the action research process.

Somekh (1995) described action research as a revolutionary methodology which challenges traditional research approaches:

Not surprising it inspires loyalty among those who benefit from its democratic inclusiveness and practical relevance, and is subject to attack by those who value the modernist certainties of traditional research grounded in experimental design. (p. 11)

Elliott (1991) construed action research as “transformational” because it challenges the status quo and promotes collaborative inquiry and experimentation. Consequently, it is perceived as a highly liberating experience, empowering practitioners to make changes.

The social basis of action research is involvement for the purpose of change. Action research means action for both the system within which change is required, and for the people who function within that system. According to McNiff (1988), action research is a method of exploring and solving problems. Lewin (1946) saw action research as most effective in managing interpersonal difficulties, rather than dealing with the structural elements of an organization. Today, action research is used for both purposes.

Action research could make a substantial contribution to the learning organization which Senge (1990) defined as “a place where people are continually discovering how they create their reality. And how they can change it.” (p.13). Since establishing and sustaining a learning organization is dependent on the collective efforts of its organizational members, action research could play an instrumental role in engaging all members in a process of reflection, experimentation, and change.
Oja and Smulyan (1989), who have extensively studied action research, established a framework for understanding the process. They identified four basic components of action research: collaboration, focus on practical problems, emphasis on professional development, and conditions necessary for action research.

The collaborative feature of action research suggests involvement of all participants in every stage of the research process. According to Kemmis and Carr (1986), collaboration consists of jointly determining critical problems and key needs; mutually setting goals; democratically planning the research design; collecting and analyzing data; and reaching consensus on the appropriate course of action. Collectively there is a broader range of viewpoints, skills, knowledge, and experience from which to draw, and support from the team ignites risk taking and experimentation. Grundy and Kemmis (1982) coined the expression "symmetrical communication" to describe the collaboration that permeates the interaction among participants.

Action research also focuses on immediate, practical problems (Cummings & Hustle, 1986; and Ebbutt, 1985). If participants can work on initiatives that are meaningful to them and have implications for practice, then it is more likely that they will invest the necessary effort and time. Malcolm Knowles (1970), the "father of adult learning theory", described adults as "problem-centered" in their orientation to learning and requiring immediacy of application. He advises educators to create learning environments where adults engage in reflection and dialogue with colleagues in order to deal with life issues. Action research is aligned with Knowles' philosophy. It acts as a vehicle by which participants can mutually explore current dilemmas in a timely fashion and discern appropriate courses of action.
Embedded in action research is professional growth and development. The collaborative nature of action research unleashes many diverse perspectives from which participants gain new knowledge and insights. Participants learn how to clarify and analyze problems, work collectively, assess their progress, evaluate results, and manage interpersonal relationships (Oja & Smulyan, 1989). The collective experience promotes attitudinal and behavioural changes such as flexible thinking, receptivity to new ideas, heightened creativity, and confidence in managing change (Anning, 1986; Elliott, 1985; and Hodgkinson, 1957). Skills developed are applicable to immediate and future situations (Street, 1986).

The viability of action research is dependent upon a number of conditions. At the forefront, is frequent and open communication, which Cummings and Hustler (1986) stated is required to articulate clear and concise objectives, and check individual perspectives and understanding of the proposed direction. Ebbutt (1985) maintained that democratic leadership, characterized by shared responsibility and collaborative decision making, are fundamental to action research. According to Elliott (1985), these conditions would only be prevalent in a climate where management supports and encourages experimentation to liberate the work force from the status quo. The core components of action research, as identified by Oja and Smulyan (1989), would be able to flourish only if these conditions were maintained.

2.2.2 Action Research Model

The action research model focuses on planned change as a cyclical process in which initial research about the organization provides information to guide subsequent action. The results of the action are then assessed to provide further information to guide further action. This cycle of research and action involves considerable collaboration between organizational
members. It places heavy emphasis on data gathering and diagnosis prior to action planning and implementation, as well as evaluation of results after action is taken (Stenhouse, 1980).

Action research is traditionally aimed, both at helping specific organizations to implement planned change, and at developing more general knowledge that can be applied to other settings (Shani & Bushe, 1987). Although action research was originally developed to have this dual focus on change and knowledge, it has been adapted to organizational development efforts in which the major emphasis is on planned change (Schein, 1980).

The original action research model was formulated by Lewin (1946). It was based on his personal learning experiences, where he engaged in a course of action to solve a problem, analyzed the direction taken and the ramifications, and realigned his action plan to more appropriately resolve the issue. Lewin explained that action research proceeds through “spiraling cycles” of planning, execution, and fact finding in order to pinpoint a problem or situation to be changed, and the appropriate strategies to be taken. It is an organic, evolutionary process of proposing, evaluating, and modifying actions taken in order to perfect the intervention needed to solve the identified problem. Grundy and Kemmis (1982) perceived spiraling cycles as critical “to bring action research under the control of understanding, in order to develop and inform practical judgment, and in order to develop an effective critique of the situation” (p.85). Ebbutt (1985) also supported the cyclical process because feedback can be exchanged during and between cycles.

Elliott (1985) developed a five-step approach to action research based on Lewin’s model. It focused on cycles of planning, acting, observing, reflecting, and revising. Elliott adapted Lewin’s spiraling cycles to illustrate the cyclical nature of action research and to emphasize the significance of continuous reflection. The first step involves the identification and
clarification of a problem. This is followed by reconnaissance, which is similar to the process proposed by Lewin. A description of the facts of the situation and a critical analysis of the context within which the situation is housed are generated leading to the problem statement. Next, a general plan is constructed outlining the changes needed to improve the situation, followed by an action plan and resources required. A Gantt chart that delineates the scheduling of project activities from the beginning to end is developed. Specifically, it details implementation strategies and how progress will be monitored and assessed. The action plan is then implemented, periodically assessed, and modified. Continuous reflection and assessment of the process are fundamental to Elliott's model, for they result in the modifications and refinements to the originally proposed change initiative. Regular critique of work in progress is a prerequisite to the implementation of best practices.

Action research is a dynamic process that allows many different perspectives to arise, enhances understanding of complex issues that practitioners face, and brings about change based on mutual agreement.

2.3 The Myers Briggs Type Indicator

Since personality assessment is part of the theoretical framework of the team development model presented in this dissertation, a section in the literature review should be devoted to Myers-Briggs personality types. Specifically, this section will include the origins of Myers-Briggs personality types, a description of the instrument used to assess personality, uses of the Myers-Briggs in organizational settings, and the reliability and validity of the instrument.
2.3.1 Jung’s Theory of Personality Types and Description of the Instrument

Jung’s theory of personality types evolved from his hypothesis that diversities in human behaviour were caused by differences in personality and in the ways in which people perceive and judge things. He observed, “One is naturally inclined, at first, to regard such differences as mere idiosyncrasies of character peculiar to individuals. But anyone with a thorough knowledge of human nature will soon discover that the contrast is by no means a matter of isolated individual differences” (Jung, 1923, p.179). Jung proposed that behavioural differences are caused by personality differences and are both classifiable and predictable. Jung’s type theory may be described in terms of psychological constructs, which produce different personality types. Type theory assumes that each person is born with a genetic predisposition toward four of the eight functions: Extraversion/Introversion (E/I), Sensing/Intuition (S/N), Thinking/Feeling (T/F), and Judging/Perceiving (J/P). The first three behavioural dimensions originated with Jung; the fourth was added by Myers and Briggs (Myers & McCaulley, 1985).

People who are classified on one side of the scale are presumed to be qualitatively unique from those whose preferences are on the other side of the scale. People who have the same personality profile will share similarities and differences. However, within any one type there will be personal differences, and individuals will have different levels of type development.

Neither side of the dichotomy should be considered better, nor does the theory suggest that individuals will exhibit only one side of the dichotomy. Rather, individuals will demonstrate characteristics of both sides of a scale, for example thinking and feeling, but not in equal proportions. The underlying assumption, according to McCaulley (1985), is that
every person will gravitate toward one or the other pole on each of the four indices. As a result of environmental influences, one of each pair is more developed and evident in daily functioning. The core of the model is the assumption that one of the four functions will lead or be dominant over the others, and a second function will provide balance as an auxiliary. The dominant function provides the major theme for orienting one's life, that is it gives overall direction to the personality, and typically, is the one people rely on (McCaulley, 1990; and Myers & Kirby, 1994).

According to Jung (1971), it is highly unlikely that one would be able to develop all eight orientations with equal facility. The polarities are so distinct that they require directing most of one's energy to one side of the dichotomy and, therefore, taking energy away from developing the other side. Jung's intention was never to encourage people to become adept at all eight functions, but rather to be able to operate with some ease within each function. The ability to function to some degree in each of the eight domains brings more balance and flexibility to one's handling of daily situations (Jung, 1971). Hirsh and Kummerow (1989) supported this position by stating that, in order for people to be successful in business, they need to manifest behaviours typically found in each of the eight domains. As people mature, they develop a broader range of style preferences, especially if they are challenging themselves to learn in new areas.

The Myers-Briggs constructs are rooted in Jungian psychology. The 1985 manual for the MBTI stated that "the purpose of the MBTI is to make the theory of psychological types described by Jung understandable and useful in people's lives" (Myers & McCaulley, 1985, p.1). Myers specifically developed the instrument to make it possible to test and use Jung's
theory with nonclinical populations (Myers, 1962). Great efforts went into the development of the MBTI so that it would be close to the theory of types described by Jung (Myers, 1962).

However, Merenda (1991) and Pittenger (1993), disputed the degree to which Myers was successful in designing an instrument that preserves Jungian typology. Both believed that Myers made modifications to the theory that disrupted the integrity of the Jungian model. The MBTI focuses on behavioural types whereas the Jungian model is based on psychological types. Merenda and Pittenger further contended that Jung considered both conscious and unconscious responses to situations in his model, but the MBTI ignores these concepts and how they relate to dominant and auxiliary functions. There is a possibility that the MBTI may indicate a specific behavioural style, but in reality the individual may be incapable of such action when it is called for in a particular situation. According to Merenda and Pittenger, this is a serious omission and marks a major difference between the Jungian and Myers-Briggs models. Advocates of the MBTI recognized these differences. They contended that the instrument should be interpreted within the broader themes of Jungian typology and that determining personality type based on Jungian constructs is plausible using the MBTI (Garden, 1991). According to Carlson (1985), Myers-Briggs types parallel Jung's theory and have been successfully applied to many organizational settings.

McCrae and Costa (1988) recognized that the MBTI is unique among personality inventories. Its uniqueness is threefold: it is based on a respected psychological theory; it accurately measures types rather than traits; and it has an extensive audience including professionals and nonprofessionals. Devito (1985) concurred and added that the MBTI “merits serious consideration” (p. 36).
2.3.2 The Myers-Briggs Type Indicator in Organizational Settings

The MBTI is one of the most widely used personality tests in North America (Boyle, 1995; Carlyn, 1977; Devito, 1985; and Rideout & Richardson, 1989) with over fifty years of research to support it (Myers & McCaulley, 1985). Both public and private industries use the MBTI for a variety of functions including teambuilding, management development, enhancing communication, decision making, and managing organizational problems (Carpenter, Lynch, & McMahon, 1983; Coe, 1992; Fitzgerald & Kirby, 1997; Gould & Sink, 1985; Pickering, 1989; and Seeley & Seidler, 1985). According to Fitzgerald (1997):

The theory of psychological type is one of the most coherent and comprehensive theories of individual difference and individual development and has components that could make an invaluable contribution to leadership development and research. (p. 62)

Widespread use of the MBTI is evident in the counselling field where it is used for individual and group counselling, for academic guidance, and for career counselling (Carskadon, 1979; McCaulley, 1985; Myers, 1962; and Provost & Anchors, 1987). The Myers-Briggs manual includes type tables that report the academic majors and career choices for each of the personality orientations. The tables illustrate the most common personality profiles found in each field of study and each occupation (McCaulley, 1990). According to Myers (1962), there is an increased probability that career satisfaction will be experienced if the occupation one chooses makes use of one’s dominant and auxiliary functions. McCaulley (1990), however, cautioned that all sixteen types can be found in every field of study and occupation. McCaulley (1990) purported that the MBTI is most useful in the self-exploration phase of career planning where one learns about the unique qualities of his/her personality orientation and how these can be matched with career requirements.
The MBTI has also proven to be valuable to the education community. It has helped educators enhance their understanding of individual differences in learning styles and promote reflection on the development of a diverse repertoire of teaching techniques to accommodate learning differences (Lawrence, 1983; Macdaid, 1986; McCaulley & Natter, 1974; and Vogt & Holder, 1988). Studies have also been conducted linking personality orientation with aptitude, achievement, and motivation (Lawrence, 1983). Crocket and Crawford (1989) reported on the relationship between the MBTI scores of college students and their preferred academic advising style.

The MBTI has received considerable attention and use in the field of human resources management. Specifically, the application of personality type can be found in leadership training to enhance a leader's awareness of style and style differences (Barr, 1986; and Gardner, 1987); training employees to interact more effectively (Hirsh & Kummerow, 1989; Kroeger & Thueson, 1988; and Pickering, 1989); and managing conflict (Carpenter et al., 1983; and Gould & Sink, 1985).

The most popular use of the MBTI in the work place is in teambuilding. Training in this area includes awareness of one's style and style differences, and learning how to appreciate differences and see how they can be used to complement one another in team interactions (McCaulley, 1990; Myers, 1962; and Myers & McCaulley, 1985).

Rideout and Richardson (1989) designed a teambuilding model for managers which merges personality types, according to the MBTI, and male/female developmental theory. The model promotes success for team members by fostering the appreciation of male/ female differences and helping members develop the skills to manage diversities. Rideout and
Richardson stated that a combination of these two theories is an excellent way to develop a team that respects and makes productive use of its differences.

Rome (1990) reported on the use of the MBTI for teambuilding in the library field. The instrument has been successfully used as part of the teambuilding initiative for new and existing library staff and management. Staff are trained to recognize their own and others’ styles and begin to recognize people’s strengths in the completion of tasks and resolution of problems. It has also been used in facilitating change by understanding how each personality type differs in terms of managing change and by fostering change in a way that respects the diversity of styles. Rome (1990) argued that being aware of one’s style is not the salient feature in this process. What is critical is that people learn to appreciate differences and view them as strengths. Rome should proceed further in this line of thinking to promote the management of style differences which includes the process by which behaviours change so that teams can function more cohesively.

Even though training appears to be an integral feature for building cohesive teams, McMahon (1989) as cited in Coe (1992), questioned the transferability of learning about MBTI constructs from the training workshop to the work place. His observations revealed that people rarely remember their personality profile after the training session. Questions are then raised about what approaches should be used to improve the transfer of information about style and style differences from the training workshop to people’s daily lives.

There have also been studies conducted that correlate personality with leadership. According to Kroeger and Thuesen (1992), who spent ten years collecting typological data on upper management, over 90% of executives have the thinking/judging combination as part of their profile. This profile is characterized by objectivity, decisiveness, and accountability. It
would be of interest to explore the degree to which selection of candidates for leadership positions is done on the basis of thinking/judging characteristics. Do businesses have a profile of the personality type conducive to effective leadership and, as a result, exclusively hire or promote executives with thinking/judging qualities? Is selection based on personality profile done intuitively? This could possibly explain the underrepresentation of certain personality orientations at the executive level.

The research conducted by Kroeger and Thuesen (1992) was supported by Males (1983) as cited in Furnham (1992). Males reported that senior ranking British police officers were predominantly thinking/judging types. The ISTJ profile represented 38.5% of the officers; the ESTJ profile represented 29% of the officers. According to Males, subcultures surface within an organization or a profession in which people develop strong beliefs regarding the personality types best suited for various types of work. Males questioned whether people with a particular personality profile are more likely to be attracted to the police force or whether those who join the force eventually develop thinking/judging qualities as a result of the work being performed.

The MBTI databank, which contains thousands of occupational records, shows that certain personality types are consistently found with great frequency among managers and administrators (Myers & McCaulley, 1985). People in these occupations demonstrate a preference for extraversion over introversion; sensing over intuition; thinking over feeling; and judging over perceiving (Myers & McCaulley, 1985). Myers (1980) suggested that the extraversion and thinking preferences are the keys to comprehending the executive temperament. Caution, however, must be exercised when linking specific personality profiles
to occupations because occupational success is also attainable by people with different profiles.

According to Myers and McCaulley (1985), the thinking and feeling functions are the only dimensions of the MBTI in which there are gender differences. Approximately 60% of the male population in North America have the thinking function as their major orientation and approximately 65% of females have the feeling function as their dominant trait. Keirsey and Bates (1984) hypothesized that these trends are the result of cultural sanctions on the types of behaviours deemed appropriate for males and females.

Moore (1987) and Bayne (1990) reported that the most effective use of the MBTI is in the training of executives to function more effectively in their positions. The MBTI can enhance their awareness of personality styles and the effect of style on others, and help them hone qualities more aligned with effective leadership. Bayne (1990) noted that additional applications of the MBTI include the reconciliation of team differences and the facilitation of strategic planning.

Coe (1992) suggested that managers should also be trained in “typewatching” which is a term based on Jung’s (1921) theories and popularized by Kroeger and Thuesen (1992). Typewatching is the practice of observing others and forming hypotheses about their personality style based on their behaviour. If done accurately, Kroeger and Thuesen (1992) noted several advantages: it enables us to understand the behaviour of others before reacting; it helps people comprehend others which is especially beneficial during problem-solving; it enables various opinions to be voiced and differing needs to be met; and it aids in resolving conflicts by focusing attention on typological issues instead of interpersonal ones.
There appears to be some validity in typewatching, but it is still fraught with limitations. With comprehensive training, typewatching could sensitize people to style differences and enhance their tolerance for working with these differences. By being cognizant of style differences, people may be able to diffuse interpersonal conflicts by allowing diverse perspectives, needs, and ideas to surface. Instead of perceiving conflict as detrimental to team effectiveness, conflict may now be viewed as a means by which people can understand each other’s diverse perspectives on issues. This may be the essence of building and maintaining effective teams. However, typewatching provides only one myopic view of human personality. Excluded from our consideration are ethnicity, values, socio-economic factors, and other differences that, when combined, make a richer and more accurate profile of an individual. There is inherent danger in drawing widespread conclusions about personality merely based on our observations. Assuming that the sum of an individual can be found in a four-letter personality type is dangerous, as it prohibits us from managing style differences from a position of accuracy. To further ignite the danger of typewatching, it is not even based on results from the MBTI instrument. Typewatching is based solely on observations and not confirmed by MBTI results. This fosters even more erroneous assumptions about personality style.

Henderson and Nutt (1980) studied the relationship between decision making style and personality type. Participants were involved in simulated strategic planning initiatives and the results revealed that certain personality types are drawn to certain decision-making styles. Participants with an ST orientation demonstrated lower tolerance for risk taking, and participants with SF profiles were highly receptive to change and were likely to take higher risks. Nutt (1988) continued to investigate decision making patterns and personality types,
and drew the following conclusions: analytical decision-makers were represented by the ST type; charismatic decision-makers had NF profiles; consultative decision-makers were predominantly SF; and NT decision-makers were more likely involved in macro-organizational activities, such as formulating the organization's strategic direction.

In the administration of the MBTI, Kummerow (1988) heightened our awareness of an important variable that may influence MBTI scores. Kummerow suggested that the work environment within which respondents complete the MBTI might influence responses. Some people may be unintentionally responding to MBTI questions with the values of their organization in mind, and therefore, skewing their results somewhat toward behaviours that meet the organization's expectations. To minimize this outcome in this dissertation, participants were asked to complete the personality assessment according to "their shoes off response", which is a term coined by Myers and McCaulley (1985) to depict one's responses outside of the work setting.

2.3.3 Exercising Caution in the Use of the Myers-Briggs Type Indicator

Even though extensive research has been done on the MBTI, caution must be exercised when drawing conclusions that are based on personality labels. Human behaviour is highly complex and should not be oversimplified by a four-letter label. According to Rideout and Richardson (1989), categorizing people can be debilitating, as it robs us of an opportunity to appreciate individual uniqueness. Fitzgerald (1997) noted:

As with all psychological instruments, the interpreter should keep in mind that self-report from a limited number of questions, no matter how carefully validated, cannot completely describe any human being. (p. 62)

Therefore, personality type should not be used to stereotype or to criticize people. Instead, each of the sixteen types has unique strengths and it is these strengths that should be
emphasized, honed, and developed within any organizational setting. One type should never be perceived to have superior value.

According to Keirsey and Bates (1984), it is not the intention of the MBTI to label individuals, but to develop a means by which people can work with and understand personality. Misuses result from inadequate or no training in the instrument, its applications, and its limitations (Coe, 1992).

The most common misuse of the MBTI is for employee selection (Coe, 1992; and Rome 1990). The MBTI can be effectively used to confirm one’s initial perception of a job candidate, but should not be used solely for selection. There is a danger when managers ignore candidate’s learned skills as developed by education and experience in favour of a person’s personality profile. Many people have learned to work effectively outside of their personality type, and it is a gross injustice to stereotype them and make assumptions about their capabilities predominantly on the basis of MBTI scores. According to Kirby (1997), it is both impractical and unethical to rely on MBTI scores for a number of human resources interventions including selection, task assignment, promotion, downsizing, and assignment to a team. The MBTI is inept at providing information about the full potential of an individual in each personality domain.

To minimize the probability of misusing the MBTI, management should be fully trained in the application of the MBTI before administering and interpreting results, or they should not be using it. They need to be trained in how to factor in other variables when making selection decisions. According to Coe (1992), even though there is potential for misuse of the MBTI, it is still a useful instrument for teambuilding, training, and improving communication.
2.3.4 Reliability and Validity of the MBTI and the Keirsey Temperament Sorter

Both the MBTI and the Keirsey Temperament Sorter are highlighted in this section. The Keirsey Temperament Sorter replaces the MBTI as a personality assessment tool in this thesis because it is easier to both administer and evaluate the data using the Keirsey. Even though the Keirsey Temperament Sorter is the instrument of choice in this thesis, it is based on the MBTI, and for this reason a summation of the reliability and validity of the MBTI is also required.

A discussion of the reliability and validity of these instruments will indicate the degree to which they are reliable and valid assessment tools to be used in determining one's personality profile. If the first step in the model that I have designed involves assessment of one's personality, then a valid and reliable instrument needs to be administered so that accurate conclusions regarding personality and behaviour can be drawn. Steps in the model involving the management of style differences can then be accurately executed.

Although the MBTI and the Keirsey Temperament Sorter have not been used extensively in vocational research, this review of literature indicates that the instruments have acceptable reliability levels and that there is evidence of their validity as a measure of Jung's intended constructs. According to Carlson (1985):

The MBTI is a highly quantified device with distinct methods of administration, objective scoring, and for which data exists concerning norms, reliability, and validity. (p. 356)

Studies have been conducted investigating the reliability of the MBTI. The original reliability studies cited in the Myers-Briggs manual, reported split-half reliability coefficients above .80 and test-retest results indicating that 75% of the time the retest will show three or four letter combinations the same (Myers, 1962). These conclusions are similar to the results
reported by Carlyn (1977). Steele and Kelly (1976) reported test-reliabilities of the E/I, T/F, and S/N scales from .86 to .89. McCarley and Carskadon (1983) reported reliability coefficients ranging from .77 on the T/F scale and .89 on the J/P scale. Carlson (1985), one of the most prolific researchers on the MBTI, concurred with Myers’ results and concluded that the MBTI has generated satisfactory split-half and test-retest reliabilities.

Howes and Caskadon (1979) investigated MBTI scores across five-week intervals in which mood changes were manipulated. Participants in the experimental groups were given surveys that activated either heightened mood or caused depression. Reliability coefficients for the MBTI ranged from .78 to .87 across the five weeks, regardless of the participants’ mood, demonstrating stability of the MBTI. Similarly McCarley and Carskadon (1983) reported test-retest reliabilities from .77 to .89.

Since reliability estimates should be in the .80 -.90 range, the above results support the use of the MBTI as a reliable instrument for personality assessment. However, Carlson (1985) noted that additional research is critical to ensure more definitive conclusions regarding the reliability of the MBTI, especially retesting across longer intervals. This would be especially beneficial research to conduct, since people may develop a broader range of style preferences as they mature and challenge themselves to learn in new areas.

Support also exists for the validity of the MBTI. Validity of the MBTI is dependent on how accurately the instrument measure the Jungian constructs. Extensive validity data have been provided by Carlson (1985); Carlyn (1977); Carskadon (1982); Carskadon and Cook (1982); Carskadon, McCarley, and McCaulley (1987); and Macdaid, McCaulley, and Kainz (1987). According to Carlson (1985), the greatest evidence of validity has been discovered on the E/I scale.
In a study by Carskadon and Cook (1982), fifty percent of the participants concluded that their MBTI personality profiles were accurate. Myers and McCaulley (1985) found that approximately 75% of participants agreed with their type scores. If there was any disagreement with the scoring it usually involved only one domain where there was a perceived low score. Ware and Yokomoto (1985) confirmed these results. Participants were asked to rate in percentages the extent to which each profile described them. The average rating of a type description as similar to one’s own MBTI score was 61.7%. According to Carlson (1989), if the MBTI enhances one’s awareness of profiles, then the perceived accuracy of these profiles is of critical importance.

Construct validity, described as “the extent to which a test may be said to measure a theoretical construct or trait” (Anastasi & Urbina, 1997, p. 126) is important for a theory-based instrument such as the MBTI. Factor analysis studies and correlations with other personality instruments and occupational interest measures have been used to demonstrate the construct validity of the MBTI.

Stricker and Ross (1964) conducted one of the original factor analyses to investigate the relationship between constructs measured by the MBTI and constructs measured by other tests. They compared the MBTI scores of 1,132 participants with their scores on the Allport-Vernon-Lindzey Study of Values. Results revealed that both instruments were measuring the same constructs.

MBTI dimensions have been found to be correlated with a variety of scales of personality and vocational interest inventories such as Holland’s Vocational Preference Inventory, the Edwards Personality Preference Survey, the Comrey Personality Scales, the Kuder Occupational Interest Survey, and the Strong-Campbell Interest Inventory (Webb,
1964). For example, extraversion was related to other measures of extraversion (Comrey, 1983), measures of outgoingness and expressions of affiliation and a desire to be with others (McCaulley, 1978). Sipps and Alexander (1987), Steeles and Kelly (1976), and Wakefield, Sasek, Brubaker, and Friedman (1976) correlated the MBTI with Eysenck’s Personality Questionnaire and reported positive results between constructs.

Studies also reported the validity between specific Myers-Briggs constructs and various traits and characteristics not scored by the instrument. Scales purporting to measure achievement correlated with a preference for thinking, and personality measures typically associated with feeling preferences included scales of concern for and interest in people (Myers, 1962). Thinking correlated with occupations in engineering and systems analysis, and feeling correlated with interests in social services (McCaulley, 198). Occupations of interest to extraverts included sales and leadership positions (Lacy, 1984). Myers and McCaulley (1985) reported that occupations requiring concentration on concepts and ideas were those preferred by introverts, and gave examples such as mathematician, physicist, and computer programmer. The sensing-intuition scale was most strongly associated with career interest (Myers & McCaulley, 1985). Sensing was associated with interest scales describing jobs requiring manual skills and jobs requiring attention to detail. Intuition was associated with interest scales describing jobs that require innovation, possibilities for growth, and opportunities to speculate about the future. Judging was linked to scales measuring responsibility and conscientiousness (Stricker & Ross, 1964) and achievement and endurance (Myers, 1962). The J/P scale correlated with fewer occupational interests, but judging types were found in the majority of management positions (Myers & McCaulley, 1985). Perceiving correlated with scales of autonomy (Myers, 1962) and flexibility (McCaulley, 1978).
Occupational scales and interests associated with perception included artistic and creative endeavors and the humanities (Myers & McCaulley, 1985).

The MBTI was also correlated with the Thomas-Kilmann Conflict Mode Instrument (Johnson, 1997). Both instruments were administered to 102 participants and results indicated that there was a correlation between conflict mode and personality type. People with a dominant feeling orientation in their profiles significantly related to accommodation in a conflict situation; extraverted individuals preferred collaboration; introverts preferred to engage in conflict avoidance; and people with a dominant thinking orientation preferred competition. Neither the S/N nor J/P scales were significantly correlated in this study. Johnson (1997) concluded that the Jungian typology was useful in explaining style preferences for managing conflict.

Studies were also conducted to determine the degree to which the Keirsey Temperament Sorter, to be used in this study, measured the same constructs as the MBTI. Tucker & Gillespie (1993) made correlational comparisons between the MBTI and the Keirsey Temperament Sorter. The MBTI was administered to 103 undergraduate psychology students and the Keirsey Temperament Sorter was administered to fifty-five of these students. Pearson correlation scores on the Keirsey Temperament Sorter with scores on E/I, S/N, T/F, and J/P, respectively, were .76, .84, .68, and .73. Using the MBTI as a reference point, 62% of participants who completed the Keirsey Temperament Sorter matched the four-letter combination, 22% changed one category, 15% changed two categories, and only 2% changed three categories. Values from .68 to .84 suggest that these two instruments were measuring the same constructs.
Research by Quinn, Lewis, and Fischer (1992) supported the findings of Tucker and Gillespie (1993). They examined whether or not the MBTI and the Keirsey Temperament Sorter measured the same underlying traits and subsequently the degree to which these instruments can be used interchangeably. The MBTI and the Keirsey Temperament Sorter were administered to 191 university students and Pearson correlation scores on E was .729; on I was .728; on S was .672; on N was .655; on T was .538; on F was .741; on J was .620; and on P was .622. All correlations were significant at the .001 level. The results validated the use of either instrument when attempting to identify an individual’s personality type.

Quinn, Lewis, and Fischer (1992) recommended the use of the Keirsey Temperament Sorter when a personality assessment inventory is needed that is both less expensive and easier to administer than the MBTI.

Reliability studies conducted by Waskel (1995) showed reliability values for the Keirsey Temperament Sorter scales as follows: .735 for the E/I scale, .888 for the S/N scale, .874 for the T/F scale, and .875 for the J/P scale.

Ruhl and Rodgers (1992) replicated the research conducted by McCarley and Carskadon (1983) in an attempt to investigate whether the MBTI or the Keirsey Temperament Sorter was more accurate. Both instruments were administered to 145 undergraduates and the results support the original study which concluded that both instruments were accurate measures of Jungian constructs. Differences did surface on the T/F score where the Keirsey Temperament Sorter was found to be less valid than the MBTI.

Overall, the research on reliability and validity provides assurance of the dependability of the MBTI and the Keirsey Temperament Sorter in determining personality type. Consequently, participants using the team development model being presented in this thesis...
will be able to work with accurate information about their own and their team members' personality profiles.

2.4 Summary of Literature Review

An extensive review of literature on factors contributing to team effectiveness, action research, and the Myers-Briggs personality types has been conducted.

The model being introduced in this thesis will add to the research that has thus far been conducted using Myers-Briggs personality types. There has been no research to test the effectiveness of a team development model that incorporates the Myers-Briggs personality types and action research. A model that enables team members to use an action research approach to explore strategies for the effective management of style differences adds a new dimension to teambuilding. According to Coe (1992), more studies should be made of the behavioural changes that emerge as a result of using Myers-Briggs personality types to build teams and solve problems. According to Myers and McCaulley (1985):

The merit of the theory underlying the MBTI is that it enables us to expect specific differences in specific people and to cope with these people and their differences more constructively than we otherwise could. (p. 11)

This is of foremost importance in my research. The model being introduced in this thesis will attempt to give teams a systematic process for discovering their own and others' personality styles, and give them a mechanism for exploring how to work more cohesively with style differences. It is only when personality differences are understood that steps can be taken to change behaviour (Coe, 1992). My research is aligned with Coe's philosophy in that the model includes a unique action research component that will allow teams to regularly assess their progress and modify behaviours accordingly.
As teamwork becomes an integral component of daily work life, the development of this model is timely. The inclusion of a personality assessment component in this model is critical to developing a cohesive team because it is an imperative first step in recognizing the similarities and differences among team members. According to Fitzgerald (1997):

Experience with effective teamwork suggests that respecting individual contributions and differences is a necessary prelude to collaboration. By giving control of results to individuals, the MBTI supports individual differences, while providing a rich nonjudgmental platform for communication about teamwork. (p. 65)

With an understanding of style differences, team members can then begin the process of managing differences so that team effectiveness can be enhanced.

The purpose of this research is to determine if a team development model that I have designed has an impact on team performance and participant satisfaction. The intent of the model is to increase people's awareness of personality style differences and help them develop strategies to more effectively work with people who are different in style. If people are aware of their own personality profiles and how they differ from others, will their understanding of style differences coupled with strategies to deal with these differences improve team functioning? It is anticipated that any organizational setting that supports and encourages the use of such a model will be contributing to the growth and development of cohesive teams. The intention of this study is to test this theory.
CHAPTER 3

METHODOLOGY

The intent of this chapter is to summarize the methodology used to investigate the research questions posed in this dissertation. Included will be the following topics: the purpose of the study, general research design, demographic profile of the participants, instruments used, data collection procedures, and an overview of the data analysis methods. Also included will be the investigator's rationale for the courses of action taken.

3.1 Purpose of the Study

The purpose of this study was to explore the following research question:

Will a team development model designed to help people develop strategies to manage personality style differences amongst team members have an impact on team performance and satisfaction?

Two subsidiary questions originating from the primary research question were also worthy of investigation:

1. How does an awareness of one's personality style and style differences help us adjust to team members with different personality styles?

2. What are the components of an effective training program to help team members manage style differences and work more cohesively?

The primary research question was investigated through the experimental method; the subsidiary questions were addressed through focus group interviews.
3.2 Overview of the Research Approach

3.2.1 The Experimental Method

In the experimental method, the investigator systematically manipulates the independent variable and measures its effect on the dependent variable. According to Gay (1987), the independent variable is the special treatment presumed to make a difference and the dependent variable is the resulting behaviour or outcome stemming from exposure to the independent variable. Attempts are made to hold other variables constant during the experiment so that they do not interfere with the variables being investigated. The investigator is then able to conclude with some degree of confidence that changes in the dependent variable are presumed to have been caused by the independent variable. The primary advantage of the experimental method is that it allows the investigator to determine cause and effect relationships among variables (Cooper & Schindler, 1998). According to Gay (1987), it is the most effective research method for testing cause and effect relationships.

In this study, the independent variable was the team development model and the dependent variables were team performance and participant satisfaction. The team development model is depicted in Figure 3.1.

In order to determine whether the model produced any changes in team performance and satisfaction, the results of two kinds of groups were compared: the control groups and the experimental groups. Only the experimental groups were exposed to the model, allowing the investigator to compare the experimental and control groups to determine the magnitude of the effect produced by the independent variable. Measuring the dependent variables of the control groups allowed the investigator to rule out any
Figure 3.1 The Team Development Model
normal fluctuations that might have occurred naturally in the absence of the model. The comparison of experimental and control groups gave the researcher greater confidence in ascertaining the degree to which the model heightened team performance and participant satisfaction.

Participants were randomly assigned to control and experimental groups; that is, no predetermined criteria were used in the grouping of participants. In this study, random sampling permitted heterogeneity to surface in team composition. It allowed not only a mix of personality profiles but also diversity in gender, race, culture, and socio-economic backgrounds to permeate the teams. This augmented the generalizability of the research findings since the composition of the research teams was representative of the diversity found in teams within organizations.

In total, there were ten teams in the control condition and fourteen teams in the experimental condition. The majority of teams consisted of five participants but, in some cases, there were four or six members. The numbers per team varied depending on how many participants were available for grouping.

Participants were not informed at the onset of this study whether they were part of the control or experimental condition. This reduced the probability of the self-fulfilling prophecy skewing the results, that is, participants engaging in behaviours and making comments to substantiate the relationship between the team development model and both participant satisfaction and team performance.

To complement the experimental methodology, focus group interviews were conducted with a sub-sample of participants from the control and experimental groups in
order to explore the subsidiary questions presented earlier in this chapter. Details regarding the focus group interventions appear later in this chapter.

3.3 Demographic Profile of the Research Participants

A total of 118 people from the Durham and Scarborough regions participated in this study. The sample population consisted of 68 females and 50 males representing a variety of professional disciplines from different business sectors. Participants ranged in age from 21 to 65. A representative sample of the business community was sought in order to test the transferability of the investigator's model to various professional disciplines and organizational settings.

The Durham and Scarborough regions were targeted for three reasons. First, the investigator resides in the Durham region, allowing for ease of travel while engaged in extensive data collection. Second, the investigator has substantial business contacts with professionals in these regions that made for ease of entering and contracting for the collection of data, and provided access to prospective participants. Finally, Scarborough was perceived as an ideal region from which to acquire participants because of its strong ethnic representation. Scarborough's ethnic variability surpasses that of the Durham region, allowing for more pervasive minority representation in the research teams.

The participants were briefed on the purpose of the research, procedures to be followed, time requirements, benefits of participation, and the precautions to be taken by the investigator to maintain confidentiality throughout the data collection process and in the reporting of data. They were informed that data would be made available only to the investigator and her thesis committee and that all data would be kept locked and in the possession of the investigator. Data were being gathered exclusively for research
purposes and would be destroyed a year after the thesis has been completed. Participants were at liberty to withdraw from the study at any time with assurances that any data collected from them would be destroyed. In the research paper, pseudonyms would replace actual names of participants in order to preserve anonymity. All data would be presented in terms of group statistics and thematic information.

A letter was distributed to potential participants seeking their involvement in this study and presenting the criteria outlined above (Appendix A).

3.4 Data Collection Procedures

3.4.1 Research Approval

Because this study required the use of human participants, an ethical review of the research design and procedures was conducted. Approval was granted by the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT) in March 1999.

In order to use the instruments cited later in this chapter, permission had to be attained from a number of sources. Approval was granted in December 1998 by the Prometheus Nemesis Book Company in Del Mar, California to use the Keirsey Temperament Sorter, and from Addison-Wesley Publishing Company to use William Dyer’s Team Development Scale to measure participant satisfaction. In January 1999, Pfeiffer and Jones consented to the use of experiential exercises from their sourcebooks. As discussed earlier, written approval was also attained from the participants prior to their involvement in this study.

The investigator is also qualified to administer and interpret the Myers-Briggs Personality Inventory and has facilitated training sessions using both the MBTI and the Keirsey Temperament Sorter.
3.4.2 Pilot Study

Prior to the official collection of data that commenced in May 1999, a pilot study was conducted. According to Cooper & Schindler (1998), pilot studies are intended to reveal weaknesses in both the design and instruments, and identify improper extraneous conditions. The pilot study in this dissertation enabled the researcher to rehearse the facilitation of the 8-step team development model, to make modifications to the proposed procedures, and to refine the questions to be addressed in focus group interviews. It also helped to establish the timelines for team activities and built the investigator’s confidence in facilitating the process.

Questions asked and issues raised by the participants in the pilot study helped to clarify the instructions for the model.

Twenty participants from the investigator’s place of employment were involved in the pilot study. Results from the pilot study were used exclusively for pre-testing purposes and none of the data appear in the final data analysis.

3.4.3 Control Groups

In the first meeting with the control groups, they were introduced to a two-hour placebo training session on “Business Trends”. This was done to ensure that the experimental and control groups spent the same amount of time together as a group, so that the variable of time did not influence the final team performance and satisfaction results.

The control groups participated in four team activities administered weekly over a four-week period. Activities were from the Pfeiffer and Jones series of experiential exercises and included: Lost in the Wilderness, NASA Moon Survival, Characteristics of
Effective Leadership, and Conflict Styles (Appendix B). Two of the exercises required participants to reflect on brief case studies and select the appropriate multiple-choice options. The other two exercises required participants to rank order items in order of importance. They were leaderless team exercises; that is, no leader was elected or assigned and members were expected to share the responsibility for managing the team’s direction.

Diverse exercises were chosen in order to appeal to a variety of individual interests and to sustain participant interest during the four-week period.

Team members individually completed each exercise and then worked in a five-member team to reach consensus on the correct answers. Instructions on how to complete the exercises were provided as were consensus-reaching guidelines to aid team decision-making (Appendix C).

The composition of the five-member teams remained the same during the entire study. Under no circumstances were participants permitted to join another team already in progress. To preserve the benefits of random sampling and to compare each team’s performance and satisfaction over a prolonged period of time, the participants needed to remain in their originally assigned teams.

A time restriction of forty minutes had been imposed on team consensus-seeking so that each meeting with the teams would not exceed two hours. Upon completion of each exercise, the investigator led the teams through the scoring process and debriefed the teams.

The exercises were scored using “group effectiveness” criteria established by Pfeiffer and Jones. First, team members calculated their individual score, and then
computed the average individual score of each five-member team. These scores represented individual competency on the exercise before grouping with others to share knowledge and experience and reach consensus on the correct responses. The average individual score of each five-member team was then compared to their overall team score. The team score represented the team's collective competency on the exercise. A positive score, meaning the overall team score was higher than the average individual score, depicted "team effectiveness". Teams were able to attain a higher number of correct answers on the exercise than individuals working on their own. A negative score, meaning the average individual score was higher than the overall team score, represented "team ineffectiveness". Team members attained higher scores on their own than in teams. This was the mechanism by which the investigator determined team performance, one of the dependent variables being measured in this study. The criteria for determining team effectiveness appear in Appendix D.

In order to measure participant satisfaction, the second dependent variable being measured, the Team Development Scale was administered. Team members rated their satisfaction with their five-member team (Appendix E).

Prior to completing the survey, team members were requested to return to their original seats. This offered them privacy in answering questions, which, consequently, would increase honest disclosure. Participants were also asked to refrain from discussing their experiences during the study. Discussions could potentially affect participants' perceptions of the process, which may be reflected in survey responses. The survey responses from both the control and experimental groups were compared to determine if there was any statistically significant difference in the groups' satisfaction.
After each of the four exercises, team performance scores were calculated and surveys were completed.

Participants were fully debriefed on the purpose of the study and encouraged to express their views after the fourth exercise.

Each exercise, including instructions and debriefing, took approximately two hours to facilitate. On occasion, the length of time varied depending on the number of questions that needed to be addressed.

The procedures applied to the control groups appear in Figure 3.2.

3.4.4 Experimental Groups

The experimental groups were exposed to the same conditions and procedures as the control groups. They were randomly assigned to five-member teams and were told they would be participating in four team exercises to be administered in one-week intervals. They would remain with the same five-member team for the entire study. The only difference was that the experimental groups were introduced to the team development model based on Myers-Briggs personality types and action research.

The team development model, which was exclusively administered to the experimental groups, served as the independent variable in this study. The control groups were not introduced to the model, so that the investigator could compare the team performance and satisfaction levels between the experimental and control groups to see if the model had an impact on these two variables. The control groups served as the benchmark against which the results from the experimental groups were measured.

The procedures applied to the experimental groups appear in Figure 3.3.
<table>
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<tr>
<th>Step</th>
<th>Description</th>
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| Step 1: | Two hour “Placebo Training Session” on “Trends in Business”  
This session will serve as a placebo. The experimental and control groups spend the same amount of time together as a group so that this variable does not influence the final team performance and satisfaction results. |
| Step 2: | Administration of first self-directed task from Pfeiffer and Jones  
Exercise – Lost in the Wilderness  
Administration of instruments to assess team performance and participant satisfaction. |
| Step 3: | Administration of second self-directed task from Pfeiffer and Jones  
Exercise – NASA Moon Survival  
Administration of instruments to assess team performance and participant satisfaction. |
| Step 4: | Administration of third self-directed task from Pfeiffer and Jones  
Exercise – Characteristics of Effective Leadership  
Administration of instruments to assess team performance and participant satisfaction. |
| Step 5: | Administration of fourth self-directed task from Pfeiffer and Jones  
Exercise – Conflict Styles  
Administration of instruments to assess team performance and participant satisfaction. |
| Step 6: | Debriefing on purpose of the study |

Figure 3.2 Procedures applied to the control groups
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<thead>
<tr>
<th>Step 1: Personality Assessment – Discovering Your Personality Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration and scoring of the Keirsey Temperament Sorter.</td>
</tr>
<tr>
<td>Personality profiles generated for each participant.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2: Reflecting on your Personality Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five-member teams share their results/observations about the personality assessment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3: Training on Myers-Briggs Personality Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teams are introduced to Myers-Briggs personality types with specific focus on the similarities and differences between the type profiles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 4: Development of a Team Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each five-member team is to develop its own unique action plan that outlines the behaviours that they want to see demonstrated in their team when they are working effectively (i.e. effectively managing personality style differences).</td>
</tr>
<tr>
<td>Prior to working on any team activity, the team action plan should be developed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 5: Team Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment of self-directed task from Pfeiffer and Jones</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 6: Assessment of Team Performance and Participant Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration of instruments to assess team performance and participant satisfaction.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 7: Assessment of Team’s Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to each team meeting, members are to collectively discuss the degree to which their action plan is serving as a vehicle to team effectiveness.</td>
</tr>
<tr>
<td>Recognize progress and return to Step 4 if team agrees that changes to the action plan are warranted. Team is to continue revising the action plan until it accurately reflects behaviours that will lead to their team’s effectiveness.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 8: Final Team Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>After teams have completed all four of the experiential exercises, there will be a final team assessment.</td>
</tr>
<tr>
<td>Each team is encouraged to discuss strategies for managing style differences that they found effective and ineffective, and the strategies they will try to implement and behaviours they will encourage when participating in other teams.</td>
</tr>
</tbody>
</table>

**In this study, there were a total of four experiential exercises administered to the experimental groups. After each exercise instruments to assess team performance and participant satisfaction were administered. Step 7 was followed before each of the exercises.**

---

Figure 3.3 Procedures applied to the experimental groups
The first four steps in the model were completed before the teams participated in a Pfeiffer and Jones exercise. These steps consisted of the following: an assessment of personality types, sharing of results and observations in five-member teams, a training session on style differences, and the development of a team action plan to help teams manage style differences. Steps 5 and 6 consisted of participation in the Pfeiffer and Jones exercise, scoring of team performance, and administration of the satisfaction survey. In Step 7, team members collectively discussed the degree to which their action plan served as a vehicle for team effectiveness and satisfaction. Additions, modifications, and deletions to their original action plan could be made at this time. Step 7 was repeated after each of the four Pfeiffer and Jones exercises. Step 8 was executed after the fourth exercise. It involved a final team assessment and a discussion about the transference of learning to other teams. Teams were encouraged to discuss strategies for managing style differences that they found effective and ineffective, and the strategies they will try to implement and behaviours they will encourage when participating in other teams.

The rationale for teams generating their own action plan for managing differences without facilitator intervention is based on action research principles stating that people have, within themselves, the potential and resources for mapping their own direction.

After the experimental groups participated in all four exercises, they were debriefed on the purpose of the study.

The Pfeiffer and Jones exercises referred to in this model are the same four experiential exercises administered to the control groups. The experimental groups were given the same instructions on how to complete the exercises and were given the same consensus-seeking guidelines as the control groups. After each exercise, team
performance scores were calculated and surveys were completed using identical instruments to those in the control groups.

Four experiential exercises were administered to teams in the experimental and control groups in order to ensure the replicability and generalizability of this study.

Each of these exercises was conducted in one-week intervals. This period of time between exercises allowed participants to individually reflect on their team's interactions and, because it was a relatively short interval, team members were less likely to lose their momentum. According to Campbell & Stanley (1971), a condensed period of time in which to conduct a study is desirable. They identify history as one of many threats to internal validity. The longer a study lasts, the more likely it is that external events affect participants and confuse the relationship being studied. To minimize this threat to internal validity, this study was conducted within as short a timeframe as possible without compromising data collection.

3.4.5 Focus Group Interviews

Focus group interviews were facilitated by the investigator one week after the last Pfeiffer and Jones exercise was conducted. These two hour sessions with volunteers from both the control and experimental groups enabled the investigator to explore the participants' experiences. A qualitative approach complemented the statistical analysis of results because it captured the observations, insights, and experiences of the participants. Of particular interest was how the participants from the control and experimental groups differed in their experiences of team effectiveness and participant satisfaction. Focus group participants were all volunteers who signed a consent form prior to being interviewed (Appendix F).
A series of semi-structured questions were given to both groups. Questions addressed to the experimental groups appear in Appendix G and questions directed to the control groups can be found in Appendix H. Fifteen participants from the experimental condition and eleven participants from the control condition participated in the sessions. With permission from the participants, the sessions were audiotaped and, at the conclusion of each session, the audiotapes were transcribed in preparation for the detailed analysis that would ensue. In Chapter 5 the process for analyzing data collected from the focus groups will be summarized.

Carl Rogers' (1951) client-centered approach to consulting was adopted in the facilitation of these focus groups. The Rogerian philosophy of human nature is built on the premise that people will actualize potential and move toward increased awareness, spontaneity, trust in self and others, and self-direction when a climate characterized by freedom to explore experiences is created. According to Rogers, a growth-promoting climate is established when the facilitator demonstrates genuineness, acceptance, and understanding. If these attitudes are communicated, then people will become less defensive and more receptive to sharing their experiences with others (Rogers, 1951).

In the facilitation of focus groups in this study, the investigator attempted to create a climate in which the participants felt comfortable disclosing their feelings, insights, and experiences. A non-directive approach was practiced through open-ended, non-leading questions and a non-evaluative disposition. Participants were neither judged, criticized, nor reinforced for their contributions to discussions. At no time did the investigator interject personal comments or observations. Active listening, reflection of feelings, clarification, and probing for details were part of the investigator's style. The active
listening communicated respect: reflection of feelings demonstrated empathy; and questions to seek clarification were asked to validate understanding.

The investigator was highly cognizant of the importance of establishing a climate conducive to genuine dialogue. Informal discussion was initiated at the beginning of the sessions to reduce anxiety and to stimulate discussion. A conversational interview style was used so that the sessions would not be perceived as an interrogation, but as a dialogue. Participants were never forced to self-disclosure beyond their comfort levels.

These practices moved the participants toward self-disclosure of their feelings, insights, and experiences. Participants' experiences have been summarized and interpreted in Chapter 5.

3.4.6 Minimizing Researcher Bias

Researchers may intentionally or unintentionally pose a threat to the external validity of their studies. They may bias their own results by the procedures implemented and by their behaviours when interacting with participants. For example, they may advertently or inadvertently respond more favourably to participants in the experimental groups from whom they hope to attain an outcome that supports their hypothesis.

According to Rosenthal (1966), who coined the phrase 'experimenter bias effect', bias results when the researcher's expectations influence his/ her behaviour and consequently affect the outcomes. Results can be further contaminated if the researcher knows the participants or is privy to their backgrounds. This could lead to an inaccurate assessment of their behaviour in the study.

A number of precautions were taken in order to minimize researcher bias in this study. An observer was present during the facilitation of activities in both the control and
experimental groups. The observer's role was to alert the investigator to any anomalies in the facilitation that could potentially skew results. Specifically, the observer was asked to look for any evidence that teams in the experimental condition were treated differently from teams in the control groups. This could jeopardize the ratings on the satisfaction survey. The observer met with the investigator after each team session to present his observations and recommendations.

The investigator also had limited knowledge of the participants' histories. This deterred the investigator from using any prior knowledge to formulate inaccurate judgments concerning the participants' behaviours.

In addition, sessions with the experimental and control groups were run on alternate days, that is, there were no consecutive meetings of the same groups. As well, the investigator spent approximately the same amount of time with each group. These controls minimized the possibility of developing more familiarity with one specific group which could influence the interaction and consequently the results.

Upon completion of this research, both the experimental and control groups will be given an executive summary of the results. Control group participants, if interested, will be taken through the team development model so that they can also benefit from the process.

3.5. Instruments

3.5.1 Keirsey Temperament Sorter

The first step in the team development model was the assessment of each team member's personality style. The assessment was done using the Keirsey Temperament Sorter, a simplified yet equally valid and reliable version of the Myers-Briggs Type
Indicator (MBTI) (Tucker & Gillespie, 1993; Quinn, Lewis, & Fischer, 1992; Waskel, 1995). The Keirsey Temperament Sorter was selected as the assessment tool because it is easier than the MBTI in both administration and evaluation of the data, and it is less time consuming for participants to complete.

Critical to note, is that the results from the personality assessment were not used to group participants into teams. The assessment was used exclusively to heighten awareness of differences inherent in personality profiles and to stimulate discussion on how teams can effectively manage differences. The personality profile of the participants was not a determinant of whether an individual was placed in the experimental or control group, nor should it be used beyond this study to group individuals.

The Keirsey Temperament Sorter, like the MBTI, is a self-administered questionnaire designed to elicit an individual’s preferences on four dichotomous scales or dimensions: Extraversion/Introversion, Sensing/Intuiting, Thinking/Feeling, and Judging/Perceiving. There are specific dynamic relationships among the four scales that lead to descriptions and characteristics for sixteen psychological types (Myers & McCaulley, 1985). When preferences for each side of the four dimensions are tabulated, an individual’s score is referred to in terms of a type designated by four letters representing the preferred side of all four dimensions. For example, an ESTJ profile represents preferences for extraversion, sensing, thinking, and judging.

The Keirsey Temperament Sorter consists of 70 questions employing a forced-choice format. In completing the questionnaire, the respondent chooses between two choices per item based on how he/she usually feels or acts or, in some cases, on which alternative is more appealing. All items have at least two alternatives; one alternative
reflects a particular attitude or function, and another alternative reflects the opposite attitude or function.

Some items are scored on more than one subscale, depending on the participants' responses. After the point scores for the eight variables are obtained, differences are calculated between the point scores for each pair of variables making up the personality dimensions. The preference score indicates the strength of the preferences, while the variable in the pair which has the largest point score indicates the direction of the preference.

It should be noted that each answer is scored on only one of the four scales: E/I, S/N, T/F, or J/P. None of the 70 questions pertain to more than one scale. Anastasi (1982) cites this as an advantage of the instrument compared with other instruments in the field of personality, because it clearly shows the link between the questions and the personality characteristics measured. Anastasi (1988) also noted that a forced-choice scale is rare among personality instruments.

A copy of the Keirsey Temperament Sorter and scoring key appear in Appendix I.

3.5.2 Team Development Scale

The second instrument in this study was the Team Development Scale created by William Dyer (1989) to assess participants' satisfaction with their teams. Participants completed the survey at the conclusion of each experiential exercise. Nine components of team dynamics were measured by this survey: feelings of inclusion, level of comfort, freedom to disclose feelings and opinions, decision-making approaches, goal clarity, task completion, accountability, and conflict management.
Only one modification was made to the original questionnaire. The last question pertaining to satisfaction with the team leadership was eliminated. Because the experiential exercises were leaderless, it appeared inappropriate to probe for details in this area.

Responses to each of the nine items were marked on a five-point Likert scale. Traditionally, on graphic rating scales, the number one corresponds with the lowest feeling or dissatisfaction and the number five corresponds with the highest feeling or satisfaction. Consequently, respondents are prone to the halo effect; that is, they consistently mark one particular number throughout the questionnaire once they discover that this number corresponds with their overall satisfaction with the exercise. Often respondents who discover such patterns do not read the descriptions associated with each number and, therefore the validity of the responses is questionable. In the Team Development Scale the corresponding value of each number on the scale was not constant. The value of each number was reversed throughout the questionnaire to avoid the problems inherent in most graphic rating scales. Therefore, respondents were more likely to carefully read each description on the five-point scale prior to marking their responses. This modification to the scales may have resulted in more reflective responses and therefore more valid survey results.

3.6 Preview of Data Analysis Procedures

Testing a model to help teams function more effectively lends itself to both quantitative and qualitative methodologies. A quantitative approach was used to determine if there was any statistically significant difference between the experimental groups, on which the model was tested, and on the control groups that served as a
baseline for measurement. A qualitative approach allowed the investigator to probe for details about the participants' experiences and observations that could not be ascertained from statistical testing of the data. The incorporation of both quantitative and qualitative methodologies enriched the analysis of data, because two different orientations contributed their interpretations of the effectiveness of the team development model.

Detailed explanations of the quantitative and qualitative methods of analysis and the research results appear in Chapters 4 and 5. Included in Chapter 4 is the data analysis using quantitative methodologies, and Chapter 5 includes the results and analysis using qualitative approaches.
CHAPTER 4
DATA PRESENTATION AND ANALYSIS – QUANTITATIVE METHODS

Data collected from the experiential exercises and surveys of the experimental and control groups were analyzed using quantitative methods. A battery of statistical tests was performed to draw conclusions that were not easily detectable through observation. Statistical tests revealed the degree to which there were statistically significant differences in the performance and satisfaction of participants in the experimental and control groups, ultimately leading to conclusions about the merits of the team development model.

A detailed explanation of the data collection procedures appeared in Chapter 3. The investigator recorded the team effectiveness scores and collected the surveys after each Pfeiffer and Jones task. Data were gathered from 14 experimental groups consisting of 66 participants and 10 control groups with 52 participants. The total sample size was 118. The data were coded for accurate identification and computer analysis using version 10 of SPSS, which is the Statistical Product and Service Solutions (formerly Statistical Package for the Social Sciences). SPSS was selected because of its comprehensiveness in generating inferential statistical analyses.

Within this chapter are descriptions of the data analysis procedures, results in narrative and table formats, and analysis of results. Chapter 4 addresses the primary research question about the impact of the model on team performance and participant satisfaction. The two subsidiary questions are addressed in Chapter 5, as the phraseology of these questions lends itself to qualitative analysis.

An independent researcher who was not involved in this study was asked to verify the accuracy of the data presentation and analysis. The researcher reviewed the following: the
raw data collected from the surveys, the calculations of team performance scores, coding and entry of data into SPSS, and the analysis of results. Reports confirmed the accuracy of the data presentation and analysis.

4.1 Hypotheses

The preliminary step was to state the hypotheses which identify the variables being investigated to guide the direction of the study. Hypotheses are formal statements about a population identifying key, measurable variables and their potential relationships or differences, for the purpose of empirical testing (Dubin, 1976). They state the expected relationships between the variables and serve as the basis from which the investigator collects data that either support or reject the hypotheses. According to Gay (1987):

A simply but clearly stated hypothesis makes it easier for consumers to understand, simplifies its testing, and facilitates formulation of conclusions following data analysis (p. 54)

For research purposes, hypotheses are classified as null and alternative. A null hypothesis (H₀) states that there is no relationship between the identified variables and any relationship found is due to chance. In this study, two null hypotheses were declared:

\[ H₀₁ \quad \text{There is no difference between team performance in teams that have been trained using the team development model and those teams that have not been trained using the model.} \]

\[ H₀₂ \quad \text{There is no difference between participant satisfaction in teams that have been trained using the team development model and those teams that have not been trained using the model.} \]

Opposite the null hypothesis is the alternative hypothesis (Hₐ) claiming that there is a difference between the identified variables that does not result from sampling variability. Similar to the null hypothesis, two alternative hypotheses were stated in this study. Both were
non-directional, because the investigator was uncertain about what direction the study would take, and was interested in testing whether there had been any change as a result of the treatment, regardless of the direction of change.

\( H_{a1} \) There is a difference between team performance in teams that have been trained using the team development model and those teams that have not been trained using the model. In other words, the team development model has an impact on team performance.

\( H_{a2} \) There is a difference between participant satisfaction in teams that have been trained using the team development model and those teams that have not been trained using the model. In other words, the team development model has an impact on participant satisfaction.

Hypothesis testing permits the investigator to analyze collected data and conclude which hypotheses are accepted and which are rejected. Initially, the null hypotheses are assumed to be true until evidence exists to reject them. By testing the null hypotheses against two-sided alternative hypotheses, the observed sample value is compared at either extreme of the null. The result will possibly disconfirm the null.

4.2 Data Analysis Procedures

This section describes the tests of significance applied to analyze the data collected. These data analysis techniques enabled the investigator to make statements about the probability that the stated hypotheses were congruent with the sample population.

Inferential statistics were used to test the hypotheses. They are an application of inductive reasoning for inferring from a particular sample to larger populations. Inferential statistics are used to infer from a given sample of scores on some measure, the characteristics related to the set of all possible scores from which that sample was drawn. Implicit is the
assumption that the sample was the result of random sampling. Mendenhall (1993) defends the use of inferential statistics:

In contrast to our personal, intuitive, inference making ability, statistical methods give us something that other inference making procedures do not. Not only do they make a good inference about the population, but they also give a measure of 'how good' the inference actually is. That is, they tell us how close an estimate is likely to be to a population numerical descriptive measure that we are attempting to estimate. They also tell us the chance of being wrong when we make a decision. (p. 18)

When inferential statistics are used to analyze data there is a concern about whether the results are statistically significant. Statistical significance is grounded in probability theory, and a research result is statistically significant if its probability of occurrence by chance is very low. Tests of significance are used to make statements about the confidence with which inferences can be made from the data collected from the sample to a broader population. Specifically, this type of test indicates the confidence with which we can say, for example, whether a correlation between two variables is at a level higher than chance, or whether the difference between two groups on a single variable is greater than would be expected by chance.

Since there is some degree of variability between any sample and its population, we must determine whether these variances are statistically significant or insignificant. A difference is said to have statistical significance if it does not represent random sampling error.

In this study the level of significance set by the investigator for inferring the operation of nonchance factors was .01. This is interpreted as a 1% (or 1 out of 100) probability that the results occurred by chance. By setting the level of significance at .01, there is approximately a 1% chance of making a type I error on each statistical test. In a type I error, the null hypothesis is rejected when it is actually true. The lower the rejection point, the lower the risk of making a type I error.
The goal in this study was to decide whether the results from the sample are true of the population. Statistical significance is an indication of external validity that reflects the extent to which the same or similar results would be attained from other samples of participants.

Depending on the research design, different inferential statistics are employed to analyze data. In this study, test selection was based on the scale of measurement represented by the data, the number and type of groups, and the number of independent and dependent variables. The investigator used the following techniques in this study: Pearson correlation coefficient, analysis of variance (ANOVA), t-tests, and item analysis. ANOVA compared the means of several groups at a predetermined probability level to determine if the differences represented true or chance differences. It provided the justification for t-testing to more carefully scrutinize specific means between the experimental and control groups. Since ANOVA generated the same results as t-tests, only t-tests are presented in this study.

Because the alternative hypotheses were non-directional, two-tailed tests of significance were required. Based on the tests of significance, the investigator either rejected or failed to reject the null hypotheses as an explanation for the results.

The following is a description of the statistical tests used to analyze the data and the rationale for their inclusion in this study.

4.2.1 Pearson Correlation Coefficient

The Pearson Correlation Coefficient (Pearson r) is the most frequently used correlation coefficient and is used with interval or ratio scaled data. It expresses quantitatively the degree to which two variables are related. It reveals the direction and magnitude of the relationship, with the former referring to whether the variables move in unison or opposition, and the latter reveals whether large values on one variable are associated with large values on the other.
The Pearson $r$ identifies the association between linearly related variables, which, according to Runyon & Haber (1984), is the most important requirement to justify the use of the Pearson $r$ as a measure of relationship between two variables.

The values of the correlation coefficient range between $+1.00$ and $-1.00$. Both extremes represent perfect relationships, and $0.00$ represents the absence of a relationship. Cohen (1988) states that correlations of $.10$ are small; correlations of $.30$ are moderate; and correlations of $.50$ and greater are large.

In this study, the investigator calculated a number of correlations to determine the strength of association between combinations of variables. Correlations were calculated for the following variables: satisfaction and team performance in the experimental groups; satisfaction and team performance in the control groups; satisfaction levels between the experimental and control groups; and performance scores between the experimental and control groups.

4.2.2 T-Tests for Independent Samples

T-tests evaluated the mean scores of the experimental and control groups and indicated the extent to which the difference between the groups was significant or due to chance variation in the behaviour of the groups. The sample statistics were obtained from two independent samples, that is participants were randomly assigned to either the experimental or control condition without any type of matching. Participants of the experimental groups were not related to members of the control groups in any systematic way other than they were selected from the same population. The t-test for independent samples was used to determine whether there was a significant difference between the means of two independent samples.
4.2.3 Item Analysis

Even though item analysis is not a statistical technique in the sense that the others are, it does provide value in this study. Item analysis indicates the extent to which there is a relationship between items on a test or survey. In this study, item analysis was used to determine the relationship between the answers on the surveys completed by participants after each experiential exercise. Inter-item correlations were calculated to determine the correlation between responses to the nine questions on the Team Development Scale survey.

4.3 Results and Analysis

Presented in this section are the results attained from each of the tests of significance summarized in section 4.2 and the corresponding analysis of results. Tables have been included to provide a quick, visual overview of the findings.

Table 4.1 explains the coding system used in the proceeding tables.

<table>
<thead>
<tr>
<th>Coding System</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONFSUR</td>
<td>Conflict Resolution Exercise - Survey Results</td>
</tr>
<tr>
<td>CONFPER</td>
<td>Conflict Resolution Exercise – Team Performance Scores</td>
</tr>
<tr>
<td>WILDSUR</td>
<td>Lost in the Wilderness Exercise – Survey Results</td>
</tr>
<tr>
<td>WILDPER</td>
<td>Lost in the Wilderness Exercise – Team Performance Scores</td>
</tr>
<tr>
<td>LEADSUR</td>
<td>Leadership Exercise – Survey Results</td>
</tr>
<tr>
<td>LEADPER</td>
<td>Leadership Exercise – Team Performance Scores</td>
</tr>
<tr>
<td>NASASUR</td>
<td>NASA Moon Survival Exercise – Survey Results</td>
</tr>
<tr>
<td>NASAPER</td>
<td>NASA Moon Survival Exercise – Team Performance Scores</td>
</tr>
<tr>
<td>Q1 – Q9</td>
<td>Questions #1 to #9 on Team Development Scale Survey</td>
</tr>
<tr>
<td>Treatment 1.00</td>
<td>Experimental Group</td>
</tr>
<tr>
<td>Treatment 2.00</td>
<td>Control Group</td>
</tr>
</tbody>
</table>
4.3.1 Pearson Correlation Coefficient

In order to do this calculation, the team performance score was repeated for each member of the team. All correlations between participant satisfaction and team performance were positive, indicating that as participant satisfaction increased, so did the team's performance score. High correlations between satisfaction and performance were found for all of the experiential exercises completed as part of this study. The correlations between satisfaction and performance on each of the experiential exercises were: NASA Moon Survival Exercise (.81); Leadership Exercise (.63); Conflict Resolution Exercise (.55); and Lost in the Wilderness Exercise (.53). These correlations are significant at the .01 level and Table 4.2 summarizes the results.

4.3.2 T-Tests for Independent Samples

Table 4.3 provides some descriptive statistics for satisfaction survey results and team performance scores including the number of participants in each treatment condition, mean, and standard deviation. Mean scores for participant satisfaction and team performance were consistently higher in the experimental group (treatment 1.00) than in the control group (treatment 2.00). The greatest variance was found in the following areas: NASA Moon Survival performance scores, where the experimental group mean was 17.05 and the control group mean was -2.25; and the Leadership performance scores, where the experimental group mean was 7.11 and the control group mean was -.35. In relation to this study, higher means for the experimental groups indicate higher levels of participant satisfaction and higher performance scores on the experiential exercises.
Table 4.2  Summary of Correlations between Participant Satisfaction and Team Performance of Experimental and Control Groups

<table>
<thead>
<tr>
<th>LEADSUR</th>
<th>NASASUR</th>
<th>CONFSUR</th>
<th>CONFPER</th>
<th>WILDSUR</th>
<th>WILDPER</th>
<th>LEADPER</th>
<th>NASAPER</th>
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<tbody>
<tr>
<td>LEADSUR Pearson Correlation</td>
<td>1.000***</td>
<td>.914**</td>
<td>.924**</td>
<td>.389**</td>
<td>.541**</td>
<td>.501**</td>
<td>.626**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
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<tr>
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<td>118</td>
</tr>
<tr>
<td>NASASUR Pearson Correlation</td>
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<td>.369**</td>
<td>.695**</td>
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<tr>
<td>CONFSUR Pearson Correlation</td>
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<td>.872**</td>
<td>1.000</td>
<td>.554**</td>
<td>.620**</td>
<td>.587**</td>
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<tr>
<td>CONFPER Pearson Correlation</td>
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<td>.300**</td>
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<tr>
<td>WILDSUR Pearson Correlation</td>
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<td>.236**</td>
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<td>.445**</td>
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**. Correlation is significant at the 0.01 level (2-tailed).
Table 4.3 Descriptive Statistics for T-Test: Sample Size, Mean, and Standard Deviation

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<th>Std. Deviation</th>
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Table 4.4 provides t-test results, first with the assumption of equal variances, using a pooled variance estimate, and below that without the assumption of equal variances, using separate variance estimates. To test if the spread of the groups differs, Levene's Test for Equality of Variances was used. The null hypothesis is that the two population variances are equal. In this study, significance levels for Levene's test were lower than .05 for the groups in the Leadership survey (.003), the Conflict Resolution survey (.002), and the Lost in the Wilderness survey (.001), meaning that the null hypothesis of equal variances should be rejected. Thus, it is not appropriate to use the pooled (equal variances assumed) test for comparing means. Focus should be put on the separate (equal variances not assumed) test for means.

The F statistic for performance on the Leadership exercise (.07), the NASA Moon Survival exercise (.90), the Conflict Resolution exercise (.26), and the Lost in the Wilderness
exercise (.12) are higher than .05 indicating that the null hypothesis of equal variances should be accepted. Consequently, it is appropriate to use the pooled (equal variances assumed) test for comparing means.

The t-values, indicating the extent to which the differences between the mean scores of the experimental and control groups were statistically significant, were extremely favourable. The mean performance and survey scores of the groups on the Conflict Resolution exercise were statistically significant at the .05 level, and the mean performance and survey scores on the remaining three exercises revealed two-tailed significance levels of .000, which is less than .001. Thus, the means are significantly different and cannot be attributed to chance. Comprehensive data for t-test for independent samples appear in Table 4.4.

4.3.3 Item Analysis

Table 4.5 depicts moderate to high correlations between the nine questions on the Team Development Scale that was used in this study to measure participant satisfaction. All correlations were positive, fell between .76 and .52, and were statistically significant at the .01 level. The highest correlation (.76) between question #1 (Q1) and question #2 (Q2) indicated that as perceptions for how safe it is in the team “to be at ease, relaxed, and myself” increased, so did “feeling a real part of the team”. Results also revealed a correlation of .69 between question #6 (Q6) and question #7 (Q7), which showed that there was a relationship between meaningful and clearly understood goals, and the ability to recognize and satisfactorily work through conflict. Question #6 (Q6) and question #9 (Q9) were correlated at an “r” value of .69 indicating a link between team goals and perceptions that “the team works well and achieves definite progress”. For more details regarding the correlations between other questions, consult Table 4.5.
### Table 4.4 T-Tests for Independent Samples

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Table 4.5  Item Analysis for Participants' Survey Responses on the Team Development Scale

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** Correlation is significant at the 0.01 level (2-tailed).
4.4 Discussion of Results from Quantitative Analysis

Statistical testing of the data attained from the experimental and control groups has been conducted, and enables the investigator to address the primary research question posed in this study:

Will a team development model designed to help people develop strategies to manage personality style differences amongst team members have an impact on team performance and participant satisfaction?

After analyzing the data, conclusions can be drawn about rejecting or failing to reject the null hypotheses, which state that no relationship between the identified variables exists. Results from all the tests were favourable, indicating that, in the majority of cases, experimental groups had higher performance scores on the experiential exercises and experienced greater satisfaction, as compared to the control groups. The results were statistically significant at the .01 and .001 levels indicating that there is a less than 1% probability that the results occurred by chance. There is less than a 1% chance of making a type 1 error on each statistical test. Given these results, the null hypotheses can be rejected and the alternative hypotheses, stating that there is a difference between the identified variables that does not result from sampling error, can be accepted. Specifically, the acceptance of the alternative hypotheses means that there appears to be a difference between team performance and participant satisfaction in teams that have been trained using the team development model, and those teams that have not been trained using the model. In other words, the team development model appears to have an impact on team performance and participant satisfaction.

The action plan built into the team development model may explain the high satisfaction
and performance scores attained by teams in the experimental condition. The action planning process is a built-in focus group session enabling team members to discuss their effectiveness in managing personality style differences, and to chart strategies for managing differences and resolving difficulties that may interfere with performance. This opportunity to voice concerns and work toward minimizing performance barriers may have decreased the probability of problems festering and eventually eroding satisfaction and performance. These focus group discussions may have facilitated the management of team interaction and consequently, progress made in this area may have been reflected in the high satisfaction and performance scores.

In contrast, low satisfaction and performance scores attained by teams in the control condition may be attributed to lack of exposure to the team development model. Without opportunities to discuss process-related issues, there may have been a higher probability that obstacles to team functioning were not addressed, leading to low levels of satisfaction and performance. Unresolved issues may have been reflected in the low satisfaction ratings on the surveys and, in many cases, "ineffective" performance scores on the Pfeiffer and Jones exercises.

Comments in Chapter 5 from participants in the experimental and control conditions support the hypothesis that team satisfaction and performance may be affected by focusing on process-related issues and working toward improving team functioning.

4.5 Summary of Quantitative Analysis

Inclusion of quantitative data analysis enables the investigator to make statements about the confidence with which inferences can be made from the data collected from the sample to a broader population. Tests of significance indicate the extent to which we can conclude that
there is a relationship between the identified variables, and that the difference is greater than a chance difference. In this study, statistical testing of data supports the merits of the team development model in enhancing team performance and participant satisfaction.
CHAPTER 5
DATA PRESENTATION AND ANALYSIS – QUALITATIVE METHODS

The intention of this chapter is to describe the qualitative methods used to analyze data from the focus groups and to present and analyze the results. Analysis of data using qualitative methods complements the statistical analysis in Chapter 4 in answering the research questions posed in this study.

In Chapter 3 a detailed explanation of the data collection procedures was provided. Data were gathered through two-hour, semi-structured group interviews conducted in June 1999, November 1999, and February 2000 with 18 volunteers from the experimental group and 13 participants from the control group. Both groups were interviewed separately. The interviews were audiotaped to increase the probability that the investigator would accurately transcribe the data for coding and analysis.

Manual transcription of the interviews commenced two days after the focus group sessions. Verbatim narratives were generated to capture the discussions.

5.1. Data Analysis Procedures

Content analysis was conducted using the constant comparative method (Glaser & Strauss, 1967). This approach allowed for comparisons of similarities, differences, and general patterns between the experimental and control groups.

Each line of the transcripts was reviewed to determine the concepts that the data reflected. Notes and personal memos were written to demarcate personal insights, speculations, and experience, and to provide assistance in categorizing the data.
The data were coded and divided into separate categories. Open coding allowed for many categories to emerge from the data that minimized research contaminants such as preconceived notions and researcher bias. Continuous reflection on and synthesis of the data led to the emergence of themes and patterns. The themes and patterns were then clustered into major categories.

During the analysis phase, data remained in their pure state with no editing in order to preserve the participants' experiences, insights, and observations. This would ensure that the reporting of data accurately reflected the significant learnings from the event. According to Bogdan (1992):

The goal of qualitative research is to better understand human behaviour and experience; seek to grasp the processes by which people construct meaning; and to describe what those meanings are. (p. 63)

According to Spradley (1979), qualitative research should be translated so that the reader is able to comprehend the participants' experiences in the same way as the researcher.

However, a fundamental problem exists with qualitative research. There is limited protection against falsification of data and erroneous interpretation of results (Miles & Huberman, 1984). Lincoln and Guba (1985) state that the internal validity of qualitative research depends upon one's ability to demonstrate that "the interpretations are credible to the constructors of the realities" (p. 296). To minimize suspicion of inaccurate presentation and interpretation of results in this study, an independent researcher specializing in data analysis using qualitative methods was asked to verify the accuracy of the data presentation and analysis. The researcher reviewed the transcripts, the coding of data, and the themes and patterns that emerged. Reports confirmed the accuracy of the data presentation and analysis.
Also, the investigator of this study gave a copy of the findings to the focus group participants. They provided feedback that was incorporated into the final copy.

The investigator was also cognizant of balancing objectivity and subjectivity during the data collection process. According to Bogdan (1992), objective observers can be so removed from the research participants and the process that they often misinterpret the events which leads to incorrect conclusions. In order for researchers to accurately capture and document the experiences of participants they must interact with them so that they can establish a climate conducive to genuine exchange of ideas. Rogers (1951) stated that participants will experience the necessary freedom to explore topics, become less defensive, and be more receptive to disclosing personal experiences and opinions when the relationship between themselves and the investigator is characterized by genuine or authentic interaction, unconditional positive regard, and empathic understanding of their experiences and feelings. As described in Chapter 3, the Rogerian approach to interviewing was used by the investigator in this study.

However, a degree of detachment was also maintained during the data collection. There is always the risk of becoming so personally involved with the interviewees that one's emotional attachment and bias cloud the objective interpretation of data. To minimize this occurrence, journal writing about personal motivations and perceptions was done prior to commencing field work. This enabled the investigator to monitor the balance between objectivity and subjectivity. To supplement journal writing, the investigator dialogued with colleagues who offered advice on what is construed as appropriate professional distance when interacting with research participants.
5.2. Data Presentation and Analysis

In this section are the categories representing the themes that emerged from the coding of data. Direct quotations from the interviews capture the lived experiences, opinions, and insights of the focus group participants and support the investigator's conceptualization of events. To protect the identity of participants, pseudonyms have been used. A summary of the themes appears in Figure 5.1.

Figure 5.1. Content Analysis Themes.

5.2.1. Perceptions of Interview

The following is a summary of the participants' perceptions of the interview process. Questions were asked to attain feedback on the strengths of the session and areas requiring improvement. The inclusion of comments about the interview process enhances the validity
of the data collected and the credibility of the investigator. As well, it provides valuable feedback on how to improve future facilitation of focus groups.

Both the experimental and control groups described the interview climate as positive and conducive to self-disclosure. One of the factors contributing to these perceptions was the unconditional positive regard communicated by the investigator. According to the participants, there was acceptance of their contributions to the discussions that demonstrated respect for their opinions. The discussions were not contaminated with evaluation or judgment of their feelings, opinions, or experiences. The investigator neither condemned nor condoned their experiences; this would have placed stipulations on what was considered acceptable feedback. Kevin was most vocal about this:

> During the first fifteen minutes of the interview I assumed the role of an observer watching how you interacted with us. You weren’t passing judgment on our opinions and this assured me that I could express my ideas. I didn’t feel restricted or a need to conceal my opinions. It was an open, receptive environment. (Kevin, June, 1999)

For Kim, it was an empowering experience:

> It was really empowering to have you listen. I thought researchers came into these sessions telling us what they saw happening, but you didn’t. I was surprised by how the interview went. You wanted to hear about us and what we went through. It’s reaffirming to know my opinion counts. (Kim, November, 1999)

Kelly attributed her positive reaction to the interview to the fact that:

> It was an informal meeting where we could talk about our experiences with no boundaries on what you could say. I think we spoke more honestly because of it. (Kelly, June, 1999)

A couple of participants, however, found the tape recording difficult to adjust to. Their concerns surfaced, regardless of the investigator’s introductory comments explaining the purpose of audiotaping and precautions to ensure confidentiality. Some were concerned
that management would become privy to their remarks, subsequently affecting their performance appraisals. Kirsten was one of the few participants who voiced concern:

Even though I agreed to be involved in the interview, I was leery about the recorder. Who was going to hear this stuff and how will it be interpreted? Will information be leaked to my manager that I'm not a good team player and will this be held against me on my next review? (Kirsten, June, 1999)

Everything traditionally done to minimize these concerns was done in this study. The investigator assured the group that no interview information would be communicated to management and an interview summary would be given to participants for review prior to publishing the thesis. They were also reminded that pseudonyms would be used to conceal identities and, in accordance with ethical guidelines, they could withdraw from the research at any point in the process. No matter how ironclad the procedures, the investigator knows that it is idealistic to assume that one can attain 100% understanding and commitment to the research process. As a result of the investigator’s efforts, the majority expressed no difficulties with the audiotaping and participated wholeheartedly. As Dave stated:

The tape recorder was no problem! For the first few minutes we knew it was there, but once the discussions got rolling we forgot it existed! We had more than enough assurances that the information would be kept confidential and Carolin said we get to see the final draft of the interviews. The whole interview was professional. (Dave, June, 1999)

At the beginning of the interviews, mixed reactions temporarily surfaced. Responses included questioning one’s ability to offer substantial input into doctoral research, and concealing oneself behind a façade of externalized feelings in order to sound scholarly. Ryan was conscious about expressing himself:

I really wanted to participate in this interview because I had a lot to talk about. There were many revelations for me during the group work, but initially, I was feeling somewhat awkward. Would I have anything important to contribute to your research? (Ryan, February, 2000)
Laura expressed similar concerns:

It’s overwhelming when you realize that something you’re thinking and experiencing might actually be of value to someone’s research. I just hope that I sound intelligent. (Laura, November, 1999)

Bill, on the other hand, admitted that he was engaged in impression management:

I was anxious about making a good impression so I tried to use very academic, sophisticated language. It backfired on me, though. I concentrated so hard on the words that I lost the meaning of what I was trying to communicate. (Bill, November, 1999)

Kent concurred with Bill:

I was doing the same thing but I was trying to make a good impression on my colleagues. Sometimes I think people perceive me as a business neophyte because of my lack of experience. I was going to prove I can keep up in intellectual discussions. (Kent, November, 1999)

Gradually, these initial responses began to dissipate as the session progressed.

According to the participants, the investigator’s acceptance of their experiences, ability to establish a climate that did not force participation and self-disclosure, and attempts to understand their internal frame of reference helped them shed their initial apprehensions and pretenses. As a reflection of the majority’s perception, Irene poignantly stated:

When you have a chance to fully and honestly express your opinions and talk about your experiences without anyone critiquing or questioning you, it’s liberating. You loosen your defenses and your rigid perceptions and you move to a higher level of self-exploration. That’s what I have experienced today. (Irene, June, 1999)

5.2.2. Team Development

The degree to which the experimental and control groups became cohesive, integrated teams is examined under this heading. According to French and Bell (1978), team development is:
an inward look by the team at its own performance, behaviour, and culture for the purposes of dropping out dysfunctional behaviours and strengthening functional ones. (p. 115)

Documented in this section are the internal social structures of the teams and how closely they epitomize qualities of high performance teams. Emergent patterns of interaction were explored in five core areas: stages of development, team member status, communication patterns, role development, and goal setting and evaluation. These subcategories of team development are depicted in Figure 5.2. According to Cartwright and Zander (1968), leaderless team environments, like the ones in this research, are ideal for studying the synergy between team members because they must rely on their own resources and expertise to chart their direction.

Figure 5.2. Subcategories of Team Development.
5.2.2.1. Stages of Development

The five stages of group development proposed by Tuckman & Jensen (1977) are appropriate for classifying the emergent patterns of interrelationships that developed in the experimental and control groups. The stages, consisting of forming, storming, norming, performing, and adjourning, represent the evolutionary process of a team as it transitions toward a unified, fully functioning entity.

The life cycle of most teams in the control condition did not progress beyond the storming stage. Evidence of behaviour conducive to storming consisted of intragroup conflict and status differentiation that blocked alliances. Tension emerged over task and interpersonal concerns. According to Raymond:

We were constantly arguing! Very strong personalities came to the table who were more concerned about hearing themselves talk than listening to people who may have had a valuable contribution to the tasks we were working on. (Raymond, November, 1999).

Tausha recalled similar experiences:

In our group you couldn’t get through, around, over, or under the conflict! People had such extreme differences of opinion that they fought for the rightness of their ideas and condemned others. A win-lose scenario was being set up every time. It became difficult to keep your focus and enthusiasm for the group work. This was obvious in the scores we got on the team activities. They were low. (Tausha, June, 1999)

Conflict developed as individuals competed to impose their opinions on others and to become influential in the team’s status structure. Subsequently, cliques formed around areas of agreement and disagreement that led to the fragmentation of the team. Greg made an astute comment about conflict in his team:
Conflict can be so divisive. Two camps with strong leaders in our group emerged when we were working on the NASA Moon Survival game. We were divided on a number of priorities which filtered through to our group's interactions. For the next two games people followed the party line and agreed with the same people with whom they agreed on former games. It seemed as if it was too much of a risk to break from the cliques on any issue. They were firmly entrenched in our group and any deviation might arise the ire of the clique. (Greg, February, 2000)

The majority of teams in the control condition became cemented in the storming stage. Participants noted that this became their liability. They were unable to manage problems that surfaced, which prevented them from concentrating on the given tasks. Karen, who clearly comprehended the ramifications of wallowing in the storming stage, said:

We became so engrossed in conflict that instead of allowing differences to stimulate creativity we let them drown us. We couldn’t get past our differences in order to do a good job on the activities. On some days we spent more time arguing and then had to rush through the task in order to get it done. Last minute efforts gave us lousy game scores. (Karen, June, 1999)

On the other hand, teams in the experimental condition were able to handle differences in the storming stage and, eventually move to the performing stage. They credited the action plan in the model as the vehicle that helped them manage the interpersonal difficulties that emerged in the storming stage as a result of personality differences. Cortney felt strongly that the action plan helped them deal with interpersonal issues:

Instead of allowing idiosyncracies to cause us to be at loggerheads, we knew we could talk about them, their effect, and how we would work toward an amicable solution. The action plan was available for us to start drafting a list of changes we’d like to make. For example, we had different work styles. Some liked brainstorming; some preferred quiet reflection. We had to implement some guidelines to ensure that we allowed for both work styles because the conceptual thinking that happens using both approaches would help us with the task we had been given. There was never an excuse for letting yourself get upset about what’s happening in the group. We all had a voice in changing situations that we didn’t like. (Cortney, June, 1999)

Irene added:

In most of the teams I have been in, conflict brewed all the time. In this case, we had a tool that encouraged us to check-in on team progress and rectify problems. I’m sure
that this enabled us to work on the team activities with a clear focus instead of carrying baggage. Our team scores were quite good. We consistently scored in the “effective” range. (Irene, June, 1999)

In the forming stage, the majority of teams in the experimental condition engaged in role clarification, goal and agenda establishment, the development of norms, and the assimilation of a common set of expectations. The harmonizing of expectations and direction helped the teams become coordinated working units. Stacey recalled:

Our group’s success was based on the planning we did prior to launching into teamwork. We spent a lot of time reaching consensus on roles, delegating tasks, and setting our code of behaviour. (Stacey, June, 1999)

Kerri’s experiences were similar:

The first thing we did was clarify our goal and set some norms. That action plan was great. It helped us set the norms around expected behaviours if we were to reach our goals. This had a unifying effect on us. (Kerri, November, 1999)

For Tanya:

We were always clear on what was expected of us and I think this is critical to a successful team. (Tanya, November, 1999)

Experimental groups progressed to the performing stage where members played functional, interdependent roles focused on the performance of group tasks. They operated with a clear and stable structure and effectively managed complex tasks and interpersonal issues. According to Mike:

The action plan helped us understand role and norm expectations and the commitment required for strong interpersonal relations. We were then able to devote attention and effort to the group work. (Mike, November, 1999)

Their ability to work effectively was reflected in their team scores and survey results. According to Ryan:

We got amazing team scores on all four activities! When you manage the social side of the team it rubs off on the task functioning and you get great results. (Ryan, February, 2000)
Kent noted:

The high scores we got on the exercises were due to the action planning. It helped us develop skills to cooperatively handle personal problems before they disrupted the task at hand. Everything kept running smoothly. (Kent, November, 1999)

Kim’s observations of the survey results reflected the views of many participants in the experimental teams:

The positive energy in our group was strongly represented in our survey results. We interacted really well and collaborated on all major decisions. We became more cohesive during our time as a group and this was clear in our survey results. Looks like they got better. As a cohesive team we were able to fight any issues that would harm our group’s unity. (Kim, November, 1999)

However, one challenge faced by teams in the experimental condition was finding time to continually assess and refine their operations and relationships. Scott mentioned:

This action plan and the discussion accompanying it are too time consuming. Sometimes you just want to get down to work. You can’t afford to do the action plan all the time. (Scott, February, 2000)

Ted quickly interjected:

You can’t afford not to. It can be a brief discussion before working just to clarify any outstanding issues. If you don’t make the time for action planning you may start a project and have very correctable problems interfere with the quality of your work. (Ted, February, 2000)

The investigator acknowledges the investment of time and effort that is expended in the construction of an action plan and dialoguing with members about progress and modifications. In the opinion of the investigator, the action plan does have benefits in improving team efficiency and effectiveness. At the onset, teams traditionally spend more time formulating their action plans and recommending changes. Once the plan has been developed to the team’s satisfaction, then less time may be devoted to the planning process. However, this changes when new members join, goals change, and unforeseen circumstances emerge.
According to Stogdill (1972), the success of the experimental teams may be due to their effective management of maintenance and task behaviours. Task and maintenance behaviours are important in every phase of team interaction, but are emphasized differently at each phase. In order to build team cohesiveness, maintenance or relationship behaviours should be focused on during the norming stage and attention should shift to developing task behaviours during the performing stage in order to improve productivity.

5.2.2.2. Team Member Status

Status refers to the socially defined position one occupies within a team based on experience, skill, age, gender, or formal position. It signifies who controls the organization, pace, and evaluation of work (Greenberg, 1988).

Status is a motivator and has behavioural ramifications when people perceive equity or disparity between what they believe their status to be and what others perceive it to be. Status can either maximize or minimize the impact and importance of opinions and information. These dynamics can either stimulate or inhibit the flow of information.

In the experimental team an egalitarian approach to communication was practiced. Group members maintained status equity by fully utilizing each person's expertise, skills, and ideas in all aspects of team functioning. Cortney recalled:

There was full participation in establishing our team's goals and how we would proceed on each task. We relied on everyone to make a contribution to our direction based on their unique skills and knowledge. (Cortney, June, 1999)

Because of shared responsibility, alternatives generated to solve problems were more extensive and the analysis of solutions was more comprehensive. As Kent noted:

By capitalizing on the abilities of many people we bring more input to the decision process. (Kent, November, 1999)
Tanya expanded on this observation by adding:

Group input equated into more acceptance and support for decisions made. They were our decisions versus those imposed upon us by a supervisor. (Tanya, November, 1999)

According to the team members, the action planning process was key in cultivating and sustaining status equity. Guidelines for maintaining equity were built into many of the teams' action plans, reflecting inclusive behaviours in decision making, task completion, and assessment of performance. Bill reported:

We incorporated equity statements into our action plan. If we were going to learn how to work with different personalities, then it only made sense to have a guideline such as 'we work toward consensus by ensuring the inclusion of many people's ideas'. Anything that stopped this, such as a person who wanted to take a dominant role, was addressed in the action plan discussions. We would identify the problems created when one person dominates, and restate or add a new guideline that cautions people about sharing time and other resources equally amongst us. (Bill, November, 1999)

Kelly contributed a profound statement:

Diversity of any kind will only surface in its pure state if equality is respected. (Kelly, June, 1999)

Kirsten, having been in the same team as Kelly, concurred, and added:

Our action plan was loaded with references to maintaining equity. All decisions pertaining to the group work and the restructuring of the action plan belonged to the team. It was our way of helping team members feel comfortable contributing, so that we could begin the process of discovering how we can merge differences into our work. (Kirsten, June, 1999)

In several control groups, status inequities became pronounced as emergent leaders surfaced from within the ranks. Higher status team members dominated discussions and imposed decisions and courses of action based on their personal norms and expectations. Jennifer recalled:
At the beginning we were trying to put some structure to how we would work together. A dominant person who was really frustrated with the chaos stepped in to assume leadership and began to structure us. It was fine at first but then continued in every session. The dynamics in the group changed. Now it was his ideas being put forth and his solutions, and they weren't even right when we found out the answers to the activities! I liked the unstructured approach because you toss around ideas before settling on one direction that you all agree on. You own the experience. (Jennifer, November, 1999)

Status incongruence established a climate of frustration, adversely affected productivity, and bred reluctance to associate with the team. Matt’s disinterest in his team was reflected in the following statement:

I lost my motivation to give 100% to the team when she pushed her way in as a leader. Major decisions about how we’d work were being made for us. Yes, she had more experience in groups, but I thought we were supposed to be on the same level in how we operate. (Matt, June, 1999)

For Brian, the situation became increasingly unbearable:

I can’t stand working with someone who always has the right answers and gives you no time to offer another angle. There were times I just wanted to walk, but I stayed instead. I wasn’t going to make it easy for her. I was going to keep presenting the other side. (Brian, June, 1999)

Karen saw the linkages between status inequity and productivity:

I think the key reason why our scores on the exercises were in the ineffective category is because we were constantly battling a very opinionated, strong member. We often caved in to his ideas because we were so tired of arguing with him. At least we had the work done! We could have done so well if only more people had a chance to contribute. (Karen, June, 1999)

Elana made an interesting observation:

I wonder if the one male in our group held some strong stereotypes about females and decided to take the leadership role? (Elana, February, 2000)

In the teams where status disparity was prevalent, lower status members were perceived as having low credibility and reliability and were often given limited opportunities
to contribute ideas or see their suggestions implemented. This discouraged lower status members from sharing information and participating in decision making. Raymond was sensitive about his position within the team:

Maybe it was my age that caused people to see me as having little to offer the team. When I made a suggestion or offered an opinion, people talked over me and my ideas got lost. When they did hear my ideas they didn’t really respond much. I gave up and resigned myself to becoming a passive member. Let them do the work if they think they can do it without me. (Raymond, November, 1999)

For Susan, being a lower status member was discouraging:

I felt ignored a few times when I wasn’t getting any reinforcement for my ideas. I stopped trying and possibly ostracized myself even more. I knew the right answers in the conflict exercise but, I didn’t feel like participating. (Susan, November, 1999)

Higher status members would also apply pressure on those who expressed doubts about any of the team’s views or who questioned the validity of arguments supported by the majority. Those who held positions different from the dominant majority were under pressure to suppress, withhold, or modify their true feelings and beliefs in order to avoid potential conflict. Jennifer recalled how she adapted to the team:

My need to be accepted and considered an asset to the team was strong and therefore, I suppressed overt disagreement. I conformed. (Jennifer, November, 1999)

Rebecca’s experiences were similar:

When we started working I would question popular views, especially if they didn’t seem logical. On more than a few occasions I got attacked and, to avoid the embarrassment, I began to bury any unpopular views. The norm for consensus overrode the realistic appraisal of alternatives... even if they were better. (Rebecca, February, 2000)

Pressures to conform were almost nonexistent in the experimental groups. In the investigator’s opinion, highly cohesive teams have more egalitarian systems that encourage diverse member input, and as a result generate and consider more alternative solutions.

According to Keyton and Springston (1990), high levels of productivity and satisfaction are
the direct outcomes of performance-related norms such as cooperation, high output, and equity. The participative approach appears to have contributed to the cohesiveness and high levels of satisfaction and performance in the experimental teams.

5.2.2.3. Communication Patterns

Strong communication facilitates the formation of a unified, cohesive team and decreases dysfunctional interpersonal conflicts (Miner, 1984). In the patterns of communication exhibited in the experimental and control groups, there were marked differences. To illustrate the extent of these differences, two subcategories of communication are featured in this section: dialogue and feedback.

Lateral communication prevailed in the dialogue among members in the experimental teams and was discernible in the following behaviours: active listening, equal distribution of speaking time, asking questions to clarify understanding, and paraphrasing key information to confirm assumptions. Open discussions of issues and disclosure of facts, assumptions, and unsubstantiated opinions contributed to meaningful dialogue, especially during conflict. This mode of communication was a consequence of status equity which promoted interdependence and equality. According to Kerri:

One of the operating principles in our team was to promote open forum discussions where everyone had an opportunity to communicate ideas. We created an action plan that included nonjudgmental listening, clarifying assumptions, confronting problems as they arise, and equal airtime for everyone. (Kerri, November, 1999)

Tanya, one of Kerri’s teammates, added:

This was probably why we ended up working so well together. We developed clear guidelines for communication and followed them. They were really useful when we had arguments. They became the boundaries for what was considered acceptable behaviour and language. (Tanya, November, 1999)
Cliff's comment represented the opinions of many participants in the experimental condition:

The open communication that we had in our team created support and cooperation, and helped us achieve consensus more effectively. (Cliff, February, 2000)

Downward communication was apparent in the control groups. It resulted from the informal leader-subordinate roles that surfaced in response to perceived status differentials between team members. It manifested itself in unilateral decision making where the emergent leader would control discussions and advise on courses of action. This led to the following responses from control group participants:

It was really obvious who the leader was in our team. She did most of the talking and spent more time arguing for her point than trying to understand others. It was alienating. (Brian, June, 1999)

Our leader was so controlling that it made reaching agreement impossible! There was no sharing of ideas because one person was controlling everything. (Tausha, June, 1999)

No wonder we did so poorly on the teamwork. The answers only represented a few people's perspectives! (Karen, June, 1999)

I knew it was natural to have a leader come forward but I wasn't sure how we were going to regain equality in our team. (Susan, November, 1999)

Statements made in the heat of conflict polarized some teams, leaving only a few members to continue the discussion. This resulted in a decrease in the amount and quality of communication.

The more conflict that we had in our group; the fewer the participants. There were so many outstanding conflicts in our group that few people were actually participating by the last exercise. (Janet, February, 2000)

Distinct feedback systems evolved in the experimental and control groups. According to Miner (1984), feedback embodies sharing information or perceptions with others about the nature, quality, or impact of behaviour.
In general, the experimental teams more frequently exchanged positive and constructive feedback than their counterparts. Members gave positive reinforcement for astute insights and leading the team toward correct responses on the experiential activities. Constructive criticism was descriptive and impersonal. It focused on specific, observable behaviour that was changeable and linked to the team’s goals. Joanne articulated her opinion of the feedback within her team:

I think we became a strong team because we always acknowledged the efforts of our teammates, especially when someone saved the day and put some clarity to a difficult decision or broke the gridlock in our discussions. (Joanne, February, 2000)

Irene also attributed the feedback to team success:

We made a commitment to always give constructive feedback aimed at the behaviour that needed to be changed. This way we avoided people getting defensive and they channelled their energy toward making changes to align themselves with our team’s philosophy. (Irene, June, 1999)

Stacey’s comment captured the essence of feedback:

I was on the receiving end and what a great feeling to know you’re appreciated! (Stacey, June, 1999)

In contrast, the feedback given in the control teams was more negative and evaluative. As members became frustrated with team progress and interpersonal conflicts, they would direct personal criticisms at others. At times, the emotional response was so intense that members could not lucidly articulate performance problems. Consequently, accusations were often so ambiguous that the recipients of the feedback were uncertain of the corrective action to be taken. Tausha summed up her experiences, which mirrored those of other participants:
I was definitive about a few answers in the Lost in the Wilderness game and ended up leading the group in the wrong direction. It was an all out brawl! They accused me of not knowing what I was doing and making up information. They came down on me and it's just a game! This happened a couple of times. I got turned off the team. It soured my opinion of them. Instead of commending me for at least trying, they shot me down. Then, when I stopped being as vocal, they said I had a bad attitude! (Tausha, June, 1999)

Analysis of the patterns of communication leads to the conclusion that communication plays an integral role in establishing the unity found in high performance teams.

5.2.2.4. Role Development

The degree to which team members comprehended the role they played in contributing to the team’s functioning is analyzed in this section.

The action plan precipitated the definition of roles within the experimental teams. It helped establish standards of acceptable behaviour and provided an opportunity for individuals to self-critique and contemplate how they would personally contribute to the team’s success in managing personality differences. Teams diagnosed the culture and climate that was desired and determined what would be their preferred style of operating. This involved looking at the system of norms and values that determine the team’s manner of interacting, and defining the role they would individually play in attaining this target. It also meant remaining flexible and developing a full range of skills necessary to vary one’s behaviour as the direction of the team changed.

Everyone was held accountable for the success of the team. When we added criteria to our action plan we talked about how we would individually attempt to achieve the outcome. (Laura, November, 1999)

It is one of the few times in a group that I have had to think about what my role is in improving the way the group functions. (Irene, June, 1999)
In the control groups, self-reflection on one's accountability within the team was not fully explored, resulting in ill-defined roles. This was partially attributed to the dominant team members at the helm who complicated role definition. Some lower status members lost their willingness to participate in a team where there were disparities in equity and consequently, they lacked the motivation to define their role within the team. Dave summarized his experiences:

I really didn’t know what role I was to play. The more active members seemed to have all the bases covered. (Dave, June, 1999)

Some team members engaged in behaviours equivalent to “social loafing”, where full potential was not exercised. This evolved as a result of a socially developed response. The lack of credibility and respect shown to lower status individuals triggered this withdrawal. As Jennifer said:

I mentally tuned out when I realized my efforts were not being recognized. Why waste the energy? (Jennifer, November, 1999)

5.2.2.5. Goal Setting and Evaluation

The experimental teams were involved in a cycle of formulating goals, assessing progress, and modifying behaviours. Instrumental to the goal setting and evaluation process was the construction of the action plan. It enabled teams to hone specific goals and behaviours necessary to manage personality differences.

Establishing and assessing team goals stimulated motivation and commitment to the proposed direction. Team members described the ownership and autonomy they experienced in charting the team’s direction, especially, clarifying what was to be done, how well they were doing, and what could be done to improve performance. As Scott declared:
We stayed on target with the action plan. We knew exactly what was expected of us and had complete control over changes that had to be made. (Scott, February, 2000)

Kerri added:

It’s amazing how committed you are when you have control. (Kerri, November, 1999)

Successful attainment of team goals and the members’ feelings of having contributed to the success, served to enhance the commitment of members. Success also reinforced camaraderie and led to increased cohesiveness. That is, successful performance led to increased intermember attractiveness and sharing. The high degree of cohesiveness, according to the experimental teams, contributed to the high levels of performance depicted in the Pfeiffer and Jones team effectiveness scores. Kent commented:

We had a well structured plan that clearly stated what was expected of us and this was why we worked effectively. We gelled! We consistently scored well on the team games. Most times we were the top scorers! (Kent, November, 1999)

Contrary to the experimental groups’ experiences, the control groups were neither given nor did they take the initiative to develop a goal setting approach. No discussions were initiated to formulate the strategic direction of the teams or the norms and expectations for effective interaction. Teams were frozen in the status quo with performance unexamined throughout the team’s life cycle. Even when teams gained new insights that challenged initial patterns and assumptions the teams failed to act on the new information.

We didn’t know what we were doing! We were always scrambling for a way to get the work done. In hindsight, it probably would have been useful to set some parameters…some goals and structure. (Tausha, June, 1999)

What’s really pathetic is even when we got our scores we still didn’t talk about our results or what we could do to improve our performance. We just went into the next activity! (Ted, February, 2000)

In retrospect, control groups realized the value of establishing goals and behavioural norms in order to manage intragroup relations. Planning specific goals for which the team is
responsible would reduce conflicts and would contribute to the unity that many teams in the control groups never experienced.

5.2.3. Change Management

This category summarizes the participants’ experiences in change management, which is the “adaptive process for the planned development and reinforcement of strategies, structures, and processes for improving a team’s effectiveness” (Robbins, 1993, p. 328). Described are the transitions that the teams went through in an attempt to improve existing practices and behaviours.

Change management interventions occurred more frequently and more successfully in the experimental teams. They credited the action research component of the model as especially beneficial in planning and implementing change. Each team designed its own unique action plan that outlined the behaviours that they wanted to see demonstrated when they were effectively managing personality style differences. Prior to group work, they conducted a team process analysis, recognizing progress and making revisions to the action plan until it accurately depicted behaviours associated with team effectiveness. This cyclical process of evaluation and modification embedded in action research was identified by the experimental teams as the catalyst for stimulating and justifying change, and for proposing the change interventions that would be congruent.

The action plan created a dynamic for change. We generated the action plan, evaluated behaviours, and specified types of changes/improvements required. (Irene, June, 1999)

The action plan represented a proactive approach to teamwork. You keep assessing the present state and questioning whether it’s still good enough. (Kevin, June, 1999)

The control groups, which were not introduced to the action research component of the model, did not perceive that they made progress toward becoming an effective team. Instead
of appraising and improving existing practices and behaviours, participants appeared to sink into a routine permitting the status quo to become the norm. Participants shared their experiences:

Our biggest downfall was that we couldn't get out of the status quo. We just didn't know how to move beyond this state. Maybe we didn't want to. The status quo can be comfortable. It puts no demands on you but, at the same time, you don't change and change seems like it would be at the core of teams who stay competitive and progressive. (Karen, June, 1999)

We made no improvements to speak of in how we interacted or got the job done. (Raymond, November, 1999)

In the experimental condition, the action plan symbolized a collective vision of what members wanted the team to look like and how it was to function when exhibiting peak performance. It served as a reference point from which to direct the process, making change meaningful and preventing it from becoming arbitrary.

The action plan was our roadmap, identifying behaviours that we needed to demonstrate if we were going to make it as a team. (Kim, November, 1999)

We committed to our action plan. The statements were our goals and standards for evaluating our progress. (Bill, November, 1999)

It was a solid starting point for envisioning our direction. (Stacey, June, 1999)

In the control groups, no such vehicle existed for propelling and directing change. Members individually ruminated over changes without vocalizing their observations and opinions. The reluctance to generate discussion about process-related issues stemmed from the fact that this type of disclosure had not become an acceptable norm. Subsequently, some members, such as Rebecca, attempted to initiate change without the involvement of other team members.
I knew there were problems in our group but it wasn’t the right environment for talking about them. We were task focused and there was no discussion about how well we were doing or what we should do differently. On a few occasions I tried to make changes on my own in my style of communicating, but it’s really hard when only one side is working at it. (Rebecca, February, 2000)

The development and assessment of the action plan fostered member participation. Teams in the experimental condition were actively involved in all aspects of the process including goal setting, decision making, improving interactions, and appraising results. As Irene stated:

We owned the action plan and as a team solved our own problems with personality hangups and decided how to focus attention and resources on achieving our goal — to be the best team possible. We were all involved in key decisions and gained skills and knowledge about how to develop a team. (Irene, June, 1999)

Collectivism enabled the teams to generate quality changes and minimize resistance to change. Members pooled their resources, resulting in diverse perspectives and insights being considered before making decisions. Involvement in planning changes increased the likelihood that members’ needs would be incorporated and consequently, they would be more committed to implementing changes. Moreover, for people having strong needs for involvement, the very act of participation was motivating, leading to greater effort to make the changes work.

We expected success since we had invested so much energy into creating and following the action plan. When you expect success, you develop greater commitment to the change process and direct more energy into the kinds of activities needed to bring about the expected change. (Kelly, June, 1999)

Levels of involvement and participation began to wane in the control groups. Incidents provoking this outcome included interpersonal struggles, status differences, and unstructured work environments.

I tried several times to get my point across and I was ignored. Consensus works well if its honoured. (Greg, February, 2000)
We had problems listening to each other and most of the time we were fighting to get our own ideas heard. Whatever problems we had communicating were swept under the carpet. I lost interest battling for airtime. (Brian, June, 1999)

In the experimental groups, the action plan also facilitated problem solving. Dependency on formal leaders was superseded by collective responsibility for recommending effective patterns of interaction. Through experimentation and observation, members discovered appropriate strategies for managing personality differences. The self-regulatory nature of change inherent in action research was perceived as empowering.

Being able to chart our own direction gave me a feeling of autonomy. It forced us to think on our own about how to solve problems such as how to incorporate difference preferences and interests based on personality. It was a democracy. (Tanya, November, 1999)

In contrast, the control groups did not experience a democratic approach to problem solving. Some of the teams were plagued with autocratic leadership.

We were ineffective in solving problems whether they were related to group conflicts or the team activities. Our indecisiveness hurt our ratings on the team effectiveness scale. (Dave, June, 1999)

Having a leader doesn't mean everything goes well. We were proof of that! (Brian, June, 1999)

From the control groups' perspective, their experiences did not elicit participant satisfaction or quality performance.

We didn't have the best experiences. There were a lot of clashes and lack of structure which contributed to our low scores and overall disillusionment. (Tausha, June, 1999)

We would have benefited from open discussions about the process such as how to deal with conflict from things such as different work ethics. (Rebecca, February, 1999)

I would have been really interested in hearing what my group thought of our low scores on three of the exercises. (Susan, November, 1999)

Overall, the experimental teams cited the discussions surrounding the formulation of the action plan as the cornerstone of satisfaction and performance. The discussions embraced the
values of collaboration, confrontation, support, and openness. Open channels of communication encouraged dialogue pertaining to members’ personal experiences and strategies for managing personality style differences. Performance scores generated at the end of each exercise and fed back to the team were valuable in helping teams make revisions to their action plan. These data became the springboard for identifying problems and clarifying issues that were creating difficulties for people.

Some really meaningful dialogue was exchanged in our team. By conversing about our needs and expectations there was less wasted time from communication breakdown, game-playing, and win-lose confrontations. We had time and energy to really address the task in front of us and our scores showed we did a super job! (Irene, June, 1999)

We found the scoring at the end of each exercise really useful in determining the changes we had to make in our action plan to have a more functional group. If we scored lower than usual, then we would discuss what may have contributed to this and what could be changed to improve our interactions. At one time there was disagreement that wasn’t handled well, so we used our time in the next session to iron out how to deal with conflict in the future. Our guidelines for conflict resolution got incorporated into our action plan. (Cortney, June, 1999)

5.2.4. Conflict Management

Conflict management refers to approaches used to minimize problems rooted in interpersonal and task-related difficulties. Inherent in the concept are the traditionalist and interactionist views (Robbins, 1993). The former refers to incompatibility of goals and interests between individuals which creates opposition and dysfunctional performance. The source of conflict needs to be eradicated in order to improve performance. The interactionist view asserts that controversy and opposition are functional and expected behaviours awakening teams to the need for change (Robbins, 1993).

Both the experimental and control groups experienced conflict during their four-week interaction, but differed in their responses. This section describes the origins of the conflict
and the approaches used by the teams to manage conflict. The resulting consequences of the efforts are also detailed.

Variations in the sources of conflict were prevalent. In the control groups dissidence arose over status disparities, personality clashes, and different opinions. Karen recalled:

We have some pretty heated arguments. We kept clashing when an opinion was voiced. People came to this group with lots of experience. (Karen, June, 1999)

At the forefront of conflict in the experimental groups were more substantive issues such as team goals and the effectiveness and efficiency with which they were achieved. Kerri summarized conflict:

I like to think of our disagreements as healthy and productive. They were depersonalized and focused on how to reach our goals. When we had disagreements we worked through them together. No one was kept out of the process. It wasn't your conflict it was our conflict. (Kerri, November, 1999)

As stated in the team development section of this chapter, the majority of teams in the control condition did not transition beyond the storming stage of group development. They became inescapably locked in conflict which, in some cases, eroded the quality of interpersonal relations and task completion. Their interactions, at times, were antagonistic as characterized by infighting. According to Thomas (1976), who identified styles of conflict management, this is typical of “competition” where members persist in conflict until a win-lose outcome is attained. Mike described the conflict within his team:

We couldn't get out of conflict! Winning the battle became more important than working on the task. (Mike, November, 1999)

Raymond concurred:

There was a lot of bickering. No one would back down until one person won and the other one lost. (Raymond, November 1999)
To avoid dissonance some members chose to suppress opinions and ideas that deviated from the majority. Over time this became a conditioned response. It is indicative of "accommodation" where members appease others or act in a self-sacrificing manner to evade conflict (Thomas, 1976). Janet shared her experiences:

I learned to just agree with everyone. Sometimes it just isn't worth trying to win your point. Some people will never change. They will always be stubborn and think their way is the only way. (Janet, February, 2000)

Unresolved conflicts bred discontent that increased tension among members and eventually dissolved any common ties that may have developed. Tausha commented on the impact of conflict:

During our first few meetings we were in the honeymoon stage...socializing, getting to know each other, finding out what we had in common. We started to fall apart when different opinions came out during the Moon game and we couldn't reach consensus. Everyone had a different opinion on which item was the most important to our survival on the moon. There were arguments with no resolution. We walked away so many times without closure to arguments that it damaged any bonds we were beginning to build. It's too bad. We had the makings of a good group. We had things in common and we all wanted to be there! (Tausha, June, 1999)

Conflict also disrupted performance, especially when task completion became secondary to infighting. So much energy was channeled into defending positions that productivity suffered. Conflict deterred members from their task focus and this contributed to low scores on the experiential exercises.

If I had to pinpoint the key reason why we did so poorly and why I would not work with this group again, I'd have to say it boils down to the constant jockeying for power. It drained me of any interest to excel at the task. (Elana, February, 2000)

Sometimes we fought so intensely over issues that we didn't get the exercise done or we threw some answers together at the very end. So I'm not surprised we always scored low! (Brian, June, 1999)

I had an argument with one of my teammates that never got resolved. It just steamed and every once in awhile she'd make a comment that got me fired up all over again! (Jennifer, November, 1999)
This latter quotation illustrates the cyclical model of interpersonal conflict (Walton, 1978). An environmental stimulus, usually a remark made by a team member, triggers conflict but, because of the negative ramifications of allowing it to recur, the discord usually becomes latent. The same or similar stimulus continues to activate the conflict response, making it overt. According to Walton (1987), release from the cycle is possible only when there is a commitment to discovering the root cause of the reaction and developing constructive, alternative responses. To the detriment of the control groups, skills were never developed to help them manage conflict. Consequently, conflict hindered their ability to function as high performance teams.

In contrast, conflict was constructive to the functioning of teams in the experimental condition. They identified problems preventing the achievement of goals and sought mutually beneficial outcomes. Unpopular opinions and dissension were recognized and encouraged in order to consider the full range of issues and possible alternatives. Attempts were not made to force decisions or false unanimity. Consequently, similarities and differences in viewpoints became more clearly defined. This is characteristic of the collaborative approach to conflict management where members cooperatively target a win-win solution (Thomas, 1976).

Clarifying differences was the norm rather than accommodating the views of a few members. (Stacey, June, 1999)

We worked hard to understand everyone. We didn’t want to shut anyone down. Anyone could lead us to a fresh new perspective. This happened during the leadership exercise where one member rationalized the importance of ‘planning skills’ ahead of ‘being a good motivator of people’. (Scott, February, 2000)

To say we didn’t have disagreements would be wrong. Instead of trying to win a position we tried to meld both ways of thinking into our team philosophy. (Kim, November, 2000)
Once again, the action research component of the model was critical in conflict management, especially in grasping the constructive nature of conflict. This built-in mechanism for discussing process-related issues helped teams identify and agree on ways to minimize problems.

Laura shared her experiences:

Our team talked about how we were going to deal with disagreements and the benefits that come from them. We built some guidelines into our action plan...active listening to all ideas, no evaluative feedback, weighing all the evidence before making decisions. We wanted to make sure that everyone was clear on how to handle conflict. We didn’t want it to become anti-productive. (Laura, November, 1999)

Bill concurred and added:

You could vent about issues from last week like violations in the consensus reaching process, and knew that there would be a chance to resolve them. The discussions provided an outlet. (Bill, November, 1999)

Kelly also found the action plan valuable:

Knowing that there was time at the beginning of group work to assess the process was good because, during the week, I could think about areas that needed to be improved and possible solutions we could implement. This satisfied my need to inwardly focus before making any recommendations to the group. It accommodated my style of working in a team. (Kelly, June, 1999)

Participants cited benefits gained from a team culture that expects and encourages disagreement. At the forefront was the enriched quality of decisions as a result of diverse viewpoints being aired. Joanne summed up the opinions of the experimental teams:

We saw conflict for what it was...a way to hear many ideas that need to be heard before drawing a conclusion. This way we can consider all the perspectives and this makes us better decision-makers! (Joanne, February, 2000)

Conflict challenged the status quo and stimulated innovative ideas and team reassessment. Conflict prohibited complacency and apathy visible in passive agreement to courses of action and inadequate assessment of alternatives.
I enjoyed the controversy. It proved that we were looking for better ways to operate. (Kevin, June, 1999)

An environment that encourages interest and curiosity in different opinions and ideas also stimulates creativity and innovation. Many members were inspired to offer creative insights, including Ryan:

No holds barred! I came up with some great ideas (and a few that were rather far-fetched) because we could brainstorm and throw any idea on the table. There is so much more creativity that is unleashed here than in some teams I've worked with where you have to censor your ideas for fear of judgment. (Ryan, February, 2000)

The experimental teams were more effective in recognizing and utilizing resources within the team to deal with conflict. To disarm conflict, they initiated personal change strategies and consulted with team members. Team accountability for conflict management was evident in dialogue between members that was precipitated by the action research component. Members worked collectively to develop an approach to attack barriers hindering the integration of personality differences. Conflict management, as stated by Peter, was effective:

This was an unusual experience. It is not often that a team openly discloses conflicts. In the real world we usually let them cripple us to the point where we don’t want to work with these people again. I can see how important it is for us to talk about what’s happening in the group and how it personally affects us. One person has such limited resources for overcoming conflict as compared to the team. (Peter, June, 1999)

I learned that if there’s a personality clash it’s everyone’s responsibility. We need to co-exist. If a clash can potentially filter through the entire group, then we have no choice but to look at preventative measures. (Joanne, February, 2000)

Members in the control condition placed more emphasis on individual accountability for dealing with conflict. They relied on their own personal resources to strategize the changes that they needed to make in their behaviour in order to minimize conflict within the team. They did not recognize the collective responsibility of conflict management and therefore, did
not capitalize on others’ resources and insights. This often resulted in self-blaming when efforts to initiate change were defeated, leaving many conflicts void of closure.

Conflict is isolating. There’s no one to really talk to. If you say you’re having a disagreement with someone, you’re perceived as weak because you can’t handle it on your own. (Janet, February, 2000)

In general, the experimental teams were more effective in managing interpersonal and task-related conflicts. Their success appeared to be based on mutual motivation to control conflict, equity, coordinated attempts to confront conflict, and open communication channels.

5.2.5. Valuing Personality Diversity

How participants in the experimental and control groups responded to personality differences is featured here. Inquiry of this nature is salient since the investigator is studying whether the proposed model will enhance satisfaction and performance. Comparing and contrasting the groups’ experiences help ascertain the value of this model. The importance of this study is supported by Schein (1970):

Have the sensibility and diagnostic ability to be able to sense and appreciate the differences. Rather than regard the existence of differences as a painful truth to be wished away one must learn to value differences and to value the diagnostic process which reveals differences. (p. 71-72.)

Both groups encountered team members whose personalities were similar to as well as vastly different from their own. Amongst members with similar personality types, there was more dialogue; more verbal agreement; and pronounced non-verbal communication such as sitting in close proximity, eye contact during discussions, and demonstrations of agreement via head nodding. From Kerri in the experimental team:

People describe me as spontaneous and energetic and I tend to gravitate toward people who are like me. I like spontaneous, optimistic people. We have a lot in common and I enjoy the exchange of ideas. (Kerri, November, 1999)
From Rebecca in the control team:

It is easier for me to work with people who are similar. We share most of the same views and arguments are rare. For these reasons, I spend more time with people who have similar personalities because we get the work done faster and with fewer complications. (Rebecca, February, 2000)

According to Susan, who was assigned to a team in the control condition:

If you observe teams in action you can tell which members have the same personalities. They sit together, spend more time together during and after meetings, and consult more often with each other on team decisions. (Susan, November, 1999)

These quotations support existing literature on team homogeneity. Similarity breeds outcomes such as positive social interactions, decreased conflict, high levels of satisfaction, and success on projects requiring high degrees of co-operation and co-ordination (Barrick, Stewart, Neubert, & Mount, 1998).

However, in reality, teams are not composed exclusively of like-minded individuals. Heterogeneity characterizes most teams, and with it comes a multitude of challenges as well as benefits. One of the greatest struggles is harnessing and integrating divergent skills, abilities, preferences, and experiences so that they will enhance team functioning. The control groups experienced the most adversity in dealing with differences and the proceeding quotations reflect the difficulties endured.

I didn't like working with my group. We had very different work behaviours and we just didn't connect. They were very outgoing doing brainstorming and, in the process, losing many of the best ideas because nothing was being followed through! I'm more methodical in my work, needing more time to think alone about how tasks should be executed. I'm not good at brainstorming. (Matt, June, 1999)

My group accused me of being anti-team when I was quiet. Yes, I'm introverted, but that doesn't mean I'm not thinking about what we're doing. (Greg, February, 2000)

I was going to quit the team. It is near impossible for a very structured person like myself to work with procrastinators. I need an agenda, timelines, and commitment from everyone. I don't like last minute attempts to pull things through. (Elana, February, 2000)
I can’t relate to high-strung types who panic when there’s no quick fix answer. One of my teammates was so frustrated with the NASA game because she had never taken science. She automatically assumed that she knew nothing and refused to participate! If she spent more time logically thinking about it instead of irrationally jumping to conclusions we’d have more people working on the solutions and probably come up with a good score! (Brian, June, 1999)

I can tell just by looking at someone if I’m going to be able to work with them. It’s a gut feeling. (Rebecca, February, 2000)

The experimental groups were more adept at adapting to variations in personality. Two components of the team development model enabled them to develop competency in this area: personality assessment using the Keirsey Temperament Sorter, and the training session introducing them to Myers-Briggs personality types. They provided team members with increased awareness of their own personality styles and how others perceive them; greater sensitivity to the styles of others; and increased comprehension of team processes and interactions.

Working with the Myers-Briggs eroded some of the attitudes and stereotypes I have of others, especially my misunderstanding of extraverts and introverts. I started to appreciate differences and realize that my way of thinking and being is no better than anyone else’s. We need everyone’s input. Everyone’s differences should be honoured. (Laura, November, 1999)

I’m less likely to get angry with people now that I’ve taken a closer look at personalities. I’m a big picture thinker and get really turned off people who are always focused on the finicky details. Slowly I’m beginning to see that these differences are due to the sensing and intuiting functions in our personality. We come from many backgrounds with vast experiences, each one trying to be heard and understood. We need all perspectives on the team. (Scott, February, 2000)

It’s been rather presumptuous of me to assume that some traits and characteristics are better than others. (Irene, June, 1999)

Experiences with the Keirsey Temperament Sorter were positive, justifying its continued use in the model. The investigator attempted to create a relaxed environment by initiating informal conversation and then giving comprehensive instructions for completing
the instrument. This was done to minimize anxiety that often accompanies tests and self-assessment reporting. According to Peter, it was successful:

At first I was apprehensive about doing the Keirsey. I thought I'd end up with a bad profile showing me to be some psychotic. Once we had a chance to talk about it and how there are no right or wrong profiles and that the Keirsey only indicates our preferred way of interacting with others, I was more relaxed about the whole thing. (Peter, June, 1999)

Joanne shared similar experiences:

You got more honest answers from me by explaining what the Keirsey is and isn't. I liked knowing that it was confidential and only being used to help me understand personality. I originally thought my boss would get the results and use them to decide promotions. (Joanne, February, 2000)

Cortney's observation represented the experiences of many participants in the experimental condition:

Sometimes when I was reading the statements I knew which choice represented the socially accepted response. I had to tell myself to go with the statement that indicated what I would do because, in the end, I wanted an accurate summary of my personality, not some fabrication. (Cortney, June, 1999)

A final comment by Cliff:

Three or four times I faced two equally unappealing options. I tried not to overthink the answer and go with the option that appealed the most. I had to skip a few questions when no option fit what I would do or want to do. I think I handled it well because my profile was accurate in all four categories. (Cliff, February, 2000)

Accurate personality profiles were generated by the Keirsey Temperament Sorter. The majority of participants agreed with at least three of the four preferences reported to be dominant in their profiles. Reported types were regarded as hypothetical until validated by the individual, which was done by reviewing both the summary report form and descriptions of possible types. After instructions were given on how to interpret the profile, fifteen minutes were allocated to study profiles and ask clarifying questions.
My profile was me! I am an ENTJ: I want to be creative in problem solving, routine bores me, I need the stimulation that comes from being on a team, I enjoy strategic planning and visioning... that describes me to a "t"! (Kim, November 1999)

I found the report insightful, especially the breakdown of preferences. It helped me understand why I feel comfortable in some environments and with some types of discussions, and out-of-sorts in others. (Irene, June, 1999)

The descriptions used to describe me, an INTJ, were precise. I have introverted intuition in my profile which is true. I always have ideas swimming in my mind and I need time to sift through the details before I can articulate what I'm thinking. (Joanne, February, 2000)

A few participants disagreed with their reported type preferences. This is common when a preference is within the "slight category", which indicates that the score is near the midpoint and the response pattern is inconsistent. Specifically, responses fall equally on either side of the dichotomy and the instrument is unable to correctly identify a person's preference. Kelly rationalized why her profile was not consistent with her self-assessment:

I answered some questions the way I thought they should be answered — according to societal expectations. When I came across questions that didn't make sense I answered them anyway even though we were told it was okay to leave blanks. This may have tainted my scores giving me an imprecise read on some scales. Two of the four domains were labeled "slight". (Kelly, June, 1999)

Kelly's comments typified the sentiments of participants with questionable reports. To resolve the dilemma, participants were encouraged to engage in personal reflection and self-directed activities designed by Myers & McCaulley (1985). The objective was to self-identify which side of the dichotomy most accurately portrays one's preferences. The investigator was available after each session to facilitate the process.

Following personality assessment, a formal training session on Myers-Briggs personality types was conducted. Participants were introduced to the sixteen typologies, each with distinct characteristics and different ways of perceiving and judging the world. The
training was exceptionally well received. It sensitized participants to the dynamics of personality and the complexities inherent in human interaction. According to Irene:

I never realized how intricately entwined our personalities are and the influence they have on team processes: communication, decision-making, role definition, cohesiveness. It becomes the basis for much of our success or lack of. (Irene, June, 1999)

Kent remarked:

It isn’t important how much alike we are but how we come to acknowledge the innate differences that are housed within us. (Kent, November, 1999)

Tanya concurred and added:

The training session has given me an advantage as a team player. I feel like I am able to dissect teams at another level that is far richer and more intriguing. (Tanya, November, 1999)

and Joanne summarized:

I can’t image how any team could function without this training. (Joanne, February, 2000)

As well, participants gained insight into the dimensions of their own personalities and how personality and corresponding behaviour influence others. Often people are oblivious to how they are perceived by others and fail to recognize how their behaviours contribute to team synergy. In this study, participants critiqued their own profiles and explored that which hindered and promoted positive team interactions. This increased their personal accountability for ensuring that their actions were contributing to the team’s effectiveness in both task completion and interpersonal relations.

I learned a lot about myself this past few weeks. When things aren’t going well on the team I find a scapegoat who is blamed for the group’s problems. It’s usually the supervisor. When I started to look more closely at my profile I saw the traits that aren’t very flattering and might cause some conflict in the team. I can become cynical, withdraw, procrastinate under stress, and be cold and aloof. I have to think about what I’m going to do to prevent these qualities from infiltrating the team. They sure won’t help us any! (Kirsten, June, 1999)
My personality profile is the key that unlocks the door to the behaviours that I demonstrate. Some qualities are to the team’s benefit and others...look out! (Kerri, November, 1999)

It isn’t just the team, but each one of us, individually, that has to set some goals for how we will promote growth and positive change in our teams. There is a wealth of information in our reports about what we bring to a group. I’m optimistic and very practical, and play the role of a peacemaker. However, I can be impulsive and fail to see long-term consequences of my actions. (Bill, November, 1999)

Statements made by participants in the experimental condition signify the value of understanding and managing personality dynamics. It was cited as integral to member satisfaction and high-calibre performance.

Knowing what I now know about personality, I can’t see any team interacting well and performing to their full potential without first strategizing how they will harmonize differences. Personality is reflected in everything we say and do. If we ignore it we rob ourselves of one of the strengths of a group coming together. (Kim, November, 1999)

You have to shake the stereotypes and biases that you harbour if you ever want to interact in a meaningful way. Our team rated well on the survey and did really well on the exercises because we made the effort to be inclusive. The differences made us stronger, not weaker. The training was the groundwork for awareness of differences and we established the climate and guidelines to bring personality into our central focus. (Kelly, June, 1999)

I’ll never be so bold as to think that my way is the right way. This has been a humbling experience to look at personality styles. (Cliff, February, 2000)

Participants became cognizant of the ramifications of failing to manage differences and realized that corrective action to maximize team performance and satisfaction rests with the team.

I’ve seen what happens when the barriers go up. People shut down and stop communicating. We have a responsibility as a team to initiate actions. If we don’t, it will be evident in our work. (Kent, November, 1999)

When a team is in conflict do they look beyond the symptoms to the root cause? I’d wager that conflict comes from not knowing how to act and react when faced with different ideas and opinions rooted in personality. (Kevin, June, 1999)
In our society there are negative connotations associated with certain personality types such as introversion. These stereotypes block our abilities to see the benefits people bring to the workplace. By being part of this study I walk away knowing how we can merge personalities so that the best of everyone filters through. (Kelly, June, 1999)

5.2.6. Transference of Learning

This final section highlights the significant learnings that participants transferred from the study to organizational settings. It reflects the attitudes that developed and how they shaped participants’ conceptualizations of teams and their behaviour in teams. Transference is an important inclusion in this study since only 30% of knowledge and skills are retained and used six months after training (Saks & Belcourt, 1997). In this section the most applicable learnings from the experimental and control groups are presented with the intent of identifying what promotes knowledge and skill use.

Contrasting perceptions of teamwork were formulated in the experimental and control groups. In general, the experimental groups’ experiences were positive and supported teamwork as an effective means by which to complete work.

I wish our group could continue working together. We worked hard, but we had a lot of fun. People were responsive to possibilities. There was lots of creative thinking and open communication, and, even though we made a few mistakes, we learned from them. It’s that high energy level that motivates you to want to do your best for the team. (Cortney, June 1999)

With all the great ideas that people bring to a project, I can’t see doing tasks without a team. (Tanya, November, 1999)

In contrast, the control groups expressed frustration and anxiety with teams, leading many of them to question the value of teamwork.

I kept asking myself “When is this going to end?!” It was crazy. We couldn’t stay on schedule and kept flipping around from topic to topic. We had some narrow-minded group members who slowed down any attempts to reach consensus. When things got out of control we got snappy with each other. Some became short and direct and others withdrew. (Mike, November, 1999)
With all the problems that come in the way of getting the job done, I wonder why we just don’t work on our own and get the job done quickly and without hassles. (Tausha, June, 1999)

The intense aggravation experienced by the control groups resulted in most members reconsidering prospective assignments requiring collective effort. For some members the conflicts, power struggles, and lack of co-operation seriously interfered with the process of change and even obstructed it completely. This was a replication of past group experiences. To avoid these encounters, participants resolved to work independently rather than volunteering for team-based activities. Susan clearly expressed the lingering frustration:

I’m tired of being with people who are difficult. I don’t know how to correct problems, so for the betterment of my sanity I’d rather work on my own. (Susan, November, 1999)

The stagnation of progress was articulated by Greg:

You can’t expect a team to be goal focused and productive when the structure is weak. When people are rigid in their thinking and become overcritical of others the team starts to unravel. You become consumed with the conflict instead of organizing the work at hand. You want to run; cut your losses. (Greg, February, 2000)

For some members in the control group, participation would be conditional upon the team’s composition. They would investigate and ultimately consent to be on a team with similarities in experience, personality, and gender. The assumption is that more member similarities render more common viewpoints and reduce conflict.

In the future, I’ll pick my groups more carefully. I’ll choose people who have traits similar to my own. They need to define work parameters clearly, have open communication, be detail oriented, and they have to be women. I’ve always communicated better with women. (Rebecca, February, 2000)

I want to work with people who have a similar personality because we act and react the same way. I need to be with people who have a sense of humour and keep plugging away, never giving up, when things get tense. If I can get into a team like that I know I’d be more at ease. I don’t like it when it becomes a battleground. (Raymond, November, 1999)
Control groups identified team consultation on how to overcome barriers to effective interaction as one of the key interventions that would have benefited their performance and satisfaction. The teams were so preoccupied with task completion that they failed to address process-related issues. An inability to deal with interpersonal issues seriously interfered with the process of change. Members were certain that if there was more consultation in this area they would have performed better on the team exercises and had higher satisfaction ratings.

We barreled through the exercises without any consideration for how we were functioning. By the end we were so deflated and uninterested that we didn’t care if our scores were effective or ineffective. (Janet, February, 2000)

What happened in our group is exactly what happens in business. A group is put together to work out a problem or do some business planning and end up failing miserably, not because they don’t have the know-how, but because they can’t get along! All groups need is to clarify their goals, directives, norms, personal expectations, and how they’re going to manage crises, whether it’s conflict with deadlines, resources, or people. (Brian, June, 1999)

It is so incredibly clear to me how important it is to train employees before you throw them into a team and tell them to perform. Most managers assume that if we set up self-directed teams then performance will be improved automatically, and this isn’t the case! If you want the best from a team you need to give them the resources to be the best, including training in the soft skills. We are in such a hurry to get teams up and running that we forget the basics. (Karen, June, 1999)

The experimental teams were more optimistic and confident in their abilities to work effectively with others, especially those whose personality styles are radically different. They credited the training session and action planning as instrumental in helping them to minimize the conflicts that stifle a team’s ability to reach performance standards. The study enabled them to experiment with different approaches to adapting to differences, which they plan to integrate into their future dealings with teams.

I usually have little tolerance for others but I’m looking at people differently right now. With the skills we developed I think I’ll be prepared for personalities that contrast with mine. (Cliff, February, 2000)
I’ve often been disillusioned about teaming with others, but now I’ve got some practical tools for building a team. Thank you. It isn’t a hopeless scenario as it appears on first impression. (Stacey, June, 1999)

Participants also realized that it is not personality change that leads to cohesiveness, but respecting and managing the differences so that the team benefits from unique ideas, opinions, and experiences. Some members of the experimental teams made the commitment to actively seek and encourage differences when working with teams in the future. According to them, team performance and satisfaction were dependent upon a norm of diversity.

You can’t begin to understand how helpful this model is going to be at work. I head a number of committees and I’ve been searching desperately for a way to bring the group together. It isn’t about getting us to think and act in unison, it’s about finding a way for everyone to offer his or her talents. A team, for me, is like a tapestry. We all bring uniqueness and the challenge is piecing our talents together so that no matter what we’re working on, voices and experiences get recognition. (Irene, June, 1999)

I’m feeling more optimistic about working with staff in my department. What I’ve learned is that even though there are surface differences that fuel me, I need to look much deeper and find a common ground. Where are we similar? When we can find commonality, we can then build an environment that respects the differences. I think, though, we have to go back to this common ground occasionally to remind ourselves that even though we’re different, we’re also similar. (Kim, November, 1999)

The final step in the model was cited as practical in transferring learning to various workplace situations. Teams were invited to exchange strategies for managing personality style differences and how they would implement and reinforce these changes in other teams. This was a valuable component of the model, because it got team members dialoguing about how they would apply learnings.

It got us thinking about how we will apply what we’ve learned, which is a rarity in most training courses. We talked about how we’d introduce the action plan and how we’d get buy-in from resistant teams. We’d hit them with the benefits of follow-up and what successful teams in business are doing and achieving. (Kevin, June, 1999)

I liked the last part of this model because it helped me get some feedback from the group about how I should handle some people I work with. They moan and groan about what’s wrong with the company, with no move toward solutions. They don’t volunteer
for anything because they don’t think change is possible. My team was really helpful in giving me some ideas on how to deal with them. (Kent, November, 1999)

You can quickly lose new skills when you get back to the routines at the office. I thought this session was good because we talked about common problems we face with colleagues, so that when we return to our jobs we’ve got some preliminary strategies to work with. (Kirsten, June, 1999)

This final section captured some of the salient, concluding remarks made by participants in this study. The comments mirrored the polarities that organizations manage when employees support and refute the value of teams as a means of enhancing bottom-line initiatives.

5.3. Discussion of Results from Qualitative Analysis

The experiences of the experimental and control groups have been detailed throughout this chapter with a focus on the groups’ similarities and differences. Comparing and contrasting their experiences have led to conclusions about the value of the investigator’s team development model.

During the focus group sessions, more positive experiences were expressed by participants in the experimental teams than participants in the control teams. As explained in Chapter 4, this may be attributed to the action-planning component of the model. These built-in focus group sessions enabled team members in the experimental condition to regularly discuss and work through problematic areas. When the investigator of this study conducted focus group sessions after the Pfeiffer and Jones exercises, participants in the experimental teams spoke positively about their experiences because they had worked through many of the challenges they had faced as a team.

In contrast, participants in the control teams expressed more negative experiences. For many of them, the investigator-led focus group was their first chance to discuss process-
related issues. They had been led through the Pfeiffer and Jones exercises with no
opportunity to dialogue about team functioning. As a result, control group participants used
this focus group session to vent opinions and emotions that, up to this time, had had no outlet.

5.3.1. Primary Research Question

Will a team development model designed to help people develop strategies to manage
personality style differences amongst team members have an impact on team
performance and participant satisfaction?

The experimental teams' experiences, depicted in direct quotations throughout this
chapter, unequivocally support the value of the model in developing high performance teams.
Specifically, becoming cognizant of personality styles and developing approaches to
managing diversities were identified as cornerstones in forming and sustaining team
excellence.

Both team performance and satisfaction were attributed to the model. Higher scores
attained by the experimental teams on the Pfeiffer and Jones activities were credited to their
ability to recognize and adjust to personality differences that often are the foundations of
interpersonal clashes. By developing approaches to handling volatile interpersonal situations,
members were able to devote more of their resources to task completion.

The experimental teams were honing qualities synonymous with high performance.
Distinctions between the experimental and control teams were evident in the following areas:
team development, conflict management, valuing personality diversity, and change
management. The experimental teams excelled in each area, giving them an advantage in
team performance. Exposure to the model increased members' personal awareness and
accountability for performance and, as a result, members maximized their efforts to ensure
efficient and effective operations. In any organizational setting, managing these core
functions will improve the team's capacity to adapt to a continuously changing environment and to grow, learn, and remain competitive.

The model also contributed to higher satisfaction in the experimental teams. The regular assessment of progress, focusing on how to adjust to personalities, enabled members to be proactive in their management of interpersonal relationships. The debilitating conflicts rooted in personality that traditionally prevent a team from fully utilizing their resources were significantly lower in the experimental teams. The open dialogue about challenges faced and how to minimize them helped team members deal with problems before they affected performance. Consequently, disclosure and collective accountability for managing diversity helped establish solidarity amongst the members.

Since the focus group interviews were comprised of a cross-section of participants from different organizational settings and participants commented on the usefulness of the model, it may be possible to draw some preliminary conclusions about the generalizability of the results. The model moved teams to a proactive disposition focused on cohesive planning and development.

5.3.2. First Subsidiary Research Question

How does an awareness of one's personality style and style differences help us adjust to team members with different personality styles?

Awareness of one's personality profile and the chemistry that exists among others is a powerful asset to a team member. It is a consciousness-raising experience when one becomes aware of the critical role played by this variable in formulating and maintaining sound interpersonal relationships. Such an understanding crystalized for the experimental teams as they proceeded through this study.
Participants became more cognizant of the characteristics of their own style and how perception of self and perception held by others is often dissimilar. This leads to problems when people fail to recognize how their personality and corresponding behaviour have affected others. This being the case, participants found it beneficial to self-critique their own behaviours and identify what hinders and promotes positive interactions within the team. Team members are often prone to directing blame at others for breakdowns in communication, as it is psychologically safer to shift blame then to admit responsibility. Dialoguing with team members regarding joint accountability for the success of the team helped members comprehend individual responsibility for shaping interpersonal relations.

Training in Myers-Briggs personality types acclimatized participants to style dynamics. Being introduced to these profiles and working in teams to form action plans for integrating diversity helped members appreciate the complexities of managing differences. They also became aware of the benefits of capitalizing on diversity, particularly the rich resources that are pooled in making decisions affecting the task.

Traditionally, team members would allow personality clashes to cloud their abilities to capitalize on diversity. Members would barricade themselves behind defense mechanisms to mask their dislike of others who were noticeably different in their insights, perceptions, and behaviours. These protective barriers, including withdrawal, avoidance, suppression of feelings, and reaction formation, accomplished little in developing unified teams, as they minimized disclosure necessary for effective communication.

The model equipped the team with an approach to integrating personality diversity into the team culture instead of reflexively building barriers that harm solidarity. It helped open channels of communication so that any emerging conflicts had a forum within which to be
addressed. This prevented conflicts from becoming dysfunctional and helped members develop ways to embrace diversity.

5.3.3. Second Subsidiary Research Question

What are the components of an effective training program to help team members manage style differences and work more cohesively?

Three components of the model were pinpointed as effective in helping teams manage style differences and become effective and aligned: training in Myers-Briggs personality types, action research, and transference of learning.

As discussed in the response to the previous subsidiary question, an introduction to Myers-Briggs personality types paved the way for team members to understand personality type and temperament and experiment with approaches to managing differences. The value of this became evident in the scores on the Pfeiffer and Jones exercises and the satisfaction surveys. Both assessment procedures revealed higher scores for the experimental teams than for the control teams.

Optimizing team effectiveness was also accomplished through action research. The action plan signified the agreed upon behavioural norms to be practiced within the team and became the benchmark against which the teams assessed their progress. Evidence of the impact of the action plan on team effectiveness was discovered in the following areas: change management, conflict management, and channels of communication.

Regular evaluations enabled the teams to discuss their strengths and the changes needed to align behaviour with performance goals. They were particularly useful in addressing conflicts. They kept channels of communication open so members could freely offer insights, comments, and recommendations for change. Since the model encourages collaboration, the
action plan became the glue that bound the team together. It provided a systematic process for replacing original behaviours with new behaviours. Skills at analyzing processes were developed that can be continually called upon long after the study is done.

Action research was the driving force directing behaviour away from the status quo. Many of the experiences of the experimental teams mirrored Lewin’s (1951) change process of unfreezing the status quo, moving to a desired state, and refreezing the new change to make it permanent. The training program unfroze teams to the benefits of managing diversity and the dangers of allowing personality clashes to flourish. The action plan enabled teams to move to the integration phase, working to develop solutions that will improve intrateam relations. Finally, the reinforcement of change to ensure its permanency was done through the team assessment of progress.

The concluding step in the model addresses the transference of learning from the training session to the workplace. It engages team members in dialogue about significant learnings from the team event, and how they can incorporate best practices into other teams with which they are involved. This step was identified as a rare addition to organizational training, where the focus has traditionally been on skill development, and not on the processes by which the learning is transferred into one’s personal work environment. According to the participants, it is a much needed addition to training, especially with the preponderance of organizational barriers that threaten the induction of new skills and practices. The model moves beyond the initial efforts to implement change to a longer term concern for stabilizing and institutionalizing change.

Consequently, an organic approach to team development is evolving. When a team disbands, each member becomes responsible for taking this model, particularly the action
plan, and integrating it into new teams. At the adjournment stage, members commit to initiating the transference of the action plan beyond the present team. This strengthens individual accountability for the evolution of teams through the sharing of personal experiences, insights, and observations.

5.4. Summary of Quantitative and Qualitative Analyses

The inclusion of quantitative and qualitative methodologies in the analysis of data has produced a multi-dimensional profile of the team development model and its value in optimizing team performance and participant satisfaction. Quantitative analysis of the team effectiveness scores and the survey results depicted the statistically significant differences between the groups, and the focus group interviews supplemented the statistics with descriptions of the participants’ lived experiences. Both provide a comprehensive profile of the merits of this model.
CHAPTER 6
IMPLICATIONS AND RECOMMENDATIONS

This final chapter summarizes the results from the preliminary testing of the team development model. Also included are implications of this study for practice and research, and general concluding comments.

6.1. Summary of Research Results

Results from this study are favourable. Both quantitative and qualitative analyses provided unique perspectives on the data, culminating in conclusions about the model's capacity to enhance team performance and to heighten member satisfaction. The separation of participants into experimental and control conditions allowed for a comparison of experiences between those who worked with the model and those who functioned without it. The type and extent of differences experienced by the experimental teams was measured against the control teams which served as the benchmark. This framework enhanced the feasibility of drawing conclusions about whether the model affected team functioning and to what degree.

In Chapter 4, which tracked quantitative analysis of the data, statistical tests were administered to determine whether the stated hypotheses should be accepted or rejected. Data for 118 participants were recorded, including their survey results and team effectiveness scores at the end of each of the four Pfeiffer and Jones exercises. Tests of significance performed on the data included analysis of variance, t-testing, and the calculation of correlations with results considered statistically significant at the .01 level.
Tests of significance permitted the rejection of the null hypothesis that stated there were no statistically significant relationships between the model and team performance and satisfaction. Hence, the alternative hypotheses were accepted supporting a relationship between the model and the two dependent variables. Analysis of the data indicates that team performance and satisfaction improve when the team development model is used to facilitate team development.

The qualitative segment of this study found in Chapter 5, supplemented the quantitative analysis with insights regarding the participants’ experiences that were not obtainable through statistical methods. Thirty-one volunteers from the experimental and control groups participated in semi-structured focus group interviews aimed at eliciting experiences, opinions, and observations. Emerging from the discussions were common themes capturing the groups’ experiences in the following categories: change management, team development, valuing personality diversity, conflict management, and transference of learning. In each of these five areas, the experimental groups’ experiences were more positive, and they made substantially more progress in developing the competencies associated with each area, as compared to the control groups. Teams in the experimental condition credited the team development model for these outcomes as well as for their strong team effectiveness scores on the Pfeiffer and Jones exercises. Specifically, training in Myers-Briggs personality types helped them comprehend the complexities of style differences and their impact on team performance, and action research steered them toward the formulation of action plans to manage differences and enhance interpersonal relationships. Participants also noted the merit of discussions in the final step of the model, which helped them pinpoint workplace barriers to the application of new learnings and how to maneuver their way around these impediments. The transferability of this model across organizations and occupations was acknowledged.
In contrast, the control groups had a higher degree of dissatisfaction and scores on the Pfeiffer and Jones exercises were low, with many of the scores plummeting to the “ineffective” category. Lack of formal training and guidelines for team functioning were cited as principal reasons for their substandard performance and declining levels of satisfaction. According to control group participants, they lacked the expertise to bridge the gap between battling coalitions. Following several abortive attempts to harmonize the parties, many members chose to avoid or suppress conflict in order to stumble to the end of the task. Armed with guidelines to combat interpersonal skirmishes, teams would have been able to intervene more expeditiously and thwart conflicts from soaring to potentially destructive heights. The team development model could be instrumental in helping teams diffuse destructive conflict and replace it with the exchange of differences that enrich the team’s comprehension of the topic at hand.

6.2. Implications for Practice

As suggested in the introduction to this dissertation, this model has far reaching implications. Its versatility allows for it to be used in any organizational setting, with any occupation, and in either self-directed or leader-facilitated teams. In an era when teams are experiencing unparalleled growth within the organizational structure, their implementation and development warrant attention in order to sustain their existence.

The popularization of teams in the industrialized world has led many organizations to restructure labour from individual to team-based assignments. In the process of reconstruction, little attention has been given to the type of preparation required for teams to function as effective and efficient entities. Organizations promote the benefits of teams, encourage teamwork, recruit and hire “team players”, and market their companies as team-oriented, but few organizations comprehend the mechanisms responsible for their prosperity. Consequently, few
interventions are proposed and implemented to enhance team performance and satisfaction. Any assistance that is provided is generally technical and administrative in nature and often excludes interpersonal development.

With the model presented in this study, organizations have an intervention strategy with which they can create and sustain high performance teams. Its uniqueness is in its approach to managing personality differences, which is one of the most understudied areas of team functioning, and has the capacity to disrupt the team’s ability to operate to full potential if not managed appropriately. The model is the training ground for developing the competencies required to function as team players, specifically, the honing of skills to adapt to typological differences. As teams integrate the action research component of the model into their operations, they have a means by which they can regularly gauge performance and modify behaviours to better accommodate differences and promote more harmonious working relationships. Ultimately, the intent of this model is to foster teamwork and aid in the transition to viable team-based work environments.

The team development model would complement curriculum in leadership development programs. Currently, leadership training predominantly includes preparation for the following managerial responsibilities: total quality control; the formulation and implementation of business strategies; becoming customer-focused and market-driven; global competition; and effective staff motivation (Baron & Kreps, 1999). With the influx of teams in organizations comes a need to develop additional competencies. Managers should be well versed in the facilitation of cooperative work ventures so that they can guide teams through the maze of task and interpersonal struggles toward efficient completion of tasks. Manz & Sims (1989) report that the most effective leaders coach teams to become autonomous in key areas including problem solving,
decision making, and assessment of progress. Taking control over tasks once labeled “managerial” creates team accountability for their direction and progress without excessive reliance on management intervention. When there is a high degree of dependence on management, teams may abstain from exerting the effort to formulate solutions to problems, assuming that someone in authority will intervene.

With this model, leaders can catapult teams from dependence to self-direction and interdependence. The model is the means by which teams begin to internalize and self-manage their behaviours. Through the establishment of an action plan detailing behaviours deemed acceptable in team interactions, and the regular critique and modification of the action plan, teams experiment with collaboration and consensus and learn to trust the expertise within the team to disentangle interpersonal problems. Teams become responsible for their own behaviour and for generating their own solutions to problems, with managers available as advisors when required. Orsburn et al. (1990) would support this training, as it positions teams to carve a distinct identity and build an enduring sense of accountability.

In a rapidly expanding global economy, team success is dependent upon the degree to which teams can adapt to intense competition and persistent demands on their business. To survive in the new economy, teams need to accept change as a norm and develop skills to manage the change process. Orsburn et al. (1990) recommended that teams be given comprehensive interpersonal training so that team cohesion can withstand the challenges posed by the staggering rate with which change permeates organizations.

The team development model helps teams acclimatize themselves to change. Through ongoing inquiry and dialogue, members evaluate the changes that are imminent from sources that are internal and external to the organization, and critically assess the corresponding changes
required in their operations. The assessment may precipitate rethinking and reinventing existing systems and redefining behaviours, norms, and communication patterns needed to transition from the current to the desired state. It is an evolutionary process where teams are vigilant about environmental cues that activate discussions regarding how the team is to adjust to change. The model fosters innovation and risk taking, since teams continually explore more effective means of interacting so that they can build a strong, cohesive foundation from which to strategize their direction.

The model is a deterrent against the apathy and stagnation that breed in many teams, which Quinn (1996) appropriately labeled as “slow death”. For some of these teams there is a resistance to challenging and changing existing paradigms about how business should be managed. Other teams reach a level of competence and ride on the laurels of their success, oblivious to the fact that excellence is sustained for a limited time before it begins to wane. According to Quinn (1996), the state of excellence that teams attempt to reach is a dynamic state that cannot be preserved indefinitely.

In order to recapture excellence, the team development model can be utilized to enable teams to continually evaluate existing systems and experiment with new processes that transform the status quo. The model encourages teams to leave their comfort zones and explore and test new behaviours en route to improved team functioning. The model provides the underlying social support needed for growth and development.

The Myers-Briggs training session, built into this model, heightens team members’ awareness of the characteristics of each personality style and the unique patterns of seeing, thinking, feeling, and responding to the environment. Explanations are given on how the four functions of type are configured and how they interact, which help members comprehend
typology as a complex interrelationship of functions instead of isolated, mutually exclusive profiles. By studying personality typology, members become cognizant of their own styles and the preferences that shape their perceptions and judgments. Typology also reveals "blind spots and areas of vulnerability" (Myers, 1998, p. 38) which most frequently emerge when people are stressed, facing change, problem solving, and decision making (Pearman & Albritton, 1997). Clarity about one's preferences helps in the formulation of goals for personal growth and development, so that strengths can be enhanced and vulnerabilities minimized. Through introspection and goal setting, individuals take responsibility for how they can enhance their contributions as team players.

By being cognizant of type patterns, team members are also able to recognize and understand differences in others. Having a type framework enables members to understand the underlying preferences that reveal themselves in communication patterns, decision-making strategies, and learning styles. This moves members beyond introspection, to contemplation about the intricacies of other people's personalities. According to Kroeger & Thuesen (1992) who popularized "typewatching", behaviours can then be understood objectively and free of personal reactions that cloud the interpretation of actions. From this point, dialogue can ensue about how team members can collectively adapt their behaviours in response to other people in order to create an amicable work environment, rather than focusing exclusively on one's own preferences and how they have been fulfilled or frustrated.

Understanding typology is the basis for valuing differences. As team members comprehend that the root of differences is lodged in typology, they may be less intimidated by alternate viewpoints. Feeling threatened by and reacting negatively to other people's perceptions and judgments are common responses. Some ideas are dismissed or denigrated because they
challenge the status quo from which members do not feel comfortable deviating, or they raise insecurities in members who are not able to intellectualize at a more advanced level. As a defense mechanism, people block new ideas from reaching fruition because they are currently unable or unwilling to process them. Yet the differences that separate us are also crucial to our survival. Pearman & Albritton (1997) address the significance of valuing differences:

The most important reason for us to move toward a perspective of valuing is that the interdependent nature of life means our ability to survive and adapt is directly tied to our ability to manage differences. (p. 143)

Within the context of teams, survival and adaptability to change are dependent on the team’s ability to integrate its resources and manage its human resources, inclusive of personality differences. The intent of the model is to dissolve barriers that impede the infiltration of new and unique ideas. By creating a forum where team members can learn about typology and discuss their perceptions and judgments, teams can strategize ways to integrate expressions of preference into team interactions. Once team members understand differences and the valuable contributions resulting from divergent thinking, they can begin to pursue purposeful ways of connecting with others.

With its focus on personality and action research, the model leads teams through understanding, valuing, and adapting to differences. The importance of this progression is supported by Pearman & Albritton (1997):

If type leads us only to recognize our own qualities and to identify how we differ from others, without pulling us into new arenas of growth, then the model serves merely self-centered need. (p. 155)

With the use of this model, conflict management can be more effectively facilitated. In our Western society conflict still has a negative connotation. It conjurs up visions of battle, robbing
us of time and energy, until one side wins and the other side is defeated. Depending on how it is handled, conflict can be either productive or destructive.

In the team development model, team members are encouraged to explore the positive outcomes of conflict. Through training in Myers-Briggs personality types and action research, team members begin to conceptualize conflict, not as a destructive force, but as integral to ensuring representation of diverse viewpoints. Recognizing the potential benefits of conflict ignites the team’s search for ways to integrate differences so that members gain from the knowledge, experience, and insights of others.

According to Johnson (1992), conflict should not be perceived as problematic. Some conflicts are problems to be solved, and others are polarities to be managed. Johnson (1992) explained polarities as “sets of opposites which cannot function well independently; neither pole can stand alone over time as the final outcome” (p.36). The action research component of the team development model may help teams deal with both types of conflict. The model allows conflict to be tabled and discussed with the ultimate goal of resolving conflict or working toward polarity management. In the case of conflict rooted in personality style differences, there is an opportunity for team members to work on managing polarities. Polarity management is characteristic of high performance teams, where it awakens thinking about issues from many equally valid perspectives.

The model also introduces teams to preventative measures to control unproductive conflict and trains them to develop insights and behaviours that are productive in the management of conflict. The action research approach to exploring strategies for the effective management of style differences helps teams contain conflict so that it remains the exchange of differing viewpoints without escalating to an antagonistic level. It enables teams to identify early signals
of potentially destructive conflict, and collectively brainstorm the intervention strategies that can be implemented to minimize conflict.

There is a utilitarian quality to this model, in that it provides the forum for addressing issues that are of direct and immediate concern to team members. It operates from the premise that it is easier to manage conflict at the early stages when it surfaces and before emotions cloud people’s ability to rationally respond to the conflict. It also establishes a norm that team discussions regarding conflict are acceptable and encouraged.

This model provides an opportunity for team members to explore what Senge (1990) identifies as “mental models”, which are the outcomes of personal life experiences that have shaped how we perceive and judge the world. Conflict, as explained by Senge (1990), may be attributed to clashes of mental models, with more intense conflicts exacerbated by members with radical views. Senge stated, “new insights fail to get put into practice because they conflict with deeply held internal images of how the world works” (1990, p. 174). The action research component of this model provides a chance to dialogue about mental models, question other people’s way of perceiving situations, and discuss how to support diversity. The open forum discussions that help members reflect on each other’s mental models are the starting points to managing differences.

As a conflict management intervention, this model would be especially beneficial in union-management interactions. An increasing number of unionized companies have adapted mutual gains bargaining where union and management acknowledge joint accountability for business operations and work collaboratively to find mutually satisfying solutions to organizational issues (Fisher & Ury, 1981). This model is suitable for mutual gains bargaining, as it can help both parties develop skills to deal with personality differences that often obstruct negotiations. The
effective management of style differences would enable union and management to merge insights from people with diverse viewpoints, and enhance interpersonal relations so that a conciliatory work environment can be sustained.

Mutual gains bargaining is rooted in the philosophy that both parties share similar interests and concerns for the organization and its human resources. If the model can guide both sides in the management of personality variances, then they can begin to discover underlying interests, jointly solve problems for mutual gain, and establish agreements based on consensual objectives. The purpose of the model is not to eradicate conflict, but to provide a forum within which disagreements can be tackled from various perspectives without jeopardizing work relationships. The intent is to sufficiently forge collaboration so that the goals of mutual gains bargaining can be attained.

The team development model also has applicability to performance assessment, which is timely, since few tools have been developed to help teams assess their performance (Swezey & Salas, 1992). Regular assessment of performance has not yet become standardized practice in many teams. The hurried pace of organizational life has created a workforce consumed with task completion and racing toward deadlines. Individuals are preoccupied with the mechanics of the task and how to manipulate the appropriate technology. Reflecting on the process rarely enters into discussion, as it is not perceived as fundamental to getting the job done.

Studies, however, report that commitment to regularly assessing performance and, accordingly, making revisions in task and process related areas, is a characteristic of high performance teams (Orsburn et al., 1990). The team development model helps teams become high performers through action research.
Action research is touted as one of the most effective approaches to managing interpersonal difficulties because it empowers individual members to map their own direction to team change (Lewin, 1946). The action research portion of the model provides the structure by which teams regularly critique their progress in managing typological differences, and make modifications as needed. Prior to all work periods, team members are encouraged to dialogue about team progress, citing strengths and achievements as well as areas requiring improvement. It encourages collective accountability for ensuring that team strengths are maintained, and exploring and solving problems. As it is a continual process of performance assessment, team members can critique previously recommended changes and, over a period of time, see the effects of these recommendations. Traditionally, management would control evaluation and order changes as deemed appropriate. When control of evaluation is given to the members, it heightens their sense of ownership of the team, which increases their commitment to team functioning.

With global competition driving the economy, teams can no longer settle for mediocrity in performance. In order to remain viable, teams must periodically evaluate their capabilities to manage tasks and processes. This type of assessment may help teams remain competitive, as they check how their performance fares against the competition.

The team development model also adds value to the transference of learning from the classroom to the workplace. Most modern day training focuses on ensuring adequate coverage of the content, and the methods are mainly conducive to the acquisition of knowledge and skills. One of the most vehement criticisms of contemporary training is that it is heavily weighted towards theory. Insufficient attention is given to initiatives that would enhance the application of learning to people’s daily lives. According to Swezey et al. (1989), when team training does not
guide participants through the process of adapting newly acquired knowledge and skills, its usefulness is questionable.

The team development model attempts to bridge the gap between theory-based learning and application. In the final step of the model, team members are invited to discuss strategies they will attempt to implement and behaviours they will encourage when working with teams in the future. In particular, discussion is focused on key insights about managing personality differences and how they plan to adapt these insights into daily team functioning. Discussion also includes organizational barriers that may inhibit the application of learning and how these barriers can be minimized.

The collective brainstorming of strategies to implement new learnings and to deal with resistance to change provide team members with responses to resistance and boost their confidence in managing change initiatives. The probability of team members actually initiating changes may increase, because of the dialogue preparing them for a smooth transition from classroom to workplace. The function being performed by the model would be supported by Kirkpatrick (1975), who claimed that the ultimate goal of training was to measure its impact on organizational effectiveness. If the model helps transfer learning to the workplace, then we are in a better position to ascertain the impact of learning at the macro level.

Over time, implementing the team development model into regular practice may contribute to the development of a strong team culture. With training in personality types and collectively working through the challenges inherent in managing personality differences, teams may begin to show signs of cohesion, high risk and conflict tolerance, and interdependence which are characteristic of strong cultures (Robbins, 1993). According to Yeatts & Hyden (1998), team
effectiveness is most likely in cultures that encourage interdependence, information sharing, and ongoing training to facilitate interpersonal development.

The need to develop a team culture of shared values and meaning is even more pronounced with the prevalence of heterogeneity in our workforce. With the population increase, particularly in our urban communities, comes an influx of diversities which has the potential to create divisiveness if not appropriately managed. We need the skills to be able to integrate diversity into teams so that we can exchange the knowledge and resources that are tied to our prosperity both professionally and personally. If we fail to get beyond the obstacles created by our differences, then we risk not being able to tap into the rich ideas, experiences, and expertise that propel many of the best organizational practices, strategies, and advances. According to Bass (1982), team effectiveness is dependent on cohesiveness found within strong cultures. In the absence of cohesiveness, teams are often unsuccessful at achieving their goals, because they lack the ability to interact effectively, which is critical for task completion.

The model would help teams break through the barriers created by typological differences. Training in Myers-Briggs personality types begins the process of understanding and valuing differences. Through the introduction of the sixteen typological profiles, team members compare and contrast how they differ in their perceptions and judgments which manifest themselves in preferences for work environments, communication, decision-making, learning, and project management (Myers, 1998). These areas often house the greatest stresses because we do not understand and support the differences that people demonstrate. Team discussions around the action plan help teams synthesize their newly acquired knowledge about style differences and being to create an action plan that represents the integration of differences. The
action plan is the critical step that transitions the team from merely comprehending differences to making behavioural changes that coincide with the value placed on new knowledge.

As teams gain competence and confidence in their ability to make modifications to their team functioning, they will reap the benefits commonly associated with functional, heterogeneous teams. These benefits include effectiveness in complex problem solving (Bass & Ryterband, 1979; Daily et al., 1996; and Nieva et al., 1978) and heightened decision-making capabilities (Brightman, 1988; and Jackson & Ruderman, 1995). With the aid of this model, teams will be better able to deal with the challenges inherent in functioning in heterogeneous work environments. They will be able to minimize personality discord so that they can focus on strategic goals and directives.

This study also has implications for educational practice. The main thrust in education today is toward co-operative learning, but there remains work to be done to prepare students to function in teams. As practiced in business, educators organize team-based assignments, promote the importance of teamwork, and reward team players, yet inadequate training exists to help students understand, value, and adapt to the dynamics of personality style differences.

Working in teams is often a trial and error experience where students learn their unique roles and behavioural expectations through experimentation and reinforcement. This mode of learning can be highly effective, yet learning about team functioning using this approach can have negative consequences. Early experiences with teams in academia shape students’ perceptions of the desirability and usefulness of teams. In many cases, students are grouped and expected to function like high performance teams, but problems erupt and are often exacerbated by the students’ lack of skills to deal with them. As students mature, interpersonal relationships become more complex, leaving many students frustrated and confused about suitable approaches.
to deal with the difficulties they experience. Substandard communication channels, personality collisions, status differences, and power struggles fester and remain unresolved, leaving, as a final outcome, a conscious choice to work alone when the opportunity arises.

Especially devastating are early childhood messages that communicate lack of respect for one’s differences. They have a profound effect on shaping one’s self-perception, role within the team, and contribution to the team. The more intense the experience, the more likely students will carry these perceptions into more advanced levels of education and into the workforce.

The team development model can be used to shape more positive attitudes and behaviours toward team participation. This model can be used by educators to train students how to manage problems that may surface as a result of personality style differences. As students’ ability to manage style differences is enhanced, they will be developing the skills necessary to function in team-based work environments. Exposing them to this model gives students some of the skills needed to make a smooth transition from cooperative learning in academia to team-based companies.

The importance of providing students with resources to adapt to cooperative learning is supported by Ross & Cousins (1995). Their qualitative study suggested that cooperative learning experiences can be enhanced if educators equip students with the skills to ask for and give quality explanations when collectively working on tasks. Students need to be trained to recognize, not only their own needs for clarification when they are unsure of task requirements, but also to recognize and address uncertainty that their team members may be experiencing. Students who practice giving and requesting explanations were found to learn more than those who did not engage in this practice. This study supports the need to help students develop the skills necessary to enhance team functioning.
Not only does the model advance team competency, but it also provides an opportunity for personal growth and development. Within the framework of action planning and constructing a team action plan, there lies the potential for reflection about one’s personal accountability within the team. Issues which become salient include: one’s role; personal expectations and whether they are being satisfied; one’s contributions to the team’s functioning; and behavioural changes needed to become a stronger team player.

The depth and breadth of exploration is dependent on the individual member and how much value is placed on introspection. For those who are keen on self-exploration, it leads to setting goals to be an even more valuable contributor in a team setting. With this level of self-awareness, members can leave the team with a heightened sense of their niche within a team structure and a personal action plan for growth and development as a team player. This can lead to taking more responsibility for one’s own actions in helping teams function to their full potential, which enriches the learning experiences of oneself and others. As a result, one may become a role model, spreading the positive attitudes and dispositions expected when working with others.

The implications of this model for practice are numerous, and demonstrate its applicability to various organizational settings. This model has the potential to shape the attitudes and behaviours of teams, so that their practices begin to mirror those of high performance teams. The model also has longevity, as it can be used indefinitely as a team matures.

Users of this model are reminded of the significance of each step. If steps are inadvertently or intentionally skipped, it may decrease the effectiveness of the outcomes that have been reported in this study. To attain similar levels of performance efficiency and member
satisfaction, it is recommended that the steps be replicated as presented in the model in Figure 6.1.

6.3. Implications for Further Research

The investigator contemplated a number of topics and variables before settling on research in the area of team development and managing personality style differences. However, in the process of targeting specific variables and the corresponding methodology to test relationships, some issues were excluded from this study. It was not done because of their insignificance, but because decisions had to be made to limit the research to what was realistic and achievable. Too many issues addressed in one study could lead to the following complications: superficial coverage of important issues that does not do justice to possible implications; key messages lost because the work may be so convoluted that it is difficult to follow; and difficulty maintaining the integrity of the study because the investigator is pursuing too many variables.

At this point in the thesis, there is liberty to hypothesize about other areas that could be studied to further enrich the work that has been done. This serves as the basis for post-doctoral studies that will be more explicitly discussed at the end of this section.

Throughout this study, reference had been made almost exclusively to diversity created by personality differences with occasional references to other types of diversity. As previously mentioned, the investigator acknowledges diversity of race, gender, culture, religion, and socio-economic background, but could only isolate one variable at a time to examine its impact on team performance and satisfaction. For the reasons cited in Chapter 1, notably the under-representation of personality in research on teams, typology was selected for this study. Successful outcomes generated from the preliminary testing of this model pave the way for
Figure 6.1 The Team Development Model
additional studies to determine the degree of transferability of this model to other types of diversity that affect team functioning.

Modifications to the model would be required, but the general framework would be preserved. A similar research design would be considered with both experimental and control groups participating in a series of pre-structured activities followed by focus group interviews. Data would be analyzed using qualitative and quantitative methodologies to provide a multi-dimensional perspective of the results. Applicability of this model to various types of diversity encountered in teams would further enhance the usefulness of this model in any organizational setting.

The next phase of research on the team development model could focus on the personal growth and development of individual team members as they progress through the process. The spotlight would be on the metamorphosis of team members that corresponds with the changes experienced by the team as a whole. Specifically, the experiences of team members could be traced in the five core areas detailed in Chapter 5: change management; team development; valuing personality diversity; conflict management; and transference of learning. This would be an important topic for inclusion, as it sheds insight into the individual thought processes that shape team functioning. It also provides team members with an opportunity to simultaneously trace their own experiences as the team evolves.

A further extension of this work could be the development of guidelines to help team members reflect on their experiences, synthesize the details, and establish goals for personal development. The investigator envisions a series of self-directed activities for members to complete after each team meeting. This would also include journaling, from which team members could extract key learnings about self and process and use them to formulate personal
goals. A structured approach to goal setting may be useful especially for team members who lack knowledge and skill regarding how to set goals, or for those individuals who would appreciate the discipline that such a structure would provide. Team members could also consult with trained facilitators to discuss personal insights, observations, and address questions.

It is also recommended that longitudinal studies be conducted to determine the degree of skill transferability that occurs over a prolonged period of time. In the final step of the model, team members discuss significant learnings and how they will be applied in other team settings. Members discuss the immediate application of the learning, but to accurately test transferability, follow-up studies would need to be conducted with the original teams to determine what skills were applied over time. Trainees are especially vulnerable to traditional attitudes and behaviours when they return to the workplace. As previously mentioned, foreseen and unforeseen barriers can deter or prevent the application of new skills and abilities in the workplace. To test the longevity of skill application requires the tracing of team behavioural patterns over time. If longitudinal studies report the transferability of skills developed from the model, then organizations can be assured that team performance and satisfaction will be sustained and lead to favourable results when measured at the organizational level.

In order to further enhance the versatility of the model, it is suggested that this study be replicated with already established teams. The preliminary testing of this model had been done with newly formed teams who had not developed histories over time. The investigator intentionally distributed participants randomly to teams in the experimental and control groups, to ensure that no extraneous variables would affect the results as teams progressed through the experiment. If established teams had been used, then any changes that occurred in their performance or satisfaction could have been attributed to other factors that had been entrenched
in the team prior to the experiment. This would have tainted the results of this study. Now that the results indicate success with the team development model, work can begin with established groups in helping them adapt to personality differences.

The additional tests and refinements of the model that have been proposed may serve as the foundation for post-doctoral studies. This study is a starting point from which the investigator plans to explore the intricacies of managing typological differences in a team setting. Expanding the scope of thinking about team development and personality will enrich the contribution of the team development model.

6.4. Conclusion

In a knowledge-driven 21st century, where teams play a significant role in sustaining the viability of organizations, it is imperative that we develop procedures that will optimize team performance. Although an extensive body of literature exists on team development, more refined research is needed on the dynamics of personality and how they can be woven into the fabric of team operations, so that teams can benefit from divergent opinions, ideas, and experiences.

The purpose of this dissertation was to determine whether the investigator's team development model based on Myers-Briggs personality types and action research would improve team performance and participant satisfaction. To this end, an experimental research design was formulated and a series of experiential exercises and focus groups were run. Data were tested both qualitatively and quantitatively to answer the three questions presented in this study. The study found the team development model to be effective in enhancing team performance and generating participant satisfaction. With these results, steps can commence for integrating the
model into teams across organizational settings. Its implications are widespread across organizations and occupations providing guidance in the management of typological differences.

The model sensitizes teams to personality differences and encourages members to actively seek and communicate differences, and learn how to support and adapt to diversity. With an understanding and appreciation of the contributions of personality diversity, teams begin the evolutionary process of exploring how to work harmoniously with others who perceive and judge the world differently. Results from this study support the use of the investigator's team development model in this journey toward achieving levels of performance and satisfaction found in high performance teams.
REFERENCES


Laiken, M. (1994). “Conflict in teams: problem or opportunity?”. Lectures in Health Promotion Series, #4; Centre for Health Promotion, University of Toronto.


APPENDIX A

SAMPLE LETTER SENT TO PROSPECTIVE PARTICIPANTS
To: Employees at (Name of Organization)

From: Carolin Rekar  
Doctoral Candidate, OISE/UT  
Res:

Date:

The intent of this letter is to invite you to participate in a study that I am conducting as part of my doctoral studies at the Ontario Institute for Studies in Education (OISE/UT). The purpose of my study is to investigate the characteristics of team effectiveness.

I have already consulted with (name of senior administrator) who is receptive to (his/her) team participating in this work. Participation in this study would require you to engage in a series of experiential exercises with other business professionals in your organization. We would meet five times over a five-week period for approximately 1 ½ hours each time. There are no risks only benefits to you as the participants. As a business practitioner, you would be involved in discovering the characteristics of team effectiveness that you may be able to use in managing teams in your own organization.

Confidentiality will be exercised during the entire process and neither your name nor any other personal information will be referenced in this study. This is a voluntary process and is completely unrelated to your job performance at (Name of company). The data are being gathered exclusively for research purposes. An executive summary of the results will be made available to all participants at the conclusion of this study.

It would be greatly appreciated if you could participate in the entire process, but if you are unable to do so, you are free to withdraw at any time.

Should you be interested in participating in this study, please complete the attached form and return it to my attention by (date to be established). If you have any questions, please contact me at the above number. All inquiries will be kept confidential.

I am looking forward to working with you!

Regards,

Carolin Rekar
Yes, I would be interested in participating in the study on teams being conducted by Carolin Rekar, doctoral candidate. OISE/UT. I am aware of the above guidelines that will be followed in conducting this research.

Name: __________________________________________

Business Phone Number: _________________________

(Your participation in this study will be kept confidential. Name and phone number are needed so that Carolin can contact you with details about the dates, times, and locations of the sessions)
APPENDIX B

PFEIFFER AND JONES

EXPERIENTIAL EXERCISES
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CONSENSUS- REACHING GUIDELINES
FOR EXPERIENTIAL EXERCISES
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PFEIFFER AND JONES

GROUP EFFECTIVENESS CRITERIA
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FOCUS GROUP INTERVIEWS

CONSENT FORM
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APPENDIX G

FOCUS GROUP INTERVIEW QUESTIONS

FOR EXPERIMENTAL GROUPS
FOCUS GROUP QUESTIONS FOR EXPERIMENTAL GROUPS

1. What did you take into consideration when you were completing the Keirsey?
2. What were you experiencing as you completed the instrument?
3. How well does your score reflect your personality style?
4. What were your experiences as you shared your profile in your five-member team?
5. What did you discover about yourself and your team members after sharing results?
6. Was the group discussion about personality styles worthwhile? Why or why not?
7. What was your perception of the training on Myers-Briggs personality types?
8. What was most valuable in this training?
9. What was least valuable in this training?
10. Was it worthwhile to establish a team action plan? Why or why not?
11. What were your experiences/perceptions as you completed the satisfaction survey?
12. What were your reactions to the survey results?
13. What were your reactions to the team performance scores?
14. Was the final team assessment valuable? Why or why not?
15. What challenges did you face as you participated in this process?
16. Were your preferences supported by your team members?
17. If your preferences were not supported, how did you deal with it?
18. What were your most significant learnings as a result of participating in this process?
19. Why did you volunteer to participate in this focus group?
20. What encouraged you to express your ideas during the focus group?
21. What hindered your ability to express your ideas during the focus group?
APPENDIX H

FOCUS GROUP INTERVIEW QUESTIONS

FOR CONTROL GROUPS
FOCUS GROUP QUESTIONS FOR CONTROL GROUPS

1. What were your experiences as you participated in your five-member team?

2. Did the team change in any way during the weeks that you worked together? If so, how and why?
   How did the team cope with these changes?
   How did you personally cope with these changes?

3. What challenges, if any, did you face as you worked in this team?

4. How did you manage the challenges you faced?

5. How would you assess your team's ability to manage the challenges faced?

6. What were your observations/insights as you moved from one exercise to the next?

7. What were your reactions to the team performance scores?

8. What were your experiences as you completed the satisfaction survey?

9. What changes, if any, did you notice in the team performance scores?

10. What changes, if any, did you notice in your survey results?

11. How would you assess your team’s overall effectiveness?
    What specifically contributed to this?

12. Did the interaction between team members change during your time together? If so, how and why?

13. From your experiences in this study, what are the characteristics of an effective, high performance team?

14. From your experiences in this study, what, if anything, would benefit your team’s performance and satisfaction?

15. What were your most significant learnings as a result of participating in this process?

16. Why did you volunteer to participate in this focus group?

17. What encouraged you to express your ideas during the focus group?

18. What hindered your ability to express your ideas during the focus group?
APPENDIX I

KEIRSEY TEMPERAMENT SORTER
AND SCORING KEY
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Appendix I

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