Toward a Cross-Disciplinary Analysis of Group Development Models: Intersecting Organizational Studies with Applied Sport Psychology

Michèle Le Blanc-Blanchard

Thesis submitted to the
Faculty of Graduate and Postdoctoral Studies
In partial fulfillment of the requirements
For the Master of Arts degree in Communication

Department of Communication
Faculty of Arts
University of Ottawa

Abstract

Group development research conducted within applied sport psychology shares many conceptual similarities with the field of organizational studies. This thesis investigates how the cross-integration of two group development models referenced from separate fields of study can converge to produce a comprehensive analytic model for evaluating group performance. Integrating Tuckman's (1965; Tuckman & Jensen, 1977) successive five stage group development model with Carron's (1982) general conceptual system for cohesiveness in sport teams, this thesis develops an original integrative cross-disciplinary schematic for group development. Guided by a systems approach, the analysis of this model reveals how cross-disciplinary research conducted within these two fields serves to identify mutual benefits, while highlighting the similarities and differences from both group development models. A key contribution of this study is the consideration of opportunities for enhancing current knowledge, and the harmonization of strategic and humanistic approaches to management. The conclusions drawn from this thesis raise significant questions about the potential yielded through the adoption of theoretical applications from applied sport psychology to an organizational context.

Acknowledgements

I would like to express my sincere gratitude to my supervisor, Dr. Mark Lowes, for his support, guidance, and invaluable feedback throughout the course of my graduate studies. Thank you for encouraging me to pursue this rather 'unconventional' approach and topic of study, and believing in the merits of this type of investigation. I would also like to thank my committee members, Dr. Martine Lagacé and Dr. Rocci Luppicini for their constructive comments and insight.

Thanks to all of my family and friends who have supported and encouraged me over the course of this process.

Most especially, I would like to extend my heartfelt appreciation to Nick, for your endless encouragement, positivity, love, and patience. Thanks for joining me in many lengthy and long-winded discussions, for enduring those sleepless nights, but most of all, for being there alongside me throughout every step of this challenging and rewarding experience.

Table of Contents

Table of Figures

CHAPTER 1:
Introduction and Background

> *I have been struck by the power of sports as a metaphorical proving ground for executives. The same techniques used by athletes to achieve peak performance in sports, are being applied in the highly competitive world of business.*
>
> — Garfield and Bennett (1984, p. 3)

1.1 Introduction of Central Focus of Research

Within the current range of managerial practices in post-industrial society there is a divide among the various streams of organizational studies. At one end of this spectrum is a school of thought engaged with the ideas of scientific management theory inspired by Taylor (1911); at the opposing end has emerged a more holistic approach to management, marked by a concern for studying the relationship between individuals and their work environments, and the subsequent product or performance derived from this dynamic.

While an ideological divide in managerial practices persists, accompanied by tensions surrounding the debate for either end of this spectrum, it begs the question about the possibilities of revolutionizing the tired notion of viewing the worker as a mere appendage of the machine (Marx & Engels, 1888), to one that fits within a post-industrial setting. Such a setting is marked by a humanistic perspective in which the interactive complexities of human performance are recognized and supported (Luthans, 1995; McAleese & Hargie, 2004). What if a comparable approach was conceived to strategically evaluate and enhance workplace performance that was equally designed to acknowledge the cognitive and emotional aspects of the worker and their relation to performance? What if a new heuristic method or managerial metaphor was introduced, that not only encouraged continuous innovation and change, but that produced consistent levels of efficiency and effectiveness,

while promoting the synchronization of individualized tasks, collaboration and professional development?

1.2 Theoretical Context: Introduction of Fields of Study to be Cross-Examined

The above questions have long remained at the forefront of discussion and inquiry among organizational theorists. Consequently, there have been several theoretical developments along these lines which have decidedly deviated from Taylorism and its subsequent theories (Lewin, 1920; McGregor, 1960; Senge, 1993). The particular aim of this thesis is to develop a focus of study which examines dominant theories drawn from organizational studies, with those that have similarly influenced the growing field of applied sport psychology. In doing so this thesis aims to conceptualize a theoretical framework imbued by a holistic, systems approach that advances the notion of nurturing today's workers with the performance potential likened to that of elite athletes.

As organizational environments have steadily become more complex and competitive, Harmison (2006) remarks, levels of curiosity concerning peak performance have also markedly intensified among practitioners and performers, in hopes of understanding the science of what Privette (1981, p. 51) defined as "superior use of human potential." As a result, many new specialized areas of study have emerged (e.g., industrial psychology, organizational behaviour, organizational development, psychometrics, etc.) dedicated to the multifaceted study of human performance (McGregor & Cutcher-Gershenfeld, 2006). Among these fields of study, however, Harmison (p. 233) argues that applied sport psychology has remained "at the forefront of the study and application of peak performance principles and practices," and therefore presents a great opportunity for skill-transfer to other performance domains as well. In fact, applied sport psychology has been

identified as providing a useful context for cross-examining a variety of organizational phenomena, ranging from emotion, to leadership, use of strategy, competition, hierarchical division of work, and individual and group performance (see for example Wolfe et al., 2005). Nonetheless, while sport has been shown to serve as an effective setting within which to conduct organizational research, Wolfe et al. have also observed that what is absent from the current literature includes the rationale, benefits, and potential of such cross-disciplinary research.

Accordingly, the primary focus of this thesis will comprise a thorough cross-examination of group dynamic research and various strategic initiatives for optimizing group performance, as advanced within the fields of organizational studies and applied sport psychology. Subsequently, upon review of the literature, this thesis seeks to assess the impact of such strategies upon improving levels of group performance, including an analysis of how such sport-oriented initiatives might be similarly implemented in a workplace setting. Working from Weinburg and McDermott's (2002, p. 284) operational definition of group dynamics, defined as "leadership, group cohesion and communication," this thesis undertakes a cross-disciplinary analysis of the governing principles and practices from organizational studies juxtaposed with equal rigour as those researched and applied in the field of sport psychology. Further, this thesis undertakes a cross-examination of Carron's (1982) general conceptual system for cohesiveness in sport teams with Tuckman's (1965; Tuckman & Jensen, 1977) stages of group development. The purpose is to conceptualize a comprehensive and integrative cross-disciplinary schematic. This schematic will serve as an illustrative means that represents the possibilities of intersecting group development theories that have been advanced in organizational studies and applied sport psychology. The resulting integrative schematic will be analyzed, followed by a discussion concerning its

potential as an organizational tool for guiding processes of group development, while revealing the complex relationship between cohesion and performance outcomes.

As such, by exploring empirical investigations related to this topic of study, the purpose of this thesis is to expose the conceptual similarities and differences between both respective disciplines (i.e., organizational studies and applied sport psychology), in order to present new theoretical insights vis-à-vis managing human performance, that might be usefully adapted from the sport psychology literature to an organizational/business setting. Wolfe et al. (2005, p. 184) assert that the "rationale for studying organizational phenomena within sport, is that examples resonate with the practitioners organizational/management research is meant to influence." In this vein, this thesis endeavours to initiate further reflection on how principles of group dynamics and performance management advanced within applied sport psychology might provide refreshing insight, and be effectively applied to an existing organizational model. In this regard, this approach also seeks to yield improved and more efficient group development strategies in a workplace setting.

The conceptual framework of this thesis will thus incorporate elements of systems thinking, inspired by Jackson's (2000) assertion that such course of reasoning focuses on holism (as opposed to reductionism) in assessing real-world situations. According to Jackson, an advantage of holism is that it does not seek to segment complex problems into various parts in order to study them and intervene them, but rather it represents the profound interconnectedness between various parts and concentrates on the relationship between these elements and how these often give rise to surprising outcomes. In other words, a holistic emphasis and systemic level of focus denotes that research must approach a system in its totality, and first understand how a system operates as a whole before any analysis or study of the individual segments or parts can be undertaken (Clegg, 2009). As such, the systems

approach described above will prove beneficial in guiding the cross-disciplinary analysis of the integrative schematic presented in Chapter 3, whereby the multidimensionality and dynamism of group development will be emphasised and elaborated upon through the incorporation of two models. Moreover, adopting a systems approach to frame the analysis of this new integrative model will also permit greater reflection about the interconnected elements that constitute a group, otherwise viewed as a system, whereby internal and external elements (or parts), including human behaviour and environmental factors influence the overall effectiveness and performance of a group.

1.3 A Note on Method

The purpose of this thesis is to explore from an organizational communication perspective, the conceptual similarities and differences that exist between organizational studies and applied sport psychology. In doing so, this thesis seeks to develop a unifying, cross-disciplinary model informed by leading principles from both fields of study that could enhance and expand the current range of conceptual group development models. In order to fulfill this initiative, an original, integrative cross-disciplinary schematic will be developed, and analyzed in terms of the existing literature concerning the intrinsic value of each model selected. Specifically, Tuckman's (1965; Tuckman & Jensen, 1977) successive five-stage model of group development will be coalesced with Carron's (1982) general conceptual system for cohesiveness in sport teams in order to generate a robust model that depicts the various processes of group development, and the simultaneous formation and impact of group cohesion on overall performance outcomes.

This thesis investigates the feasibility of cross-disciplinary research between organizational studies and applied sport psychology, with the intent of acquiring a new

perspective in organizational research vis-à-vis the study of group dynamics, and with a focus on the relationship between group cohesion and performance. The decision to carry out this cross-disciplinary study is supported by Grigg, Johnston, and Milsom's (2003) assertion that despite great support for cross-disciplinary research in principle among the research funding and academic environment, support for such activity in practice is not always met with equal levels of enthusiasm. This incongruity Grigg et al. argue, may be reason for a renewed interest in exploring the imperative of cross-disciplinarity in research.

The general lack of cross-disciplinary research is further addressed by Salas, Goodwin, and Burke (2009), who in *Team Effectiveness in Complex Organizations* discuss teamwork as an increasingly important part of work in all types of organizations. Their edited work provides a synthesis of emerging research and ideas surrounding teamwork, and explores the development of measures for calibrating team effectiveness as a distinct science. Accordingly, Salas et al. acknowledge the complexity of issues surrounding team and work group effectiveness in organizations across various fields, including medicine, mathematics, communication studies, and cognitive science, remarking that despite existing similarities, there remains a general lack of integration across disciplines. The paucity of cross-disciplinary research, they argue, is largely related to the fact that respective disciplines often regard the world from an ethnocentric manner, while narrowing their focus within the constraints of their indoctrination, or neighbouring disciplines. Consequently, the cross-disciplinary approach set out for this thesis has been selected as a means of expanding the scope of group development research in organizational studies, while encouraging integrative thinking to promote continued progress in the field.

Due to the nature of this largely exploratory study, a qualitative research design has been selected to guide the imperatives of this thesis. This research method is aligned with

Creswell's (1994) assertion that a qualitative approach is favourable when a research problem is characterized by one or more of the following three criteria: i) when a concept is immature due to a conspicuous lack of theory and previous research; ii) when a need exists to explore and describe the phenomena and develop a theory; and/or iii) when the nature of the phenomena may not be suited to quantitative measures. Therefore, it should be noted that while the subject of this thesis remains a relatively undeveloped topic within the current literature, and exploratory in nature, the deductive logic of a quantitative approach, concerned with the measurement of variables and testing of hypotheses is unsuited to fulfilling the objectives set out for this thesis.

Ultimately, the research design of this qualitative study is theoretically-focussed, and is primarily concerned with providing a rich, contextualized, cross-disciplinary analysis of group dynamics research within organizational studies and applied sport psychology. This will be achieved by exercising a standard 'desk-based' analytical research method. While the availability of cross-disciplinary studies of sport and organizational contexts is currently limited, this thesis is not based on the adaptation of or influenced by any prior study. Therefore, because secondary sources have the ability to provide a useful starting point for additional research (Stewart & Kamins, 1993), this thesis serves as a point of departure for future empirical study on this topic.

According to Stewart and Kamins (1993), secondary data may also provide a useful comparative tool, where new data may be compared to existing data for the purposes of examining differences or developments. This approach was selected to source Tuckman (1965; Tuckman & Jensen, 1977) and Carron's (1982) group development studies, and their consequent models developed from their extensive review of the literature in this area. The selection of these specific models was largely informed by the prominence and credibility of

these two models within their respective fields of study, and their contributions to the study of group dynamics in general. Moreover, a specific criterion of inclusion for the selection of these models is that they have both been referenced in applied sport psychology. In addition, both Tuckman and Carron's models present a certain degree of generality, and in turn, adaptability. Unlike some group development models, both Tuckman and Carron's models have not been developed for a specific and inclusive group, and therefore, present relevance within a range of contexts, as well as applicability to various group compositions.

Danish, Owens, Green, and Brunelle (1997) theorize that groups are similar to individuals in that they have performance trajectories that can be detailed across their lifespan. Therefore, in order to comprehend the dynamics of a team, they argue that it is necessary to first fully understand its development. Accordingly, a significant and influential factor in determining the selection of group development models for this study is that both Tuckman (1965; Tuckman & Jensen, 1977) and Carron (1982) mutually identify the multidimensionality of group behaviour, where behaviour is dictated by factors occurring within both social and task realms. Further description about how Tuckman and Carron's models have contributed to group development studies and interpretations will be discussed in Chapter 3.

A result of this 'desk-based' research approach is that this thesis will necessarily lack empirical results and statistical analysis that can be otherwise replicated or adapted to a larger sample. Nonetheless, despite this perceived limitation, the resulting exploratory analysis will serve to provide a solid foundation for guiding future research on this relatively undeveloped component within organizational studies. It also highlights the potential benefits that may be achieved through the implementation of a unifying, cross-disciplinary model by exploring alternate, although complimentary theories of group development as they

relate to the evaluation and management of group performance. Nevertheless, while the cross-disciplinary schematic achieved in this thesis is designed to outline the general trajectory of group development as it relates to performance, it is important to recognize an inherent limitation of linear and/or hierarchical group development theories such as those of Tuckman (1965; Tuckman & Jensen, 1977) and Carron (1982). For example, while successive group development theories have been credited for providing a convenient categorization system, they have been criticised for having a tendency to oversimplify development, in the sense that not all individuals and groups firmly pursue the exact developmental progression (Danish et al., 1997). Nevertheless, as Danish et al. explain, the application of stage theories serves as a useful heuristic for understanding group development, and as such, is aligned with the imperatives of the research approach selected for this thesis.

Consequently, the primary objective of this theoretically-focussed thesis is to create an integrative, cross-disciplinary schematic of group development designed to incite additional research conducted within this domain of study. As such, it is important to note that the conclusions drawn from this initial study are not intended to represent a concrete argument that this integrative schematic comprised of Tuckman (1965) and Carron's (1982) models will indeed present automatic transferability to an organizational context. Rather, the intent of this study is to provide a preliminary qualitative summary of the theoretical similarities and differences between these two fields, in hopes of instigating future empirical research in this domain. In other words, as the author, I acknowledge that additional research will be necessary in order to validate the utility of the cross-disciplinary schematic conceptualized in Chapter 3 of this thesis. Despite this recognition, however, it is worthy to note that the research design of this thesis is founded on a comprehensive review of existing

literature that supports and promotes the potential transferability of theory and method between both fields (organizational studies and applied sport psychology). Such arguments will be explored in greater depth in the following chapter.

1.4 Structure of Thesis

This thesis is organized into the following four chapters:

Chapter 1: Introduction and Background

This chapter presents the focus and rationale of the research, and provides the central background for the topic of discussion. It also presents an overview of the key issues and concepts relating to the focus of this study, including an introduction to the two group development models to be examined and adapted in order to create an integrative cross-disciplinary schematic. The purpose of the study, conceptual framework and research approach of this thesis are explained. The structural outline of the thesis is also presented, with an overview of each chapter and its objectives.

Chapter 2: Literature Review

This chapter provides a critical review of the conceptual influences and scholarly literature guiding this thesis. First, a historical review of the developments in organizational management theory and practice is presented. The theoretical framework guiding the imperatives of this thesis is also described and justified. Subsequently, the uses of metaphor and heuristics are explored, followed by considerations on how theoretical applications from applied sport psychology might serve to benefit group development and performance management efforts in organizational research and practice. This review concludes with a summary of the research rationale and its relevance to the thesis' objectives.

Chapter 3: Building a Cross-Disciplinary Schematic: An Integrative Analysis of Conceptual Group Models

This chapter provides a critical and integrative study of two conceptual group development models: i) Tuckman's (1965; Tuckman & Jensen, 1977) stages of group development; and ii) Carron's (1982) general conceptual system for cohesiveness in sport teams. Specifically, this core chapter is sub-divided into three sections. First, a summary of the applications of these two models is presented. Second, an analysis of the individual models is provided. Lastly, an original cross-disciplinary schematic for group development is presented.

Chapter 4: Conclusion

A summary of the significance and implications of this thesis is presented, and its contribution to group development research. The limitations of the study are also addressed, and suggestions for future directions of research are offered.

CHAPTER 2:
Literature Review

> *For thousands of years kings, priests, politicians, educators, producers, fathers and mothers—in fact, all individuals, have been trying day by day to influence smaller or larger groups. One might assume that this would have led to accumulated wisdom of a well integrated nature. Unfortunately nothing is farther from the truth...We know that the average manufacturer holds highly distorted views about what makes a work-team "tick." We know that no one can answer today even such relatively simple questions as what determines the productivity of a committee meeting.*
>
> — Lewin (1947, p. 9)

This chapter explores theories of management framed within continuously changing, and increasingly competitive economic climates. It also examines how such theories have been adopted by and/or influenced the field of applied sport psychology and used to systematically enhance levels of performance, while equally considering how the psychological condition of a performer renders a direct impact on achieving consistent levels of optimized performance. Exploring elements of group dynamics and their inherent impact on organizational performance, this chapter critically examines a wide range of organizational studies and their varying applications in both working and sporting contexts. Further, while the concept of framing managerial practices around principles of applied sport psychology remains a relatively novel and unexplored area of research, marked by a general lack of academic inquiry (Weinberg & McDermott, 2002; Wolfe et al., 2005), this literature review will explore the use of metaphor and heuristic devices such as sport, as a means of achieving cross-disciplinary analysis.

2.1 Transforming Management Practices: A Centenary Perspective

Over the past century there have been considerable developments in organizational management theory and practice. As Weisbord (2004, p. 327) explains, now firmly into the

new century "we are changing ever more rapidly from physical to knowledge work, mechanical to process technologies, manufacturing to service economies, and central to local control." Nonetheless, despite the transition of today's organizational practices, including the conditions that surround them, the principles that once governed industrial society, such as the four principles of management formulated by Taylor, still carry a poignant influence on post-industrial management strategies (Nelson, 1992; Tsutsui, 2001).

Originally a mechanical engineer by trade, Taylor (1856-1915) is regarded today as a pioneer in industrial efficiency, and is credited for greatly transforming the landscape of modern management (Drucker, 1974). Taylor, who is recognized as the father of scientific management, was among the first to scientifically evaluate and standardize work processes, and as such he presented a new way of perceiving business practices (Nelson, 1975). In *The Principles of Scientific Management* (1911), Taylor presents four managerial principles which he deemed essential for scientific management. In his formulation these principles defied traditional beliefs and conventions about administration:

> *First*...develop a science for each element of a man's work, which replaces the old rule-of-thumb method. *Second*...scientifically select and then train, teach, and develop the workman, whereas in the past he chose his own work and trained himself as best he could. *Third*...heartily cooperate with the men as to insure all of the work being done in accordance with the principles of the science which has been developed. *Fourth*...is an almost equal division of the work and the responsibility between the management and the workmen. The management take over all work for which they are better fitted than the workmen, while in the past almost all of the work and the greater part of the responsibility were thrown upon the man. (pp. 36-37)

Taylor's (1911) framework for organization was largely centered on the ideas of task specialization, clear delineation of authority, and extrinsic incentive schemes for workers, which ultimately resulted in standardization, increased productivity levels, and efficiency. He believed that the principle object of management was to secure what he referred to as "maximum prosperity" (p. 9), whereby both the employer and employees generate levels of

optimal excellence and efficiency. Taylor (p. 9) reasoned that because the true interests of both employees and employers "are one and the same" (i.e., motivated by monetary gains), attaining such maximized levels of efficiency were not only achievable, but would lead to uniform and mutual satisfaction among workers and management. Further, Taylor (p. 142) believed that this level of accord would also eliminate "almost all causes for dispute and disagreement between them," creating a harmonious working environment.

Today many organizational theorists (Hodgetts & Greenwood, 1995; Peaucelle, 2000) believe that the essence of Taylorism still holds a strong hold on various twenty-first century managerial practices, due to its focus on creating measures for consistently obtaining high levels of productivity and efficiency. Yet, while some theorists, such as Bassett (1993) and Sheldrake (1996), applaud the potential of post-Taylorist practices in increasingly competitive economic markets, there is also an equal degree of criticism concerning present-day applications of scientific management for its narrow focus on production and efficiency. This often results in a lack of intrinsic rewards for middle-class workers (Halpern, Osofsky, & Peskin, 1989).

In an article entitled "From Taylorism to Post-Taylorism: Simultaneously Pursuing Several Management Objectives," Peaucelle (2000) argues that while post-Taylorism may innovate with new ways of working, its objectives in many ways strongly resemble those of its 'industrial era' predecessor. Further, Peaucelle (p. 252) states that while successive evolutions in modes of production and management styles have since continued to emerge, they have not eliminated "the simultaneous search for efficiency and growth." As such, in the simultaneous quest for such objectives Peaucelle is apprehensive that the consequences for individuals and their relationship with their work (i.e., job dissatisfaction, isolation, restriction for professional growth), do not appear to have significantly changed following

such strategic management models. Such concerns are also shared by other theorists such as Argyris (1964), Mintzberg (1989), and most recently, Crowley, Tope, Chamberlain, and Hodson (2010), who equally assert that post-Taylorist principles, have in many ways, put a strain on the working conditions in both manual and professional settings.

Despite the litany of criticism levelled against post-Taylorist practices, many theorists also venerate the intrinsic purpose of scientific management in its endless pursuit for continuous improvement. Such enthusiasm for scientific management is evident among the range of popularized strategic management methodologies currently referenced among various organizations, including Total Quality Management (TQM), Six Sigma and benchmarking models (Hamel & Breen, 2007; Keen, 2003). Yet, while principles of scientific management might improve levels of productivity, Luthans and Youssef (2004, pp. 152-153) also caution that such principles are also inherently designed to increase the monotony of work, thus affecting the psychological capital, or "confidence, hope, optimism, and resiliency" of the worker.

Following Taylor's (1903, 1911) theoretical contributions, organizational theorists began to re-examine the relationship between motivational factors and worker productivity. From this emerged a new appreciation for the complexity of human performance, marked by a newfound concern and appreciation for how human elements, including psychological factors, impact on workers' performance and productivity (Halpern et al., 1989). One of the studies that emerged from this new perspective was a series of experiments conducted by Roethlisberger and Dickinson (1939[1]), performed throughout 1924 to 1932 on American factory workers at Western Electric's Hawthorne Works plant in Cicero, Illinois (Halpern et

[1] While the Hawthorne studies were conducted over a seven year period (1924-1932), the conclusive report was not released until 1939 in *Management and the Worker* (Bassett, 1993).

al, 1989). With support from the National Research Council, the Rockefeller Foundation and soon after, the Harvard Business School, the series of experiments, known today as the landmark Hawthorne studies, began with an inquiry into the effects of varying levels of industrial lighting on worker output (Halpern, 1989). Using both experimental and control groups, the Hawthorne experiments were initially concerned with examining the effect of variables on work output, by redesigning work tasks or working conditions, ranging from testing the intensity of illumination, frequency of work pauses on reducing boredom and fatigue, to variations of surveillance (Miner, 2006). Yet, while the primary intent of the studies was to evaluate how environmental conditions affect productivity, the observational results of the studies on worker behaviour were surprising:

> Within the first twelve months of worker behavior observation, the researchers were "unexpectedly" and suddenly seized by the impelling insight that social satisfaction arising out of human relations in the work place accounted for the *largest* [italics added] part of work behavior. After nearly two years of observation, investigators claimed an increase in output of approximately 30% and confidently identified the one factor of substantial importance in accounting for this change as provision of humane, caring supervision. Reports of this finding immediately began to appear in the management and then the popular literature. The great human relations revolution in management was born. (Bassett, 1993. pp. 34-35)

The unanticipated conclusions drawn from the initial illumination experiments, revealing what Landsberger (1958) later termed the "Hawthorne Effect," whereby human subjects modify or improve their behaviour on the sole basis that they are aware of being observed, propelled the study of human behaviour within working contexts, and thus, inspired a new outlook on industrial management (Bernstein, 1997). Among the leading supervisors of the Hawthorne experiments was Elton Mayo, a Harvard University professor of industrial management. In *The Human Problems of an Industrial Civilization* (1933), Mayo discusses how a series of experiments monitoring the output of a group of six skilled female relay assembly workers, revealed how changes in mental attitude, as opposed to

isolated test variables, resulted in an *observable* impact on worker output. The relay assembly test room experiments, carried out from 1927 to 1932, included a controlled assembly room, where researchers would introduce various experimental changes over an observable work period, in order to assess the impact of variables on worker output. Such variables tested included the effects of altering frequencies of rest periods, shortened work hours, supplying refreshments, and a specific group wage incentive scheme. While Mayo concedes that payment incentives of higher group earnings appeared to have slightly augmented performance, continual increases in output, he maintains, regardless of the experimental variables introduced, are largely attributable to the special attention provided to the workers, and ensuing increase in worker morale.

Mayo's (1933) analysis of the longest running Hawthorne experiment prompted researchers to consider alternate and formally neglected factors affecting worker output, such as group dynamics and worker morale, highlighting the importance of understanding the function of human relations in organizations (Zaleznik, 2005). As a result, Mayo's (1933, 1945) contributions were influential in leading to the development of the human relations movement—a new doctrine of management, comprised of research and inquiry centered on the notion of restoring opportunities for human collaboration, notably in the interest of forming effective organizational and workplace groups. As Miner (2006, p. 66) explains, the human relations movement included a new understanding that industrial work "required going beyond the considerations emphasized by scientific management to matters such as employee attitudes, social motives, and group processes (especially informal processes)." As such, this new movement would also later be credited for serving as a key part of the foundation for the growing discipline of organizational behaviour (Miner, 2006).

Many organizational theorists (Bassett, 1993; Luthans, 1995; Miner, 2006) concur that the Hawthorne studies were influential in leading to an improved understanding of organizational behaviour, by highlighting the human dimension of production—an element which was too often neglected by former industrial practices. Yet, while the Hawthorne experiments have served a practical value within organizational studies, they have been equally scrutinized for subjectively interpreting the experiments to meet the needs of an ideologically motivated agenda shared by those working in the Harvard group (Bassett, 1993; Hoopes, 2003). For this reason, Miner (2006) asserts that the authors' interpretations of the studies are lacking academic integrity, because they force a mixture of social philosophy and theory, and, in turn, their analysis appears very subjective. Nonetheless, while the Hawthorne studies are evidently not without criticism and limitations—for reasons including their gross lack of methodological rigor (Latham, Greenbaum, & Baudes, 2009; Luthans, 1995; Sheldrake, 1996)—they are by and large commended for driving a paradigmatic shift in the study of human behaviour at the organizational level, underlining the effects of intellectual and emotional processes on human performance, in addition to material resources, such as work place design and monetary incentives (Latham, 2007).

As a holistic approach to organizational research began to emerge, investigation concerning practices of organizational management also experienced a transition, marked by a heightened socio-psychological interest surrounding the conditions affecting human performance. This heightened interest was especially engaged in the study of collective performance, and the formation of groups within various social settings. As Johnson and Johnson (2003) note, from 1890 to 1940, the number of published studies on group behaviour alone, grew from merely one study per year, to over thirty annually. Nonetheless, as Weisbord (2004) asserts, among the growing research concerning group behaviour, it was

the work of social psychologist, Kurt Lewin that would propel the study of group processes (which would later be known as *group dynamics*), to an entirely different level.

In his 1939 article "Field Theory and Experiment in Social Psychology: Concepts and Methods," Lewin was among the first theorists to introduce the concept of group dynamics, whereby a group is conceived as a dynamic whole, and its actions are therefore mutually based on the level of interdependence between both its members and its surroundings. Lewin also viewed the social environment where groups collaborate as a dynamic field that interacts with subjective levels of human consciousness. For this reason, Lewin (1945) asserted that the study of group life should reach beyond the level of description and that the dynamical conditions and forces generating change in group life require an enhanced level of understanding and analysis. Comparing the field of physics to that of social psychology, Lewin (1947) theorized that the basic insight behind the laws of physics (i.e., the general rules of interdependence and causation among variables), should be equally essential to the study of social fields influencing group life. He explains:

> The dynamics of social events provides no exception to this general characteristic of dynamics. If it were possible to link a directly observable group behavior, B, with another behavior, B^1, $B=F(B^1)$ where F means a simple function—then simple rules of procedure for the social practitioner would be possible. (p. 10)

Through Lewin's (1939) development of the field theory, he notoriously presented concepts and language inspired by the field of physics, while expressing ideas through heuristic equations and spatial diagrams, with the underlying assertion that individuals behave according to their functional interactions as measured through time and space (Miner, 2005). One of the greatest contributions of Lewin's work that is now closely studied in the field of organizational behaviour, and various streams of social psychology, consists of his theorization, as expressed by the equation $B= ƒ(P, E)$, whereby behaviour (B) is viewed as

the result of an interactional function (ƒ) of a person (P) and an environment (E) (Fuqua & Newman, 2002; Miner, 2005).

Accordingly, through his field theory research, Lewin (1939) urged that there was a need for a better understanding of group life, and expressed deep concern regarding the fragmentary selection of methods for regulating group performance. Lewin (1939, 1945) challenged conventional group research, which focused largely on the various properties of groups by evaluating the characteristics and similarities of members, such as age group, cultural background, attitudes and interests. In contrast, Lewin asserted that any *basic* definition and study of groups requires an examination of the level of interdependence among group members, and is not necessarily contingent upon levels of homogeneity. Further, he argued that while a number of individuals may have distinct similarities, such as sex, race, economic position or attitudes, the sole basis of similarity does not constitute "being a group in the sense of being interdependent parts of one social whole" (p. 886). Rather, in this respect, he asserted that a distinction must be made whereby such individuals are classified as *types* or *classes*, without the implication that similarity results in the unity of a distinct *group*. Lewin's field theory research thus separated his work as a scholar in social psychology, by intently criticizing the "traditional reductionistic, similarity based approach[es]" (Johnson & Johnson, 2003, p. 156), which he argued narrowly focus on phenotypical similarities, as opposed to dynamical properties which affect level of influence (i.e., interdependence) within any type of social group.

In a committed pursuit to develop a paradigm for understanding group life in its totality, Lewin sought to unconventionally bridge the gap between theoretical science and empirical methods (Johnson & Johnson, 2003). As Rogers (1997) explains, within academia the field of psychology has traditionally been segmented into two very distinct groups:

experimental psychology and clinical psychology (i.e., applied psychology), with the former representing the higher academic prestige of the two. Yet, as a former student of Lewin's, Marrow (1969, p. 172) explains, "Lewin recognized that he was advocating an unusual blending of "pure" research and practical application and there would be scepticism concerning his feasibility." Despite having to swim against such a strong current of opposition to institute applied work in the social sciences, Lewin prevailed as a practical theorist, as a result of his assertion that group practices can be guided by theory, which, in turn, can be tested by applying, and equally validating these practices to real life social problems (Rogers). The essence of the field of group dynamics, Johnson and Johnson explain, is a combination of theory, research and practice:

> Theory identifies the characteristics of effective groups, research validates or disconfirms the theories, and practical procedures based on the validated theory are implemented in the real world to see if they work. The theory, research, and practical applications of group dynamics all interact and enhance each other. (p. 35)

Accordingly, this process of applying "a spiral of steps, each of which is composed of a circle of planning, action, and fact-finding about the result of the action" (1946, p. 146), Lewin defined as *action research*, for any form of investigation with the intent to lead to social action by solving social problems.

In the field of group dynamics, Lewin endeavoured to reveal that the properties of group life "are observable and therefore can be studied empirically without negating the holistic framework that guides the study" (Reber & Beckstead, 2009, p. 157). Convinced that the interests of both the theorist and the practitioner were inextricably interrelated, Lewin proceeded to create in 1945 the Research Center for Group Dynamics at the Massachusetts Institute of Technology (MIT) (Johnson & Johnson, 2003). In research, Lewin (1945, p. 135) explained, the central purpose of the Center would be concerned with the development of

scientific concepts, methods, and theories of group life, in order to reach a "deeper understanding and permit a more intelligent management of social problems in small and large settings." As the Center was established in the Department of Economics and Social Science, as part of the Graduate School at MIT, main areas of investigation ranged from minority problems, the relation between economics and culture, to group life within industry (Lewin, 1945).

Nonetheless, while Lewin advocated for an improved understanding of group life from a scientific perspective, his theorization stood in stark contrast to ideals of scientific management. In *Productive Workplaces Revisited: Dignity, Meaning and Community in the 21st Century* (2004) Weisbord asserts that Lewin's work is notable, due to the fact that it presented many ingenious alternatives to Taylorism. Whereas Taylor had only seen the shadows of group life, and assumed that any system could be isolated, rationalized and systemized, without any concept of an environment as a sense of renewal, Weisbord (p. 78) asserts "Lewin saw unsolved problems frozen in a field of forces—people, institutions, motives, perceptions, wishes—that pushed toward good solutions or away from them." While Lewin (1945) was principally focused on enriching the knowledge concerning group behaviour through the development of scientific concepts and theories, he also expressed how his scientific approach to social management would represent a radical departure from scientific management:

> The main purpose of engineering is setting free human energies and enhancing man's power of dealing with nature. The development of machines has been the principle means to this end. The human element itself has not been overlooked in engineering, but on the whole, engineering had perhaps the tendency of minimizing it. The automatic machine has replaced men. Where the engineer has studied men he has done so for "selecting" individuals able to handle machines and by viewing the human being itself as a machine...There are, however, other aspects of the relation between men and machines which have come more and more to the fore. Running a factory does not mean merely setting up production lines. It means the creation of a

> new group with certain leadership patterns, with a certain group morale and group productivity. We have learned, too, that it is far too primitive to assume that management needs to consider only the economic motive of the factory hand...Good management has to consider the total "culture" and all aspects of group life. (p. 134)

Hence, despite Lewin's inclination to introduce a scientific level of understanding in order to enhance knowledge about managing groups, he overcame many shortcomings in traditional scientific approaches to management, because he did not overlook nor oversimplify the interactive complexities of human behaviour. While Lewin applied this knowledge in the general study of all social groups, today in industrial management, such an approach is now classified as the distinct field of organizational behaviour. As Luthans (1995, pp. 8-9) explains, the designation of this *new* perspective "assumes that employees are extremely complex and that there is a need for theoretical understanding backed by rigorous empirical research before applications can be made for managing people effectively."

By challenging traditional paradigms for the study of group behaviour, Lewin significantly influenced the development of future communication research by introducing the potency of multi-disciplinary approaches in organizational management. This assertion is supported by Schramm (1997), who argues that Lewin accomplished more than any other theorist in terms of focalizing group dynamics into communication theory and research. Nevertheless, while the essence of Lewin's thinking continues to carry a presence in the field of communication, his direct influence appears to have become diluted among the group dynamics literature. Despite the many traces of Lewin's seminal work, such as continued interest in the group dynamics movement, and the social psychology of group influences on individual behaviour, as Rogers (1997, p. 355) remarks "the direct intellectual influence of Kurt Lewin is diminished," and moreover, "becoming increasingly difficult to recognize."

Nevertheless, while Lewin's direct contributions to the human relations movement

may appear difficult to recognize, his level of influence is evidenced through the work of subsequent organizational theorists who have greatly impacted this field of study. One such example includes the work of Douglas McGregor, a fellow MIT scholar and social psychologist, who initially helped recruit Lewin in order to establish the Research Center for Group Dynamics (Weisbord, 2004). According to Cuthcher-Gershenfeld (2006), it is likely due to this connection that McGregor's work reveals such a strong 'Lewinian' presence, and further, helped codify principles in the emerging human relations movement. In *The Human Side of Enterprise* (1960), McGregor also advocates for the necessity to mend the disconnect between theoretical and practical knowledge with respect to the management of human resources, which he argued, has proven to be a severe handicap to progress in the social sciences. Further, he maintained that the common practice of precluding an explicit examination of theoretical assumptions concerning social management, often results in creating remarkable inconsistencies in managerial practices. In other words, while the "professional need not be a scientist," McGregor (p. 7) contended that "he must be sophisticated enough to make competent use of scientific knowledge."

Denouncing the misconception that efficient management is an *art*, McGregor (1960, p. 23) sought to challenge classical organizational theory, which he argued, suffered from ethnocentrism, thus ignoring "the significance of the political, social, and economic milieu in shaping organizations and influencing managerial practice." He believed that many common attempts at controlling human behaviour in both individual and group settings contradicted and undermined the properties of human nature. Building on both Lewin's (1939) field theory and Maslow's (1943) hierarchy of needs, McGregor was very critical of managerial ignorance, including the classical assumptions concerning human motivation. Consequently, by identifying two contrasting assumptions between what he initially termed *reductive* versus

augmentative approaches to management, McGregor's conceptualization of *Theory X and Theory Y*, reflecting divergent perceptions of human nature, launched a debate in both theory and in practice concerning management systems rooted in authority (e.g., Theory X), versus those that are rooted in influence (e.g., Theory Y) (McGregor & Cutcher-Gershenfeld, 2006).

McGregor's (1960) dichotomous employee motivation theory, comprised of Theory X and Theory Y, was premised on his initial argument that all managerial practices operate according to ideological assumptions about human nature and human behaviour. Such assumptions, Sheldrake (1996) adds, play a central role in determining an organization's managerial style of operation. McGregor asserted that assumptions of Theory X, which comprised a control-oriented approach to management, pervaded the existing organizational literature and were also prominent among leading managerial policy and practice (Sheldrake). The essence of leading assumptions underpinning the Theory X paradigm, McGregor argued, was that the average human being has an inherent aversion for work and responsibility, and therefore, must be coerced, controlled, and directed, often by offering extrinsic incentive schemes, in order to extract adequate effort leading towards organizational objectives.

Accordingly, as a proponent of a progressive, humanistic style of management, McGregor (1960) refuted reductive assumptions underpinning Theory X, which he argued, not only represented a direct violation of human nature, but accordingly, resulted in creating a climate opposite to that initially desired, marked by sentiments of mistrust, antagonism, and apathy, rather than a carefully controlled working environment. As such, McGregor offered Theory Y as an alternative, which stood in stark contrast to implications for management typical of those in Theory X. He (p. 181) explains, whereas the former "leads naturally to an emphasis on the tactics of control," the latter (i.e., Theory Y), "leads to a

preoccupation with the *nature of relationships*, with the creation of an environment which will encourage commitment to organizational objectives and which will provide opportunities for the maximum exercise of initiative." In other words, Theory Y is founded on the motivational supposition of integration, whereby working together for the success of the organization will ultimately result in shared rewards and satisfaction. As such, this perspective will prove useful in guiding the analysis of this thesis, whereby the interactive complexities of group members are considered, including how a balance between satisfaction levels, derived from both individual and collective outcomes can be achieved.

Yet, as both Sheldrake (1996) and Weisbord (2004) explain, it is important to note that, McGregor (1960) sought not to convince that assumptions of Theory Y were ultimately validated and the end to all means, as he understood that they would surely be revised by emerging knowledge. Rather, as Sheldrake describes, what *is* notable is that McGregor's underlying intent was to persuasively challenge the prevailing orthodoxy of assumptions typical of Theory X, while indicating a new direction in which managerial practices might constructively evolve, and thus, offering an enlightened view of human endeavour. As a result, this ability to transform formally held assumptions about the possibilities of human growth and development within an organizational context, would acquire even greater importance with the increase of group-based work systems and the emergence of the knowledge economy (Cutcher-Gershenfeld, 2006).

2.2 Theoretical Framework: A Systems Approach for Theories of Management in Continuously Changing Climates

Building on the work of McGregor, Kochan, Orlikowski, and Cutcher-Gershenfeld (2003) reinforce the notion that the changing face of the twenty-first century organization

includes a transformation of formally held managerial assumptions and practices, paired by a shift from industrial to knowledge-based (and increasingly collaborative) work systems that blur the distinction between managerial and non-managerial work. Similarly, in *Strategic Management in the Knowledge Economy: New Approaches and Business Applications* (2005), Leibold, Probst, and Gilbert also comment on the transition of strategic management approaches in the rapidly changing, knowledge-driven economy. Highlighting the myriad challenges faced by today's organizations competing in increasingly varied and unpredictable market environments, their work emphasizes the complexity of new demands which can no longer be fulfilled by traditional, static management approaches and processes typical of the industrial era. Despite a continuous imperative for maximized efficiency and production in this knowledge-driven economy, Leibold et al.'s work addresses the reality that we are entering a new era of organizational management, where innovation and knowledge-based creativity are of utmost value, and therefore, organizations must explore horizontal and integrative approaches to leadership, enabling the maximum potential of its workforce.

The concept of the knowledge worker was initially introduced in *Landmarks of Tomorrow* (1959) by Drucker, in an attempt to both predict and describe the rising class of workers in post-industrial society. Accordingly, the knowledge society, Drucker (1995) later professed, would stand in stark contrast to previous societies, while bringing forth unprecedented changes to the field of organizational management. Among the varied changes, Drucker argued, would include shared access to leadership not previously offered. In the knowledge society, workers' individual skills are mobilized, and they occupy positions that enable them to develop their skill sets and apply creativity. As a result, new leadership opportunities become accessible to a larger proportion of the workforce, where workers'

input and feedback are valued. Further, Drucker also claimed that the emergence of new learning technologies would facilitate the ease of access to information, and suitably, the acquisition of knowledge. Paradoxically, for this reason, Drucker asserted that the knowledge society would also inevitably become far more competitive than any society in human history for the simple reason that with knowledge being universally accessible, it eliminates any excuses for non-performance.

The knowledge society described by Drucker (1995) is essentially an employee society, and accordingly, its central and distinctive organ, he argued, consists of management. According to this assertion, Drucker also explained that while management as a practice is very old, dating back to ancient Egypt, as a discipline, it has existed barely fifty years. As such, many theorists (Nohria & Khurana, 2010; Pratt, 2001), including Drucker, have explored how theories of management have been taught in both practice and in pedagogy, and suitably, have examined what changes have been made with the rise of the knowledge-economy. While the majority of business schools and organizations have since developed specialized curricula and departments dedicated to human resource management, Lengnick-Hall and Lengnick-Hall (2003) argue that in many cases, their primary focus remains limited to operational and bureaucratic functions, rather than knowledge management, in the sense of capitalizing on employees' individual knowledge and skill-sets, and transforming that knowledge into original value. Investigating the impact of human resource management on organizational performance, Becker and Gerhart (1996) have also previously criticized that human resource decisions have very seldom been considered a source of value creation.

Senge (1993) remarks that as knowledge-based organizations are steadily replacing traditional resource-based structures, a fundamental shift in management philosophy and

practice remains in a period of transition. Underlying this transition, he describes, is a critical need to discern intrinsic from extrinsic motivation among workers, and further, the introduction of management systems "where everyone, from top to bottom is a learner" (p. 6). Inspired by practitioners in the field, Senge's theorization that organizations must begin to address higher-order needs of workers, such as opportunities for continuous development, stems from commentary such of that from retired Hanover Insurance Chief Executive Officer, William O'Brien:

> Our traditional organizations are designed to provide the first three levels of Maslow's hierarchy of human needs—food, shelter, belonging. Since these are now widely available to members of industrial society, our organizations do not provide anything particularly unique to command the loyalty and commitment of the people. The ferment in management will continue until organizations begin to address the higher order needs, self respect and self-actualization [of its employees]. (p. 17)

Such observations regarding organizational issues originating from outdated managerial assumptions (also reminiscent of McGregor's (1960) Theory X versus Theory Y debate), have directed Senge (p. 26) to call for a new synthesis of research paradigms that would facilitate the transition from traditional to knowledge-based structures, and fulfill the need for "organizational change and industrial revitalization."

Concerned that the prevailing system of management is essentially designed to achieve isolated cases of success, Senge (1990) calls for a restructuring of organizational practices that removes the use of simplistic frameworks, for what are typically complex systems. He attributes this to the common practice that is taught in formal education, describing how from a young age, students "are taught to break apart problems to fragment the world" (p. 3). Though this process may appear to facilitate problem-solving initiatives, while making complex tasks and subjects more manageable, Senge (p. 3) cautions that developing such habits, especially at the organizational level, risks losing one's "intrinsic

sense of connection to a larger scale." Accordingly, as a proponent of systems thinking, Senge advocates that a systems approach serves as a valuable organizational framework, because it permits a holistic and integrative view of organizational functions:

> Systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static "snapshots." It is a set of general principles—distilled over the course of the twentieth century, spanning as diverse as the physical and social sciences, engineering, and management. (p. 68)

Accordingly, while there are varying applications of systems paradigms among the literature of systems theory, ranging from general systems theory (Boulding, 1956; von Bertalanffy, 1951), open systems (Emery & Trist, 1965; Luhmann, 1995; Thompson, 1967), living systems theory (Capra, 1982; Ford, 1987), to family systems theory (Hershenson, 1996), despite their many differences, Reber and Beckstead (2009) have noted that all variants of systems theory share a host of resemblances and presuppositions. One level of similarity among most systems theorists they argue, includes their anti-reductionist methods, marked by a "holistic emphasis and systemic level of focus [that] implies that researchers must approach a system in its totality and gain an understanding of the system as a whole before any analysis or study of the parts can be undertaken" (p. 145). In other words, systems theorists generally agree that any evaluation concerning the functioning of a system cannot occur without fully examining the interconnected elements and the environment that encompasses the system.

Concurrent with the application of systems paradigms to organization theory, Rogers (1997) posits that a systems approach does not quite classify as a theory in a strict sense, but rather, should be viewed as a broad paradigm in response to the problem of reductionism—otherwise regarded as the propensity to oversimplify or fragment complex phenomena.

Moreover, Rogers (pp. 409-410) also promotes the utility of systems thinking in organizational research, asserting that "systems thinking rejects atomistic research analyzing the communication behavior of individuals and looks instead at the networks and the relationships of an individual with others." Echoing this view, Andreadis (2009) evaluates organizational learning and effectiveness through a systems framework. Inspired by the parallel with living organisms, Andreadis (p. 6) argues that organizational effectiveness can be evaluated by the extent to which it can develop and adapt its systems, processes and behaviours for "the purpose of consistent achievement of a balanced set of performance goals in virtual perpetuity." In view of this perspective, he (p. 10) compares learning as a biological imperative that results in adaptation, alignment, renewal and survival, to the essential processes required for organizations operating in an increasingly complex environment of "threat, challenge, and opportunity."

In light of adopting a systems approach in view of organizational frameworks and their functioning, Deming (2000) posits that it is perhaps most relevant when managing people. In *The New Economics: For Industry, Government, Education*, Deming (p. 94) outlines why it is a manager's fundamental obligation to recognize that all members of an organization are fundamentally different; not for the purpose of ranking employees, but rather, in order "to understand that the performance of anyone is governed largely by the system that he works in, [assumed under the] responsibility of management." In a similar vein, McAleese and Hargie (2004) emphasize that managing performance is a *unified* function of organizational culture. Highlighting the intrinsic human component of overall performance that is often overshadowed by managerial rhetoric (embedded with idealistic perceptions of efficiency and order), they reason that organizations should be perceived as "complex systems of coordinated behaviour" (p. 155), thus managing the complexities of

people rather than merely the objectives of a *project*.

Consequently, despite the variations and complexity of systems paradigms evident among the literature, the focus on holism and anti-reductionist methods for organizational research, as expressed by Rogers (1997), Andreadis (2009) and Deming (2000), serves as a useful framework guiding the imperatives of this thesis. As such, a broad systems approach that permits a focus on the interdependent properties affecting organizational performance, as opposed to a strict and comprehensive methodology typical of a scientific approach to systems theory, will be used to guide the analysis in this thesis.

Accordingly, within the current globalized knowledge-based economy, human resources (or capital) are increasingly recognized as a critical factor for achieving a sustainable competitive advantage (Drucker, 2002; Luthans & Youssef, 2004). In order to successfully compete in this new environment, Lengnick-Hall and Lengnick-Hall (2003) assert that organizations must be flexible, adaptable, and adjustable; but most importantly, they must also manage their intellectual capital as deliberately and as effectively as they do their tangible assets. Nonetheless, in *The Human Equation* (1998), Pfeffer provides substantially supported, although discouraging findings relating to this imperative. He explains that despite surmounting evidence that human resources are indeed a vital asset for achieving long-term organizational success, it appears that merely half of the organizations and executives surveyed actually regard human resources as a *capital* investment. Alternately, Pfeffer explains that spending is often diverted to physical resources such as technology and equipment, which are perceived to have a greater probability for a higher return on investment.

Luthans and Youssef (2004, p. 143) also strongly support the notion that investing in human resources are "no longer just a cost of doing business, but are an indispensable asset

[for organizations]...an investment that needs to be effectively managed so that they can yield the high return of sustainable competitive advantage." Further, they call for a transformation of current human resource management practices that would include developmental approaches, designed to enhance performance by supporting the psychological dynamics of workers (i.e., human, social and psychological capital), in order to achieve employees' full potential, and concurrently, sustain a competitive edge. According to Burke (2009, p. xxi), in the era of human capital growing evidence reveals "that the only *unique* [italics added] source of competitive advantage lies in people, people management and organizational culture." Yet, as Al-Rawi (2008, p. 92) has remarked, while organizations are often successful in developing or managing resources, including acquisitions, cost controls or reporting processes (which may ostensibly improve performance), they often "fall short in managing the human side of their business," thus lessening the overall effectiveness and sustainability of an organization.

Despite existing studies and academic interest concerned with measuring peak performance across various domains, notably within increasingly complex organizations (Lowman, 2002), indications strongly suggest that a lack of initiative remains within business and industry in regard to stimulating peak performance among employees in the workplace. In *The Peak Performing Organization* (2009, p. xvii) Deszca argues that knowledge concerning the various dynamics required in the development of peak performing individuals, teams and organizations unequivocally "represents the Holy Grail for those concerned with organizational effectiveness." Nonetheless, while leading executives continue to strive for optimized performance levels, as Burke and Cooper (2009, p. 4) remark, "[m]ost organizations today fall short in creating the conditions that call out the maximum contributions of their people." Moreover, they (p. 4) also lament, that despite

developments in organizational management, "organizational inertia" remains considerable, as many current positions are designed to employ but a "fraction of each worker's thinking capacity," thus causing performance levels to remain stagnant.

The literature suggests that the gap between empirical research and practical applications in organizational studies has proved a difficult one to bridge. In discussing the gap between policies and practices, O'Leary, Goodnight, and Senge (2003) lament that while many organizations and industry leaders espouse enlightened viewpoints, they fail to endorse them with any kind of action. This unfortunate circumstance they argue is largely attributable to the fact that executives' drive for short-term results often outweighs their aspiration of long-term sustainability. As such, while implementing sustainable performance management strategies in the workplace remains a constant (and equally challenging) imperative within the domain of business and industry, there exists much common ground between such principles advanced in organizational studies and the field of applied sport psychology, as both disciplines are equally comprised of the allocations of resources (both human and material), and theoretical models concerned with competitive strategy and behavioural development, designed to improve levels of human performance (Adcroft & Teckman, 2008).

2.3 Metaphor and Heuristics: Applied Sport Psychology as a Context for Organizational Studies

Arguably, one of the best laboratories for empirical study of group dynamics and performance management exists within the landscape of elite sport, where there is great potential in the developments achieved within applied sport psychology (Pratt, 2001; Wolfe et al., 2005). According to Thornton, Privette, and Bundrick (1999), much of peak

performance research has targeted sport, because sport places importance on superiority and objective measures of excellence. Indeed, while applied sport psychology has internalized and adapted many of its principles related to achieving optimal performance from organizational and humanistic psychology (Fletcher & Wagstaff, 2009), it provides an additional advantage by considering not only the physical contributing factors, but also evaluates the various emotional and cognitive processes and dynamics involved in evaluating variants of performance management.

In *Applied Sport Psychology* Williams and Straub (2006) discuss the essence of applied sport psychology, which they explain is devoted to focusing on identifying and understanding psychological theories that are both applicable and functional for enhancing performance at various levels. Reflecting about current and future directions of sport psychology, Anshel (2003) remarks requires knowledge about its history which, he argues, is far older than many researchers in the field recognize. In fact, the multidisciplinary field of sport psychology has a complex history. While it was not until 1986 that the American Psychological Association (APA) recognized this area of research concerned with "psychological factors linked to human performance" under Division 47 (the Division of Exercise and Sport Psychology) (APA Division 47, 2009), many scholars in the field argue that several independent studies conducted throughout the early to mid-twentieth century proved seminal in the development of this specialized field of study (Anshel).

In 1898, Triplett, a psychologist at Indiana University published a study in the *American Journal of Psychology*, entitled "The Dynamogenic Factors in Pacemaking and Competition." This study would later be regarded as the first experiment in both social psychology and sport psychology. Triplett investigated a phenomenon now known as *social facilitation*, as later coined by Allport (1920), defined as the favourable effect of the presence

of observers on one's performance. By measuring the acceleration of cyclists' pace when in the presence of others, Triplett observed that cyclists performed faster when competing against other cyclists, and even faster with other cyclists on a tandem bicycle than when competing alone. Accordingly, as Anshel (2003) explains, through this study Triplett theorized that the presence of others (i.e., audience members, competitors, and co-actors) stimulates the maximization of energy and increased effort.

While Triplett's (1898) study is notable for what is believed to be the first experiment related to sport psychology (Anshel, 2003; Davis, Huss, & Becker, 1995; Weinberg & Gould, 1999), it is also significant in that it reveals a link between applications for human performance, including social and competitive aspects of groups, witnessed within seemingly disparate arenas, such as in sporting and organizational contexts. As such, the results of this initial study reveal a striking resemblance to the unexpected findings related to the motivation and performance of relay assembly factory workers, which were later discovered by Roethlisberger and Dickinson (1939) in the landmark Hawthorne Studies of the 1920s and 1930s previously referenced in this chapter.

The contexts of sport and business, at first glance, may appear to exist as two distinct fields of study. Yet, scholars such as Weinberg and McDermott (2002) contend that recent comparative studies suggest principal similarities across both domains, notably in terms of the elements and conditions sought amongst leaders striving for sustained organizational success. Referencing results from a qualitative study comprised of twenty semi-structured interviews with leaders from business (n = 10) and sport settings (n = 10) designed to investigate perceived factors critical to organizational success, focussing on group dynamics, Weinberg and McDermott (p. 294) conclude "that there were many more similarities than differences among these two types of organizations regarding factors associated with

success." While the authors concede that more empirical data are necessary in order to substantiate these preliminary findings, such as advancing additional links between sport and business environments, they recognize the opportunity presented by cross-disciplinary integration, including the development of programs to maximize skill transfer between these two domains. Further, they assert that "theories of performance excellence and organizational success can be developed using data from these two fields" (p. 284), thus enriching the existing organizational literature, and inspiring future directions of research.

In their (2008, p. 38) article "A New Look at the Sports Paradigm for Business: Performing Isn't Enough," Adcroft and Teckman also discuss the commonalities that exist between sporting and business contexts, observing that success in both fields is largely "determined by management and the use of strategy, team working, leadership and motivation." They present sport as a framework for illustrating important lessons in management, and discuss how examples from the world of elite sport can be translated to fit a business context. Contrasting the dynamic interplay between performing and competing, Adcroft and Teckman explain that success in contests is a multi-dimensional phenomenon, whereby performing versus competing as a team can produce very different results. Drawing upon examples from elite sport, referencing American football, described as a multi-dimensional offensive-defensive game where each team has a unique blend of performance and competitive orientation, they argue, demonstrates how a strategic exploitation of competitive characteristics can often overcome performance inferiority. For this reason, they assert that many valuable lessons for business management are echoed through this performing-competing framework visible within sporting contexts, and as such, posit that a sports paradigm might serve as a valuable heuristic for coping with competition and engaging in contests.

Despite a degree of apprehension surrounding cross-disciplinary research in organizational studies (Hamington, 2009), various studies (Foster, 2002; Gilson, Pratt, Roberts, & Weymes, 2000; Jones, 2002; Loehr & Schwartz, 2001) have identified the landscape of elite team sports, and concurrent methodologies within applied sport psychology as a fertile laboratory for empirically studying group dynamics and performance from an organizational perspective. For example, while building upon his initial (Keidell, 1985) triadic sports-model framework, designed to analyze three major American team sports (baseball, football, and basketball) as a generic organizational model, Keidell (1987) later concluded that the distinctiveness of various games, such as hierarchal control in football, can demonstrate how game structures in sports are indeed parallel to organizational structures. His research also revealed that while organizational constructs have remained obscured amongst the literature (primarily due to inconsistencies or variants in conceptual language among theorists), a sports-model framework is useful, insofar as it yields an intelligible and consistent means of communicating principles of organization theory.

Professional sport psychologists acknowledge the similarities that exist between organizational communication and their own discipline, conceding that "most of the principles and strategies of team building are derived from research on organizational development in business settings" (Moran, 2004, p. 213). Such affirmations, however, are often accompanied by critical claims that while sport psychology has borrowed and internalized organizational principles from business and industry, they have nonetheless been put into practice with a consistent focus on a team's collective *performers*, rather than simply the overall *performance* of a team itself (Moran, 2004). This argument is supported by Williams and Straub (2006), who assert that a primary objective of psychological

interventions practiced in sport is to learn how to consistently create a mental climate that enables athletes to collectively perform at their best.

The notion that an ideal mental climate is directly correlated to achieving peak performance, as opposed to an isolated focus on skill and experience, is strongly supported within the field of applied sport psychology. Krane and Williams (2006, p. 208) for instance, comment on the "tremendous surge of research on psychological aspects of peak performance," which has noticeably increased within the past twenty years. Respectively, under the assertion that both physical and intellectual performance are strongly dependent on one's ability to control their mental state, they argue that achieving an ideal mental state can result in increased levels of concentration, and the consequent filtering of impeding distractions, thus facilitating one's ability to perform at their best. Similarly, in a comparative study examining psychological factors affecting Olympic performance, Gould, Guinan, Greenleaf, Medbery, and Peterson (1999, p. 373) conclude "that some optimal combination of mental states is associated with superior performance." They conclude further, that "effective performers have developed mental skills which help them attain these states" (p. 373).

While performance-enhancement interventions through mental training have been widely studied and applied among elite athletes, and are supported by more than thirty years of controlled research (Mahoney & Avener, 1977; Orlick, 2000; Whelan, Mahoney, & Meyers, 1991), the potential skill transfer to settings other than sport is a fairly recent and undeveloped area of study (Foster, 2002; Jones, 2002). In "The Elements of a Clear Decision" (2006), Kopeikina discusses what she calls the clarity state, arguing that sound decisions required for the success of an enterprise are hinged on mental clarity. Kopeikina, Chief Executive Officer of Noventra Corporation, and former visiting scholar at MIT Sloan

School of Management, asserts that achieving a clarity state is characterized by striking a balance between physical, mental and emotional systems, and consists of a skill that can not only be learned, but also leveraged. Nonetheless, while she credits sport psychology for instructing athletes and coaches that a balanced mental state can greatly improve performance, she also contends that in business and industry "much of today's conventional wisdom about effective management and leadership runs counter to achieving clarity" (p. 19); thus reinforcing the notion that cross-disciplinary research within applied sport psychology may indeed provide insight, and enrich current organizational practices. This assertion has also previously been addressed by Murphy (1996), who observed that while various professional roles (e.g., medical practitioners, corporate executives, government officials) must consistently deliver optimized performance, only in the area of sport has the mind/body connection and its relationship to performance been critically researched.

Consequently, in light of the seeming lack of performance optimizing techniques employed among business leaders, Foster (2002, p. 212) posits that organizational professionals might "find a valuable resource in the methodologies used to enhance the performance of high-level athletes." Among the myriad applications presented by Foster for optimizing performance, include five mental training skills widely referenced within applied sport psychology, consisting of: i) *mental imagery*, notably for improving creativity and problem-solving; ii) *performance routines* used to strategize both during training and in competition; iii) *positive self-talk*, applied to motivate and enhance levels of confidence; iv) *activation control strategies*, enabling one to conserve and release varying levels of energy based on task demand; and v) *techniques for sharpening focus and sustaining concentration*. Foster thus asserts that reviewing various performance enhancement principles from the sport psychology literature can yield numerous applications of mental training skills

containing potential relevance and transferability to organizational and business settings.

Similarly, in a 2002 study, Barbusse explores the relationships that have formed within organizational and sporting contexts, and considers a transition towards a converging logic that would unite these formally presumed separate spheres. Barbusse confers that if the sports community was able to successfully integrate principles of organizational behaviour and management, that the reverse scenario of incorporating principles from elite sport might prove equally beneficial in advancing the field of organizational studies. She asserts that the domain of sport has several unique functions, such as serving as a vector of personality development, including leadership roles, while reinforcing and developing values of self-confidence and efficiency, and evoking team spirit—values often sought within organizational contexts. In this respect, Barbusse states that research conducted over the last few decades reveals an increasing convergence of interests between these two domains in both theory and in practice. She also addresses how conceptual elements derived from sport and competition are increasingly becoming a management tool to mobilize workers within organizations. In other words, as Pichot, Pierre, and Burlot (2009) note, it is because of this growing realization that more companies today are choosing to federate their employees around the common positive values that are associated with competitive sports.

With the ability to draw similarities between two seemingly disparate concepts, Segrave (2000) suggests that metaphors represent a unique and salient feature of language, and can be applied to link distinctive features of everyday experiences, while serving as a mechanism for mediating a cultural reality. In this sense, he discusses how the ubiquity of competitive team sports in Western society has permeated the cultural discourse of business and industry, and as such, offers useful parallels for examining the dynamics of their distinct, yet complementary, environments. In a similar vein, Raynor, Ahmed and Henderson (2009)

assert that obtaining insight into various management issues or challenges by drawing upon sports metaphors can be instructive—especially vis-à-vis efforts at improving efficiency and inspiring a team atmosphere. However, while many discussions within the literature applaud the benefits of sports metaphors used within business and organizational contexts (Foster, 2002; Loehr & Schwartz, 2001; Pratt, 2001; Wolfe et al., 2005), others, such as Hamington (2009), also question the potential distortion of such evocative language devices, claiming that metaphors can also obfuscate intended meaning.

Despite some degree of criticism concerning the use of metaphor in organizational studies, there are many practitioners who promote the use of illustrative comparisons that inspire an enlightened understanding and refreshing insight about long-held concepts. For example, in *Images of Organization* (2006), Morgan offers an alternative means of perceiving the underlying functions of organizations through the use of metaphors, by which organizations are conceptualized through eight distinct comparative models: machines, organisms, brains, cultures, political systems, psychic prisons, flux and transformation, and instruments of domination; each highlighting analogous functions or properties of organizational structures. Taber (2007) also acknowledges Morgan's work by discussing how his model was effectively applied to introductory MBA management courses in order to facilitate systems thinking, while subsequently illuminating abstract concepts in organization theory. The utility of this exercise, Taber asserts, proved to offer a descriptive and visual means for analyzing various properties of organizations, while serving as a useful vehicle for understanding comprehensive management practices at a comprehensible level.

Wolfe et al. (2005) concur with this notion cited by Morgan (2006) and Taber (2007), and in their article "Sport and Organizational Studies: Exploring Synergy," contemplate the landscape of sport as a suitable context for organizational research, and of unrealized

potential. One of the primary advantages presented by the intersection of organizational studies within sport, they concede, is that performance-related studies conducted within the latter context are more dynamic, and prove to initiate greater reflection on the various stages of performance:

> There are actions of throwing...impeding...weakening, exploding, retarding, and aging. These are things that people do and things that happen to people. They are processes, changes, and evolutions. They have animation. It is tough to talk about sports without nuanced verbs. Unfortunately, it is easy to talk about organizations without such verbs. That's reason enough to consider organizing within sports where the outcroppings of that organizing may be thought about with more active imagery. (p. 205)

In discussing the power of contexts "as venues that enable or disable vitality and life giving processes" (p. 16), Dutton (2003) has also pleaded for the need to revitalize elements within organizational studies. Drawing from her own frustrations as an organizational scholar, Dutton supports the pursuit of such novel inquiry within this interdisciplinary field, which, she argues, may present refreshing insight while uncovering new patterns of organizational life. In a similar vein, in writing "A Story of Peak Performance," Pratt (2001, p. 466) discusses how as dean of the University of Waikato Management School, he "became increasingly dissatisfied with the dry, pedantic academic style to which...[many] academics, have become socialized." As a result, Pratt claims that he and his colleagues were beginning to feel uninspired by the conventional range of leadership and organization theories, where ideas about optimal performance, he suggests, were problematic, as they appeared "fragmented rather than holistic, anecdotal rather than rigorously researched, and taxonomical rather than presenting coherent theory" (p. 478).

While conducting research as co-author for a book entitled *Peak Performance: Business Lessons from the World's Top Sporting Organization* (Gilson et al., 2000), Pratt (2001) explains how the predominance of metaphors that are often used in organization

theory, and concurrently referenced in business language, inspired a vision to how this might be used to conceptualize a metaphor for optimizing human performance. Accordingly, he recounts how he and his colleagues began to review extensive literature within the established field of sport psychology, and ensuingly, became fascinated with the passion and drive developed by elite athletes, matched by their total dedication and focus in the pursuit of peak performance. He explains:

> We wondered whether, and how, this passion and dedication could be realized within organizations more generally...We quickly concluded that concepts of elite human performance from the literature of sports psychology are directly and theoretically relevant to organizations more generally...Here we hoped to find the peak of human performance to see what lessons could be deduced to assist organizations more generally. (p. 478)

Among the lessons garnered from sport psychology, which Pratt (2001) specifically targeted for organizational studies, include how elite sport organizations have strategically managed to establish sustained competitive performance, notably when faced with inevitable turnover rates, whether among administration or players. Throughout his research, he discovered that both fields of study share many commonalities, including challenges; and therefore, explorations of various cases within professional sport have contributed to developing a suitable framework for creating a peak performing organization.

2.4 Summary and Research Questions

Using sport as a metaphor for the transfer of skills and practices in an organizational setting is not only useful insofar as it provides coping mechanisms for an ever-adapting and unpredictable playing field of today's economy, but as Jenkins (2005, p. 20) remarks: "[t]he metaphor [of business within a sporting context] will help leaders, teams and individual employees better understand how to address change as they search for meaning and success

in their organizations and careers." In other words, sport teams as a metaphor for organizations and working groups not only facilitates comprehension of principles of management, it also incorporates many related elements that are present in organizational studies, such as hierarchical structures, leadership, motivation and rewards (intrinsic and extrinsic), thus demonstrating how the two seemingly disparate arenas are more similar than they initially appear (Gribas & Downs, 2002; Keidell, 1987).

Accordingly, a review of the literature captures the complexity of organization theory, while revealing that many elements of inquiry related to group dynamics and performance management are also concurrently being investigated in the growing field of applied sport psychology. Further, the existing literature highlights the unique potential and transferability presented by cross-disciplinary integration between these two respective fields of study. Nonetheless, while many similarities appear to exist between both fields of study, research also indicates that greater investigation is needed in order to justify further in-depth exploration within this novel area of study.

In this respect, three central research questions have been developed in order to guide a cross-disciplinary analysis of these two fields. These are framed within a theoretical framework founded on systems thinking that enables a holistic and integrative paradigm for the broader study of group dynamics and performance models referenced in organizational studies.

> *Q1*) How does Tuckman's (1965; Tuckman & Jensen, 1977) successive stage group development model compare to Carron's (1982) general conceptual system for cohesiveness in sport teams in terms of group development theory?

Q2) By conducting a cross-disciplinary analysis of these models, what contribution to knowledge can be achieved through the integration of dominant group dynamic and performance-related principles from applied sport psychology and organizational studies?

Q3) How will this cross-disciplinary study's development of an integrative schematic serve to advance research in group development and leadership studies?

CHAPTER 3:
Building a Cross-Disciplinary Schematic:
An Integrative Analysis of Conceptual Group Models

> *Group dynamics is the scientific study of behavior in groups to advance our knowledge about the nature of groups, group development, and the interrelations between groups and individuals, other groups, and larger entities. What happens among group members is dynamic, not static. The interaction among members is characterized by forces such as communication and leadership that are in constant motion and change.*
>
> ― Johnson and Johnson (2003, p. 36)

The primary focus of this thesis is to explore the potential of cross-disciplinary investigation in order to expand the current scope of knowledge and availability of models in group development research that is conducted within organizational studies. This will be achieved by intersecting comparable group dynamics and performance management principles that concurrently exist in both organizational studies and applied sport psychology. While many theories that have lead to the development of applied sport psychology in fact originate from various adaptations of organizational research, a primary objective of this thesis is to examine how comparable group development models from these two respective fields contrast. In light of this objective, this thesis sets out to discover what contributions can be made to the existing organizational literature through the conceptualization of a cross-disciplinary schematic of group development.

This chapter develops an integrative, cross-disciplinary schematic that combines elements of two widely referenced theoretical models: i) Tuckman's (1965; Tuckman & Jensen, 1977) *stages of group development*, and ii) Carron's (1982) *general conceptual system for cohesiveness in sport teams*. First, an overview will be presented, reviewing how these respective models have been studied and applied individually. Second, a section describing all functions of the individual models will follow, in order to provide a

comprehensive analysis of Tuckman and Carron's respective theorizations for evaluating stages of group development. Lastly, by integrating these two models I will present an original schematic that integrates Tuckman and Carron's individual theorizations of group dynamics. In so doing, this incorporative schematic is designed to illustrate the interactional and multi-dimensional elements of group functioning. Moreover, placing this inclusive model within a holistic, systems framework will enhance knowledge of group processes, while promoting further investigation through cross-disciplinary research that is conducted within two distinct, yet complimentary fields of study. This systems framework will also serve to integrate the variety of studies conducted within organizational studies and applied sport psychology, and present common themes explored in the evaluation of groups, with the overall intent of managing and improving levels of efficiency, collaboration and performance.

3.1 Applications of Conceptual Group Development Models: Understanding Group Life

Membership and engagement in groups is a pervasive characteristic of almost any society. For example, one enters life as a member of society's most prevalent, and arguably most significant group—the family (Lumsden & Lumsden, 2000). As we enter the developmental stages of life, we subsequently become members influenced by other significant groups and social environments. Accordingly, as Carron, Hausenblas, and Eys (2005, p. 3) explain, it is in these group settings that "we influence the behaviors, cognition and attitudes of other people and, in turn, are influenced ourselves."

With a growing interest in understanding the intricacies of group dynamics in various social settings, many academic fields and sub-fields of study have emerged

with a concern for empirically studying methods for describing, explaining, predicting, and controlling various types of group behaviour. In this pursuit many attempts have been made at defining both the nature and utility of group life (Allport, 1924; Cartwright & Zander, 1968; Shaw, 1976). Similarly, there has been an equal level of dispute concerning the level of abstraction in evaluating a theoretical construct, such as what constitutes group life (Carron et al., 2005). Yet, McGrath's (1984, pp. 6-7) assertion that "groups are not just any aggregate of two or more people," but rather "social aggregates that involve mutual awareness and potential mutual interaction," serves as an effective means in distilling this debate. Further, his theorization of what types of social aggregations do *not* constitute as a group, marked by a lack of a shared objective and interdependence to achieve this mutual ambition, serve useful in demonstrating the multi-dimensionality of group dynamics, as originally expressed by Lewin (1939, 1947).

Accordingly, theorists such as Tuckman (1965) and Carron (1982), whose frameworks for group development will be analyzed throughout this chapter, have dedicated much of their academic efforts to studying the multi-dimensionality of group participation. Their conceptual representations of group development have been widely studied and applied within the respective fields of organizational studies and sport psychology; this has served as an illustrative means of grasping the complexity of group development, while equally bringing a level of uniformity to its analysis. Both Tuckman and Carron's frameworks provide a holistic, integrative means of evaluating the various stages of group development necessary for achieving functionality and performance objectives. Despite their many differences and similarities in application, however, these respective models have yet to be directly juxtaposed within the current

literature. Consequently, in order to gain perspective about the significance of these two models, and how they offer insight about group development, it is necessary to provide a brief review of the literature from both fields, revealing how Tuckman and Carron's theorizations have contributed to the broader study of group dynamics.

3.11 Tuckman's (1965) Stages of Group Development

A dominant theme discussed in the current organizational literature concerns the increasing use of 'teamwork' within organizations in order to meet performance objectives. This inclination towards engaging in group processes has also increased the need to better understand factors that can impede or promote group efficiency. In her (2003) article "The Stages of Group Development: A Retrospective Study of Dynamic Team Processes," Miller addresses this dynamic, explaining how with increases in both the quantity and variation of teams being utilized by organizations comes a corresponding need to better understand the underlying mechanisms that will make teamwork more effective. She explains:

> Teamwork has become a primary means by which organizational decisions are made, strategy is developed, and task activities are carried out. As teams become a larger part of organizational life, it is increasingly important to understand the basic dynamics of teamwork, and to know how such group processes impact other factors such as effectiveness or satisfaction. (pp. 129-130)

While the team phenomenon has heightened our need to better understand what makes groups more or less effective, Miller also states that methods for assessing dynamic team processes, such as changes that occur at various stages of group development, are still relatively limited.

Despite the many proposed models of group development (e.g., Bennis & Shepard, 1956; Bion, 1961; Gersick, 1988), Miller (2003) asserts that one of the most predominantly referenced, and arguably, most widely recognized in organizational studies remains

Tuckman's (1965[2]) sequential stage model of group development. This assertion is also shared by many in the field, including Wheelan and Hochberger (1996), who have previously stated that Tuckman's model of group development has remained a standard for many years. They also use the foundation of his developmental model to inform their own research, and resulting Group Development Questionnaire, created as an instrument to measure group development at various stages. By offering descriptions of a therapy group as it progresses through Tuckman's stages of group development, Matthews (1992) attempts to demonstrate how a general systems theory perspective of group therapy is complementary to the group literature. The conceptual umbrella of Tuckman's five stages was selected as a framework for his analysis based on the degree of familiarity among the *Journal for Specialists in Group Work*'s readers. Accordingly, Matthews asserts that Tuckman's framework serves as a relatable means for explaining the practical implications of general systems theory for group counselling.

In an article entitled "Modeling Team-Development Lifecycle in Public Administration Courses," Holmes (2010) argues that Tuckman's (1965; Tuckman & Jensen, 1977) framework is the most well known model for understanding the group development lifecycle. As a professor in public administration, Holmes expresses her dissent from current pedagogical approaches in group development, which she argues are not adequately fulfilling the needs of students and public administrators. She suggests that current methods could be enhanced by focussing on team development skills and competence through explicit reflection, modeling, and analysis of the team development lifecycle. Using the context of an entire class as a team, she has conducted several experimental studies with graduate-level

[2] Tuckman and Jensen (1977) later amended a fifth and final hierarchal stage to Tuckman's (1965) original model, called *adjourning*, for groups terminating membership upon completion of the group's primary objective.

courses informed by the logic of the Tuckman typology of sequencing team development. She describes her experience with actively modeling team development strategies informed by Tuckman within a classroom setting, and how it has continuously proved to encourage students to explore the team development process while introducing them to specific techniques of navigating through these sequential stages. By modeling Tuckman's theorizations within the context of an entire class representing a single-team model (with class sizes ranging from 7 to 19 students), Holmes states has enabled her to observe how different group sizes exemplify varying group dynamics. For example, whereas a class with less than 10 students promotes a groupthink mental model, a class exceeding 15 students increases the potential of 'free riders' or 'social loafers' in the process. Therefore, because sequencing group development is one of the key tenets of understanding group dynamics, Holmes concludes that this method for explicitly modelling and adopting Tuckman's model will enable students and future practitioners to directly experience and reflect upon the corresponding emotional and behavioural responses that occur at various developmental stages, and which ultimately affect overall group performance.

Tuckman's (1965) framework has served to guide several studies of group development (e.g., Engle, Boozer, Cessar, & Correia, 2003; McMorris, Gottlieb, & Sneden, 2005; Weber & Karman, 1991). Similarly, there have also been various efforts directed at improving or adapting Tuckman's model by combing elements from other conceptual group models. For example, Saidla's (1990) study "Cognitive Development and Group Stages," bridges Perry's (1970) scheme of the cognitive development of college students with Waldo's (1985) adaptation of Tuckman's developmental group stages. Waldo's revised framework aligns Tuckman's stages of group development (i.e., forming, storming, norming, performing) and his added final stage of mourning, with stages of human development (i.e.,

infancy, adolescence, young adulthood, adulthood, and death), in order to signify the level of maturation attained by a group, and its corresponding level of functionality at each sequential stage. Conversely, Perry's theory outlines the intellectual and ethical development of college students and traces the development in students' thinking. Accordingly, through this intersection of conceptual group models, Saidla's juxtaposition of the developmental group stages as outlined by Tuckman, and adapted by Waldo, with Perry's cognitive developmental schema, is an initial attempt at highlighting the "incredible complexity of the interaction effects between members' cognitive developmental level and group stages" (p. 20). Moreover, it also reveals how Tuckman's theorizations have continued to inform group development research.

Other scholars who have endeavoured to create an incorporative model of group development using Tuckman's (1965) model include McGowan and Henschen (1988), who have previously studied the interaction between team maturity and communications styles among sport teams. By interweaving Hershey and Blanchard's (1977) leadership model, comprised of four phases of group development and accompanying communication styles, with Tuckman's original four-stage model of group development, they describe the effects of communication and leadership styles on team performance as they occur at various stages of group development. As such, their integrative model serves as a useful guide for sport practitioners, highlighting essential communication and leadership processes affecting group cohesion and performance among players.

Tuckman's (1965; Tuckman & Jensen, 1977) sequential conceptual model of group development has been referenced in both the organizational and sport psychology literature. As noted by O'Connell and Cuthbertson (2009), the multi-disciplinary attraction to Tuckman's model is mostly attributable to the fact that, unlike other group development

models (e.g., Fisher, 1970[3]), Tuckman's is the most generic. For this reason, they explain that Tuckman's model can be used to describe groups that exist for varying reasons, and similarly, within different contexts.

3.12 Carron's (1982) General Conceptual System for Cohesiveness in Sport Teams

In "Cohesiveness in Sport Groups: Interpretations and Consideration" (1982, p. 124), Carron defined cohesion as "a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its goals and objectives." In the same article, he also presents a hierarchical model for cohesiveness in sport teams, outlining moderating factors which contribute to cohesion in sport. His model also illustrates the interrelationship between moderating factors and cohesion, and their influence on both individual and group performance. Subsequently, Carron's representation of group development as a dynamic and multidimensional process—where members are united in pursuit of mutual goals and ambitions—would prove useful for future practitioners and empirical research conducted within the realm of sport. As Boyle (2002, p. 167) describes, Carron published his model "with the goal of having future researchers structure their research projects around these antecedents, therefore building a stronger picture as to what factors are influencing cohesion." Boyle is among such researchers who have applied Carron's operational definition of cohesion to guide their own research. In fact, he affirms how Carron's definition and suggested framework were used to guide the analysis of group cohesion-related data in his doctoral dissertation, which examines the impact of adventure-

[3] While Fisher's (1970) group development model is similar to Tuckman's (1965) in that its four sequential stages (orientation, conflict, emergence and reinforcement) share many common developmental elements, it is restricted to groups engaged in decision making processes (O'Connell & Cuthbertson, 2009).

based training on team cohesion and psychological skills development of elite netball players.

Kremer and Scully (1994, p. 120) also acknowledge the influence of Carron's ideas, asserting that, within the field of sport psychology, "Carron (1982) has been the most influential in developing our understanding of how team cohesion develops (the antecedents of cohesion), what it is (defining cohesion), and how it subsequently influences group and individual performance (the consequences of cohesion)." It is important to note, however, that unlike Tuckman's (1965) theorizations, which have been referenced and examined in both the organizational and sport literature (and applied to both contexts), Carron's model has been principally referenced in the sport psychology literature.

While references to Carron's (1982) model are perhaps not as abundant as Tuckman's (1965; Tuckman & Jensen, 1977) stages of group development, his definition of cohesion accompanying his conceptual model is consistently found throughout the sport psychology literature on group dynamics; in many cases it has served as the foundation for group development research in sport (Kremer & Scully, 1994). In this vein, specialists within the field of sport psychology who have used Carron's conceptual framework for cohesion to inform their own research are beginning to acknowledge the potential transferability and heuristic function of Carron's model (and related studies) presented to other performance domains as well. For example, Spink (1998) has proposed that results of his study on how the mediational effects of social cohesion affect leadership behaviour-intention to return to sport could stimulate investigation in other fields to consider cohesion (as conceptualized by Carron) as a potential mediator that might explain other social psychology relationships. Specifically, Spink (p. 98) asserts that due to the pervasiveness of cohesion in any group

activity, "extension of the present results to nonphysical activity group settings in which adherence is a problem (e.g., work settings) also appears warranted."

With a growing recognition that cohesion can improve the performance of groups, including satisfaction levels among members, Widmeyer and Williams (1991) posit has prompted researchers to investigate what factors contribute to the development of this valuable group property. Reflecting upon the dynamic interplay between cohesion and performance, they discuss how Carron's (1982) conceptual model has successfully guided their own research. Specifically, they describe how Carron's model was used as a framework for identifying potential antecedents of cohesion in co-acting (i.e., non interacting) sports, such as golf and bowling, where a team's overall performance outcome is determined by the sum of individual performance outcomes. While Widmeyer and Williams concede that the results of their study are not intended to be a definitive test of Carron's framework, they discuss its utility in revealing the emerging patterns across the predictions of the four aspects of cohesion as conceptualized by Carron; respectively, team, member, leadership, and environmental factors.

In "Group Cohesion: From "Field of Forces" to Multidimensional Construct," Dion (2000, p. 7) asserts that cohesion will continue to be "a vital construct in research on groups and organizations into the 21st century, with important challenges to be addressed." He discusses how cohesion as a construct is no longer the exclusive province of social psychologists interested in groups, and how external disciplines and subdisciplines are increasingly beginning to "enrich and sustain cohesion research as a continuing and thriving enterprise" (p. 8). To illustrate, Dion discusses how the conceptual distinction between task and social cohesion that has emerged independently from several models and studies, marks an important milestone in cohesion research (Dion & Evans, 1992, as cited in Dion). As

such, cohesion research has become considerably more interesting and promising in recent years, with greater recognition that varying degrees of group cohesiveness correlate with important group phenomena, such as intergroup conflict, change, well-being, and performance (Dion).

Consequently, as evidenced within both organizational and sporting contexts, it is apparent that cohesion is integral in the process of group development, and ultimately impacts overall performance. Nonetheless, while an overview of both Carron's (1982) and Tuckman's (1965; Tuckman & Jensen, 1977) models has been provided, examining the utility and applications of these respective models in both the organizational and sport psychology literature, it is necessary to advance towards a greater understanding of the inherent functions of each conceptual model. In providing an explanation of the various components of each model, the intent of the following section is to progress towards a greater understanding of both Tuckman and Carron's individual theorizations for evaluating stages of group development. This section will also serve as the foundation for the development of an original cross-disciplinary schematic for understanding group development, which will comprise the final section of this chapter.

3.2 Tuckman and Carron's Conceptual Models of Group Development

In 1965, in response to the perceived inadequacies and generalizations of group development studies, Tuckman proposed a model designed to represent the "conceptualization of changes in group behavior in both social and task realms, across all group settings, over time" (p. 386). His resulting group development model was informed by a synthesis of the existing group literature, consisting of over 50 articles dealing with the developmental sequence in small groups. Yet, while Tuckman agreed that his four stage

model was largely induced from the literature, he also asserted that "it would seem to withstand the test of common sense as well as being consistent with developmental theory and findings in other areas" (p. 396). Further, he explained that his developmental model would prove useful in three central ways: i) at a conceptual level, ii) for integrative analysis, and iii) serve an organizational function.

Tuckman (1965) believed that his successive four stage model would serve as a framework for integrating the variety of group development studies in a meaningful way. The inherent value of his linear model, he explained, is that it would not only represent a framework of generic temporal change that occurs in the evolution of groups, but moreover, "should lead to the deviation of many specific hypotheses relating independent variables to the sequence of temporal changes" (p. 398). One such deviation from the literature represented by his conceptual model, included his theorization that groups proceed through four successive stages of development (forming, storming, norming, and performing[4]), simultaneously occurring within two realms: social and task. These two realms represent the varying aspects occurring within the various stages of group development, and as Tuckman (p. 386) described, are what distinguish members' "reaction to others as elements of the group task versus the reaction to others as social entities."

Accordingly, Tuckman (1965) asserted that failing to distinguish stages by realm can obscure the continuity of the developmental process. In other words, within the stages of group development there are emerging patterns of interpersonal relationships occurring within the social realm, otherwise known as the group structure; this component determines

[4] Later, in 1977, upon review of further research, Tuckman and Jensen amended a fifth and final stage to Tuckman's original four stage model, adjourning, in order to designate the disbandment of the group upon fulfilling its objectives.

the way that members act and relate to one another as individuals. Conversely, the nature of interaction exhibited in the group in relation to a specified task is referred to as task activity. Nonetheless, while the two realms differ in how they contribute to the developmental process, as summarized in Table 3.2a, Tuckman also asserted that their underlying dynamics are quite similar, and in turn, are interrelated within the successive stages of a group's development.

Table 3.2a Developmental Sequence of Groups in Social and Task Realms

Stage	Group Structure (Social Realm)	Task Activity (Task Realm)
1- Forming	Testing and dependence	Orientation to the task
2- Storming	Intragroup conflict	Emotional response to task demands
3- Norming	Development of group cohesion	Open exchange of relevant interpretations
4- Performing	Functional role relatedness	Emergence of solutions

In the forming stage, the first group structure phase, *testing and dependence*, members discover the group's boundaries, and will test the type of interpersonal behaviours that are acceptable. Similarly, in the first stage of task activity development, group members attempt to familiarize themselves with both the relevant parameters of the task, and how properties of the group's structure (i.e., group composition and competencies) will be applied to accomplish this task. It is at this first stage that Tuckman (1965) emphasizes that orientation characterizes the group's behaviour in both social and task realms.

The second phase in the development of group structure, *intragroup conflict*, is a period where members express a degree of hostility towards one another and/or leadership as an expressive means of their individuality or resistance to the formation of the group's

structure. The lack of unity and group polarization exhibited at this stage, Tuckman explained, is an outstanding feature in the developmental sequence of the group. In the task realm at this second stage, *emotional response to task demands* is where group members display an emotional response to the task as a form of resistance to the demands of the task on the individual. This is caused by a reaction to any conflict between individual members' personal orientation, and that which is demanded by the task.

Progressing forward, once members' have reached the third phase in the social realm, *development of group cohesion*, there is an acceptance of the group structure, including an acceptance of the idiosyncrasies of fellow members. It is at the norming stage, Tuckman (1965, p. 386) described, where the group "becomes an entity by virtue of its acceptance by the members, their desire to maintain and perpetuate it, and the establishment of new group-generated norms to insure the group's existence." Moreover, within this stage harmony is of central importance, and thus, task conflicts are avoided to assure this level of agreement.

Respectively, the third phase of task activity development, labelled as the *open exchange of relevant interpretations*, is where members assess the information influencing task inputs, so that alternative interpretations of such material can be achieved. In both realms during this stage members display a level of openness to one another, both as individuals and in their collective pursuit of the group's objectives.

Ultimately, in the fourth and final performing stage emphasis in both realms is placed on constructive action. The realms bridge together so that efforts previously invested in the social realm and the structure of the group can be committed and focussed to the task. Specifically, in the social realm, the developmental phase *functional role relatedness* is where the group, formally established as an entity during the norming stage, can finally become a problem-solving instrument. Since members have finally learned to relate to one

another in the preceding stage, Tuckman (1965, p. 387) reasoned that at the performing stage, members "can now adopt and play roles that will enhance the task activities of the group." As such, it is at this final stage in the task realm, identified as the *emergence of solutions* phase, where constructive attempts at successful task completion can be observed.

Through his description of each sequential stage, Tuckman's (1965; Tuckman & Jensen, 1977) model sheds light on the fundamentals of group development. While he offers a comprehensive framework for understanding the various aspects that contribute to developmental sequence of group achievement, distinguished by both group structure and task activity, he also summarizes his initial framework, and offers a more generalized developmental model. The purpose of this sequential four stage model, Tuckman (1965, p. 396) explains, is "to isolate the concepts common to the various studies reviewed (across settings)." As such, the developmental model proposed includes the four sequential stages of development (forming, storming, norming, and performing), previously identified in explaining the developmental sequence of groups in both social and task realms (i.e., in Table 3.2a). Subject to revision in 1977, Tuckman and Jensen added a fifth and final stage, called adjourning.

Tuckman's (1965; Tuckman & Jensen, 1977) successive five stage model maps out the evolution of group processes, while serving as a generalized blueprint for situating the developmental sequence of group life. In the initial *forming* stage, group members begin to establish dependency relationships with leaders, fellow members and/or pre-established group standards. During this stage, group members become acquainted with their individual roles within the group, while assessing the strengths and weaknesses of other members. It is at this stage where members will also begin to test their relationships with others in the group. Subsequently, groups experience the *storming* stage. Resistance to group influence

and task requirements are both typical group behaviours at this second developmental stage. The storming stage is significant in the development of a group, in that it is also a period characterized by conflict and polarization around varying members' roles and status in the group, including varying degrees of leadership within the group with respect to task activity. Presence of conflict is often a result of an increase in task demands placed on the group, and constraints felt by individuals in relation to group influence. It is important to note that conflict is a necessary and important occurrence in the developmental process, in that it permits group members to acknowledge their differences and express their frustrations with the group at this intermediate stage. Upon experiencing this level of polarization, the group can successfully advance to the subsequent stage, with the ability to cohesively fulfill task objectives.

When a group reaches the *norming* stage, resistance and instability are overcome and superseded by cohesion. The norming stage is characterized by group consensus, whereby new standards evolve, and roles and responsibilities are established and accepted. More importantly, it is a period when the focus of the group transcends from interpersonal issues to task-related initiatives, in which the group evolves from a mere cluster of individuals, to a united group working together in pursuit of shared objectives. As a group advances to the *performing* stage, it develops the ability to perform and function effectively as a constructive unit. At this stage, inter-group conflicts have been resolved, and group structure becomes a supportive tool of task activities. This is the most complex stage of group development, marked by a heightened focus on achievement and increased collaboration, which are facilitated by a decrease in emotionality. In turn, these factors stabilize the group, and enable group energy to be directly channelled into fulfilling task demands. Accordingly, it is at this stage that a group experiences a level of synergy, and develops the capacity for collective

performance, with the confidence and ability to engage in problem solving and/or decision making processes. Once the intrinsic purpose of a group has been fulfilled, it passes through the final *adjourning* stage, whereby members experience separation concerns within the dissolution of a group. At this final stage, there is often a period of reflection, whereby individual members address both interpersonal and task related issues of independence, and closure.

Tuckman's (1965; Tuckman & Jensen, 1977) conceptual model of group development highlights the vitality of cohesion in the performance ability of groups. Moreover, his theorization concerning the two dimensions of group development captures the complexity of group behaviour, especially as a group's performance ability evolves over time, and often throughout various settings. Building on these assertions, Carron (1982) argued that recognition of the importance of group cohesion in the developmental process should be paired with a comprehensive understanding of its relation and function to both individual and group performance. With a focus on cohesiveness and its influence on sport groups, Carron, alongside several researchers within sport, have been concerned with examining how various antecedent conditions and/or moderating factors influence group cohesion. This interest, he asserted, was founded on recognition that "the effect of cohesiveness upon performance is mediated by various environmental and personal exigencies" (p. 129). Nonetheless, in Carron's review of the existing literature, similar to Tuckman, he also critiqued the level of specificity of available methods, which he argued could only be described as a general shotgun approach.

Carron (1982) recognized that an overall conceptual model integrating the various moderating factors of cohesion into a meaningful system had yet to be advanced in both organizational and sporting contexts. As such, in his article "Cohesiveness in Sport Groups:

Interpretations and Considerations," Carron outlines three implications and limitations that arise due to the lack of a theoretical model for the analysis of group cohesion. The first implication, he explained, is that the lack of an overall conceptual model for cohesion also means that there is no foundation or point of departure for subsequent investigations. Accordingly, any theoretical research conducted may run the risk of becoming fragmentary or unsystematic. A second consequence is that a lack of a logical framework obscures researchers' ability to reconcile seemingly contradictory findings. In other words, every exception or discrepant result must be examined as a unique case. Lastly, a third implication is that any research thrust will lack a common focus. Carron maintained that one of the primary advantages of any conceptual model is that it not only provides an indication of what is presently known, but also identifies what gaps might be present in the current theoretical and empirical base. As such, this assessment led to his development of a general conceptual system for cohesion in sport. According to Carron (1982, p. 130) his general conceptual system for cohesion in sport was premised on a common notion within existing research, under the belief "that any general conceptual model should be structured in a linear fashion to encompass what Stogdill (1959) referred to as inputs, throughputs, and outputs." Under these conditions, Carron theorized that the inputs are categorized as antecedents of group cohesion, outputs as the consequences, and throughputs as the types of cohesion that are present in sport groups.

Following this logic, Carron (1982) developed a conceptual system, shown in Figure 3.2b, illustrating a hierarchical representation of the four antecedent factors (also labelled as moderators), which contribute to cohesion in a sport team: i) environmental, ii) personal, iii) leadership, and iv) team. Although the four moderating factors are categorized in a progression from the more general and remote, to the more specific and direct antecedents of

cohesion, they are interconnected and interact to influence the development of team cohesion.

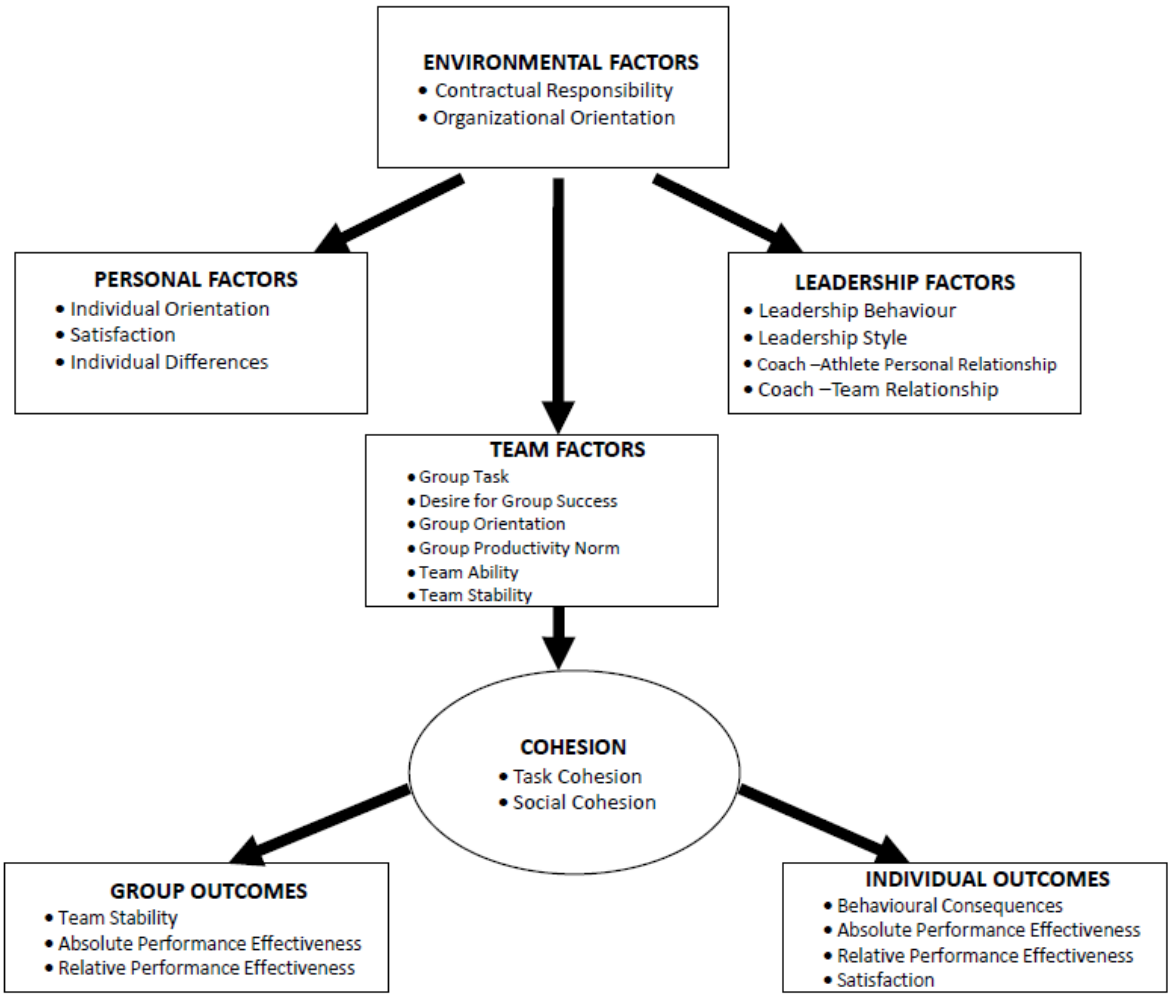


Figure 3.2b Carron's General Conceptual System for Cohesiveness in Sport Teams (adapted from Carron, 1982, p. 131)

Environmental factors are the first and most general correlate of cohesion. As Carron (1982, p. 130) explained, "they exist within the general organizational system and serve as a constraining force, dependent on the properties of the team." Carron proposed that there are at least two types of environmental factors, including contractual responsibility and organizational orientation. In essence, contractual responsibility refers to factors affecting

participation, including eligibility requirements, such as age, sex, skill level, and/or nationality, geographical restrictions (i.e., proximity), as well as contractual obligations, including the terms and conditions of participation (i.e., voluntary, fixed term, etc). Organizational orientation refers to the composition of a group, whether size, competition level, or purpose, which ultimately impact the underlying degree of task and social cohesion within a team. This environmental factor, in turn, will also impact the performance potential of a group.

Personal factors refer to the individual characteristics of group members (Carron, 1982). While there are countless variations of personal factors which can mediate cohesiveness in sport teams, Carron discusses three; namely, individual orientation/motivation towards group membership, individual satisfaction, and individual differences. An individual group member's orientation may vary in three ways: from motives relating to a task, affiliation, or of personal interest (Bass, 1962, as cited in Carron, 1982). Individual satisfaction is also a contributor to team cohesiveness, and has a reciprocal influence on cohesion and performance. A third possible moderator to cohesiveness includes individual differences, such as age, sex, and/or skill level which may influence the type of bonds formed between team members.

Leadership factors, which coexist with personal factors, are a third major mediating element of cohesiveness (Carron, 1982). According to Carron, the leadership dimension in a sport team also contributes to the development of overall cohesiveness. Four major leadership factors include leadership behaviour and style, the interpersonal relationship formed between leadership (coaching staff) and a performer (athlete), and the nature of interaction between leadership and the team as a collective unit. The levels of compatibility that exist between members in a leadership role and those in a performance role, exhibited

through communication styles and the type of relationship established can affect the development of cohesiveness in a group. Accordingly, the dynamics formed between coaching professionals and a team at both an individual and collective level will ultimately impact performance potential, and final outcomes.

The combination of environmental, personal and leadership factors contribute to the fourth and most specific antecedent of cohesion: team factors (Carron, 1982). Team factors encompass the defining characteristics of a group, including group task, desire for group success, group orientation, group productivity norm, team ability and team stability. While team factors are directly associated with the general development of cohesiveness within a group, Carron also distinguishes how specific team factors can impact the two dimensions of cohesion: social and task.[5] For example, one of these factors includes 'group orientation' and whether team members' commitment shows a stronger connection to social or task forces. Ultimately, a group's orientation can also impact the group norm for productivity, as well as overall desire for group success. These factors, will in turn, also be reflected in the final group and individual outcomes, which are influenced by individual and collective performance results. Such performance results, notably in sport, are often assessed by a team's win-loss ratio (i.e., absolute performance effectiveness). However, Carron also suggests that evaluating relative performance effectiveness is an equally important measure in evaluating overall group achievement.

Carron (1982) concludes by advising that when performance effectiveness is almost the exclusive focus of researchers interested in cohesion, there is a lack of direct information

[5] Carron's (1982) operationalization of group cohesion as a bi-dimensional construct includes his differentiation of task versus social cohesion. Whereas task cohesion reflects mutual efforts associated with the achievement of group objectives, social cohesion reflects the nature of interpersonal relationships and level of attraction between members.

on many other important group processes. His general conceptual system for cohesiveness in sport teams attempts to address this issue, and serves as a call to action for researchers to consider a wider cross section of outcomes in cohesion research. Moreover, he (p. 135) asserts that not only is it "necessary to examine these various outcomes but to determine their relationship to task and social cohesion as well as their interrelationship with each other." Carron concludes by reaffirming that cohesiveness is a fundamental property of all groups, and therefore, developing an understanding of fundamental group processes that contribute to cohesion is necessary in order to fully understand and manage any type of performance outcome.

3.3 Building a Cross-Disciplinary Schematic for Group Development

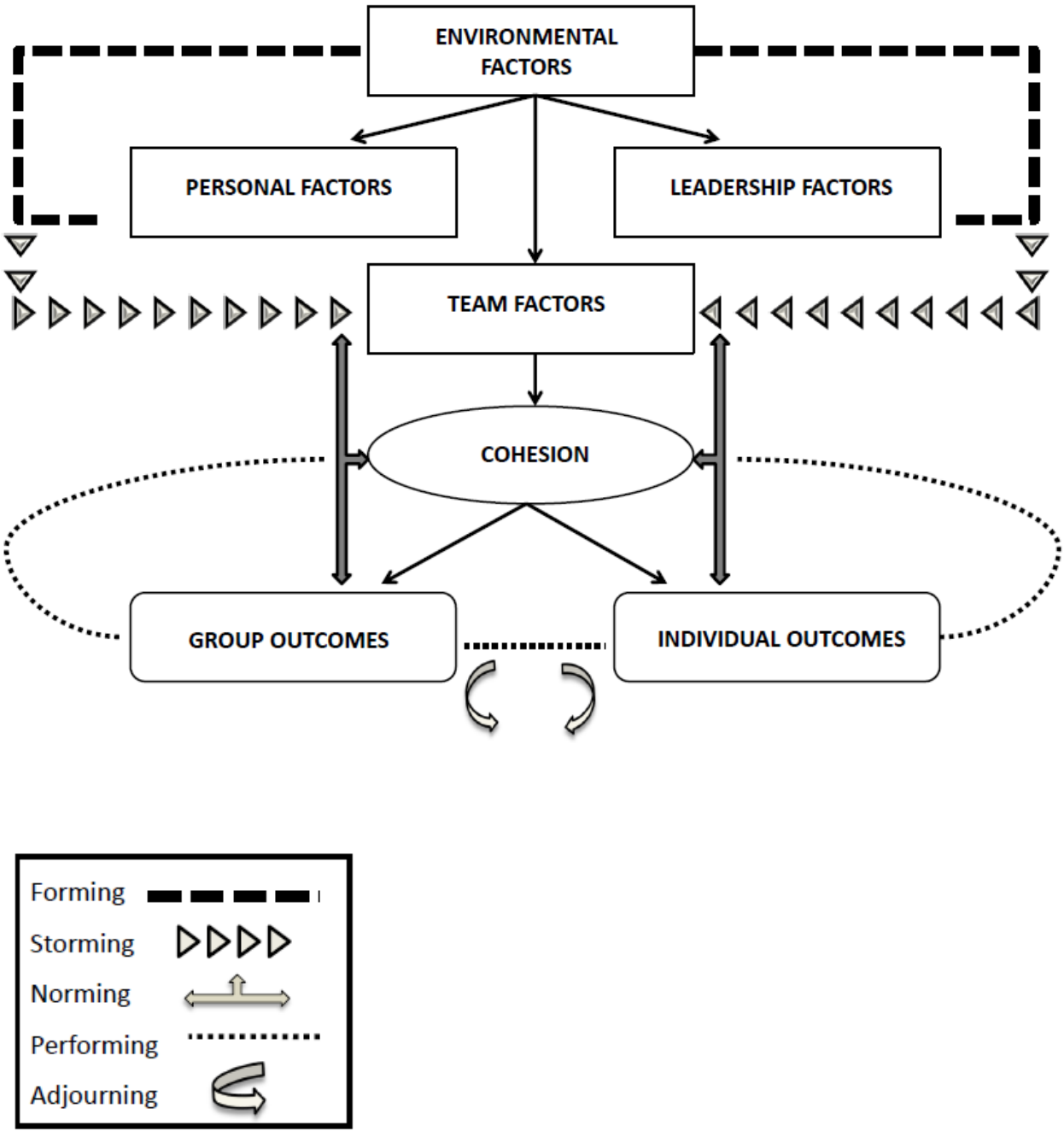
The differences between successful and unsuccessful groups may not only be attributable to the absence or presence of specific group processes, but also a result of *when* certain processes occur (Miller, 2003). With heightened enthusiasm for group-based work as a strategic initiative to enhance organizational performance (Keyton & Beck, 2008), there is an increasing recognition of the dynamic nature of group processes and the corresponding need to assess the temporal nature of these processes. Tuckman's (1965; Tuckman & Jensen, 1977) five successive stages of group development serve as a classification model for the evolution of group life. Concerned with the question of change in process over time, his generalized model offers a descriptive framework for situating the sequence of group development. However, alongside group processes, as Carron's (1982) model has shown, there also exist internal and external factors (i.e., environmental, personal, leadership, and team) that are equally essential to capturing the various dimensions affecting group performance and productivity.

The foregoing analysis of Tuckman (1965; Tuckman & Jensen, 1977) and Carron's (1982) models summarizes their respective theorizations relating to group development. In addition, group cohesion was defined as a multidimensional construct affected by temporal processes of group development. Concurrently, within the sequential formative stages of a group, as Carron's model has shown, are four antecedent factors determining the overall development of cohesiveness within a group and consequent performance outcomes. Understanding how these developmental processes are aligned with hierarchal moderating cohesion factors will generate a comprehensive understanding about group dynamics and their relation to cohesion; such understanding also serves as a framework for evaluating the performance trajectory of a group. In turn, the resulting analysis will be largely informed by a systems approach, in which it is perceived "axiomatic of all integrated dynamic living systems that when one unit takes an action, another unit somewhere else in the system is influenced" (Andreadis, 2009, p. 8).

The final sub-section of this chapter comprises the conceptualization and analysis of an original, integrative schematic, represented in Figure 3.3a, interweaving the fundamental theorizations of Tuckman (1965; Tuckman & Jensen, 1977) and Carron's (1982) models. The primary aim of this cross-disciplinary schematic is to provide a comprehensive framework for future group development research in organizational studies, while highlighting the complex nature of group life, and illustrating how various antecedent factors affecting cohesion and performance are connected and positively correlate with the various evolutionary stages of a group's development. Moreover, the resulting framework also serves to demonstrate how theoretical elements from the field of applied sport psychology might be translated to suit an organizational context. For example, while the primary purpose in forming a work team is to capitalize on the range of knowledge, experience, background and

skill sets of each member, the successful creation of a functional and effective team also requires a considerable amount of specialized effort and expertise (Hardy & Crace, 1997; Mealiea & Baltazar, 2005). As evidenced in the sporting world, in order to formulate a winning team it is crucial to "develop the right chemistry and mix of skills necessary to do an effective job" (Yukelson, 1997, p. 74). In other words, the process of continually developing complementary skills, while striving for achievement as a dynamic group, requires the establishment of specified performance objectives that can help transform an ordinary team from a mere group of individuals, into a committed, collaborative, high-performing, synergic unit (Al-Rawi, 2008; Moran, 2004). Accordingly, group development in organizations, while similar to that in a sporting context, must also be nurtured and lead as an ongoing holistic process that is understood to be internal to the organization (Mealiea & Baltazar). It is also important to acknowledge external factors, such as the competitive market or technological advancements, while adapting and strategizing to meet new demands (Mealiea & Baltazar).

Figure 3.3a Integrative Cross-Disciplinary Schematic for Group Development



(Carron, 1982; Tuckman, 1965; Tuckman & Jensen, 1977)

When a group advances through Tuckman's (1965) initial *forming* stage, orientation characterizes the group's behaviour in both social and task realms, where members familiarize themselves with others in the group and task objectives. As previously discussed, the forming stage is an introductory period where group members familiarize themselves with other members, group objectives, and norms, while assessing the strengths and weaknesses of fellow members. The forming stage is also a period where group members will engage in testing boundaries of interpersonal and task-related behaviours, in addition to forming dependency relationships with leaders, other members and/or pre-existing group standards. Accordingly, it is within this formative stage that members also encounter *environmental factors*, and subsequently confront *personal* and *leadership factors*, while actualizing the notion of belonging to a collective entity with mutual ambitions.

Arguably, while a group proceeds through its first developmental stage, it simultaneously encounters what Carron (1982) categorized as the most general antecedent factor of cohesion: *environmental factors*. Coinciding with the *forming* stage, this elemental correlate of cohesion is also marked by a period of orientation, including the normative forces enclosing a group, which are influential in the progression of both social and task cohesion (Weinberg & Gould, 2010). For example, the initial organizational orientation of a group, including motivations related to task, affiliation, and personal objectives will ultimately impact the level of underlying task and social cohesion of a group. This cohesion factor also correlates to the first stage of task-activity development in Tuckman's (1965, p. 386) model, "in which group members attempt to identify the task in terms of its relevant parameters and the manner in which the group experience will be used to accomplish the task."

Subsequently, when a group advances from the initial *forming* stage, Tuckman (1965) theorized that it will then transition to the *storming* stage, identified as a period marked by conflict and polarization experienced between individual members and those who exemplify leadership roles within a group. Accordingly, Carron's (1982) two successive antecedents of cohesion—*personal* and *leadership factors*—typically co-exist within this secondary developmental stage. Parallel to the storming stage, both personal and leadership factors act as necessary intermediary antecedents of cohesion, marked by group members' reconciliation of collective objectives with individual ambitions, in addition to adjustment to a new form of direction. During this developmental process, where members are required to negotiate personal preferences and/or norms in both social and task realms, heightened levels of emotionality surface, followed by tensions resulting from the compromise and acceptance of group norms and objectives, which may otherwise conflict with personal orientation toward group membership. In other words, members' individual ambitions (i.e., personal factors) may become challenged by adjoining leadership factors, which call in to question the interests and practices of the group versus those of individual group members. As such, a likely result from this acclimatization of reconciling collective objectives with personal ambitions may result in a sentiment of conflict, caused by impending threat of challenging the idiosyncrasies of members.

It is important to underline that while Tuckman's (1965) model specifies the significance of the *storming* stage in the consequent development of group cohesion, it fails to identify specific causal factors that generally correlate with the initial conflict and polarization among group members (with the noted exception of specifying a general emotional response to task demands, and intragroup conflict as a threat to one's individuality). As such, the added value achieved by converging Carron's (1982) model into

this integrative schematic is that it represents the succession of dominant antecedents of cohesion—*personal*, *leadership*, followed by *team factors*—whereby members within this intermediate stage of development are faced with conflicting values/issues that challenge their individuality. In this respect, the integration of Carron's model also depicts the relationship of these antecedent factors (and their respective degree of importance) in the development of cohesiveness in a group, representing Tuckman's own assertion that the buildup of resistance and conflict are necessary within this intermediary developmental stage in order to reach an eventual level of stabilization within a group.

Transitioning from the *storming* stage, the final and most specific moderating cohesion factor, known as *team factors*, is achieved following the culmination of environmental, personal and leadership factors (Carron, 1982). As an antecedent to cohesion, team factors encompass the defining characteristics of a group, such as desire for group success, productivity norm, ability, and stability, and as such, also correspond with a vital shift in the developmental process, when a group proceeds from the *storming* stage to the *norming* stage in the direction of achieving both task and social cohesion. As Carron's model shows, there is a causal link between team factors and cohesion. Accordingly, the integrative schematic represented in Figure 3.3a illustrates a group's simultaneous succession from the *storming* stage to the *norming stage*, and the corresponding internal connection from *team factors* to *cohesion*.

Following Tuckman's (1965) theorizations, the *norming* stage is typically characterized by the formation of cohesiveness within a group, in which members develop bonds at both an interpersonal and task-related level. Under these conditions, members begin to remove any barriers, and develop a stronger sense of loyalty and trust to the group as a unit and towards individual members, marked by the open exchange of ideas and input in

relation to task objectives. Further, by overcoming resistance at the norming stage, a group also strengthens its performance potential. In other words, the norming stage is marked by a period of stabilization, where group order and increased levels of support between members are achieved, as members begin to act in collective pursuit of the group's objectives. As a result, it is at the norming stage where a group becomes an entity and a cohesive unit. Accordingly, this integrative schematic (shown in Figure 3.3a) represents the interconnected succession from the storming stage to the norming stage, and a group's consequent formation of cohesion, which ultimately impacts performance ability, and affects both group and individual outcomes.

Through the cross-integration of Carron's (1982) model, Tuckman's (1965) third developmental stage, *norming*, is aligned with the development of cohesion, determined by the successive influence of four moderating factors experienced within the two initial stages of group development (i.e., forming and storming). The integration of these two models is designed to illustrate the relationship between the general succession of a group's development and the dynamics and internal factors that exist within a group, and how this interplay mediates performance outcomes.

While Carron's (1982) general conceptual system was designed for the evaluation of cohesiveness in sport teams, his explanation that the level and intensity of cohesion developed among team sports is team-specific may also translate to an organizational context. According to Carron, research has shown that varying levels of cohesion can contribute to both a team's success and failure, depending on a group's need for unity and/or dependence. For example, depending on individual group members, characteristics may vary from one team to another, which may also be influenced by the competition level imposed on

a team, group size, or level of dependence that is required or expected by fellow group members:

> Carron and Chelladurai (1982) proposed that specific sports should be differentiated on the basis of the degree to which performance interdependence is required from group members. That is, a continuum of task interdependence exists which varies from independence to coactive dependence to reactive-proactive dependence to interactive dependence…the type of coordination which is required dictates the extent to which cohesiveness is an important factor in performance success. (Carron, 1982, pp. 133-134)

Carron (1982) further explained that the level of task and social cohesion can often vary among a range of groups, in that some types of team sports, compared to individual sports performed in a team environment, may require different degrees of cohesion in order to achieve optimal performance levels. Accordingly, his notion that different teams require varying levels of cohesion to achieve desired performance objectives also appears warranted within an organizational context. For example, the team metaphor can be applied to an organizational setting for the designation of all staff members, a specific department, or a project team—all of which require varying levels of dependency, from interdependence, collaborative co-dependence, to interactive dependence. Moreover, as Carron remarked, despite the range of differences between a sport team and a work group, they typically share a core determining factor that defines their existence:

> The reason underlying the development of cohesion [in a group] becomes an integral part of its nature. In short, every group has its goals or objectives—its raison d'etre—and these are intimately interwoven into the development of the group. For example, social clubs, work groups, mutinous crews…sport teams are all different. But they are all also similar in the sense that their members stick together and remain united in the social unit because they ascribe to some underlying common purpose. An outsider, who was unaware of those specific purposes, would be unable to comprehend the bases for the cohesiveness within those various groups. Similarly, an insider (group member), who was either unaware, unappreciative, or unaccepting of the bases for cohesiveness would soon elect or be forced to discontinue involvement in the group. (p. 124)

Accordingly, understanding how the inputs (antecedents of cohesion), throughputs (variations of cohesion), and outputs (consequences of cohesion) represented by Carron's model are aligned with the general developmental sequence of a group encourages greater reflection about the specific dimensions of group development, cohesion and performance.

Subsequently, upon becoming a stabilized and cohesive unit, a group can proceed to the *performing* stage, with a focus on constructive action (Tuckman, 1965). As Tuckman explained, it is within this stage that the stability of a group's structure at the interpersonal/social level becomes supportive of task performance, with minimum emotional interference. With a focus on achievement, groups in the performing stage typically exhibit a high *task* orientation, with emphasis on performance and productivity. At this advanced developmental stage, members' roles become flexible and functional, and group effort is channelled directly into performance outcomes (Tuckman). Yet, while Tuckman's model focuses on the achievement of mutual task interaction at the performing stage, the integration of Carron's (1982) cohesion system provides an additional and significant dimension to the former.

Through the inclusion of co-existing performance objectives at both the individual and group level, Carron's (1982) delineation of group versus individual outcomes is both relevant and valuable when evaluating the development of a group. His theorization that the outputs (i.e., consequences) of cohesion impact *both* group and individual outcomes is significant in that it highlights the varying types of individual orientation toward group membership, from that related to task, affiliation and/or self motivation (Bass, 1962 as cited in Carron). Further, by integrating this element with Tuckman's (1965; Tuckman & Jensen, 1977) model, it also acknowledges that group objectives can also be analogous or similar to individual members' personal goals, which is also reflected in their orientation toward group

membership. In addition, the achievement of group outcomes may also have a reciprocal effect on individual outcomes, such as where performance effectiveness reflects individual satisfaction, and vice-versa. For the above reasons, Carron (p. 135) concludes that "researchers should begin to consider a wider cross-section of outcomes in cohesion research," ranging from team stability, varying categories of team performance, to satisfaction with individual performance, with leadership or with the group as a social unit, and how these reflect upon cohesion and overall performance effectiveness of a group.

Another added feature achieved through the cross-integration of Carron's (1982) theorization of co-existing performance outcomes (group and individual) with Tuckman's (1965) performing stage, is that it demonstrates that not only are individual performance outcomes permitted and tolerated within a group, they are often aligned with and supported by a group's targeted outcomes. Specifically, provided that individual outcomes do not undermine or challenge the primary performance objectives of a group, they are often encouraged by fellow members and leadership. For example, individual athletes of many sport teams have strived to achieve personal records that would not only enhance the performance potential of their team, but would require and promote strengthened collaboration and team support. An illustrative example from professional sport includes Wayne Gretzky's point total record of 215 in the 1985-86 National Hockey League season, which helped the Edmonton Oilers capture the President's Trophy (awarded to the team with the best overall regular season record) *and* the Stanley Cup. Another highly regarded achievement within the sporting world is Joe DiMaggio's 56-game hitting streak during the 1941 Major League Baseball season, which assisted the New York Yankees in winning the Pennant (American League Championship) and World Series title.

Finally, when a group has achieved its fundamental objective and will not be re-entering the performance cycle, it passes through what Tuckman and Jensen (1977) identified as the *adjourning* stage. The inclusion of this stage in Figure 3.3a succeeds the performing stage upon the completion of all performance outcomes. It is at this final stage where members address issues of independence and closure, and where a period of reflection, criticism and reorientation is undertaken (Martin, 2005). Yet, while Tuckman and Jensen's theorization of this final stage constitutes the conclusion and total disbandment of a group, Danish et al.'s (1997) concept of transition and disengagement among athletes and sport teams provides a more inclusive view of the process of change for individuals and groups, evidenced in both organizational and sporting contexts.

In "Building Bridges for Disengagement: The Transition Process for Individuals and Teams" (1997), Danish et al. present a general discussion for understanding the process and impact of disengagement and transition on individual athletes and sport teams. In their analysis, transition is presented as a process within both athlete and group development, and is thus a reflection of individual and group outcomes, as delineated in Carron's (1982) model. Moreover, as the lifespan of a group varies from one group to the next, their analysis considers the adjourning stage of Tuckman and Jensen's (1977) model to represent two types of cases, where group members adjust to the termination of the entire group, or to the disengagement of select individual members from the group. For example, some groups might experience *planned dissolution*, when group objectives or tasks have been fulfilled, and the group loses its sense of purpose (Forsyth, 1990, as cited in Danish et. al). In such cases, similar to Olympic or international sport teams, the existence of many working groups (including the support and funding of their activities), is often determined by the achievement of a timed performance objective, upon which the group subsequently disbands.

Conversely, other groups may experience *normative and non-normative changes* where only some members cease participation from the group as a result of personal (i.e., normative) or external (i.e., non-normative) circumstances.

For the above reasons, in Figure 3.3a, the designation of adjourning will be re-defined to include elements of Danish et al.'s (1997) description of group transition, where instances of total group dissolution and selective member disengagement are possible. Accordingly, this definition underlines the importance of understanding how the lifespan and transition process of a group results in various outcomes for both an individual performer and a group as a unit. Although the group and organizational literature have focussed on the development and maintenance of groups, researchers such as Keyton (1993) have observed that investigation concerning how such groups come to closure has been largely excluded from research agendas. Keyton has also offered the following criticism on this matter:

> We have a fairly good understanding of the front end of the organizational group phenomenon, but how groups dissipate and the effect on both individuals and the organization is unknown. When an organizational work group concludes its business, its members do not go away. Rather, group members fold back into the organizational context to eventually become members in other groups…Attitudes and values formed during the termination period are likely to influence organizational members when they take on new group assignments. (p. 85)

Therefore, despite the understanding that this final developmental stage impacts the future performance potential of both individual members and groups, further investigation is required in this domain in order to determine exactly *what* effects such variations of change have on a group or an individual. Further, in cases where an ongoing group might re-enter stages of the developmental process with both existing and new group members, understanding the effects and outcomes of the adjourning stage will become even more significant.

3.4 Conclusion

As explained in Chapter 2, Lewin (1947) considered the social environment where groups collaborate as a dynamic field that interacts with subjective levels of human consciousness. Carron's (1982) framework assists in understanding what motivates group members at an individual level, and how this translates into their contributions as a member of a group. In this vein, Lewin also asserted that the rules of interdependence and causation should be equally essential to the study of social fields in influencing group development. Accordingly, the juxtaposition of Tuckman's (1965; Tuckman & Jensen, 1977) linear stage model with Carron's conceptual system of cohesion lends greater insight into the group development process, while aligning the succession of these processes with internal antecedent factors which determine the fate of cohesiveness within a group. From here, this cross-disciplinary integrative schematic provides a holistic and multi-dimensional perspective on the group development process. By doing so, this schematic enables a cumulative and contextual assessment of how the types and density of cohesion are realized within a group, and further, how this renders a common impact on individual and collective outcomes.

Finally, the above analysis has outlined how the integration of Carron's (1982) general conceptual system for cohesion in sport teams provides Tuckman's (1965; Tuckman & Jensen, 1977) successive stage model of group development with a detailed and complementary framework for understanding the moderating factors that can either inhibit or stimulate cohesiveness in groups. Further, by adopting a systems approach, the development of this cross-disciplinary group development model serves to expand the theoretical basis of each model. It does so by identifying and linking the various co-existing group processes and moderating factors leading to group cohesion, and ultimately providing a comprehensive

representation of the range of factors influencing overall performance outcomes. The purpose of this cross-disciplinary and incorporative group development model is premised on the belief that Carron's delineation of four hierarchical moderators of cohesion will provide greater depth to Tuckman's linear reasoning on how groups evolve through various stages and become a cohesive unit, equipped with advanced performance potential. As such, Tuckman's successive stage model equally serves to provide a comprehensive framework enclosing Carron's general conceptual system for cohesion in sport teams, and arguably organizational groups in general.

CHAPTER 4:
Conclusion

> *...unlike the laws of physics, the laws of management are neither preordained or eternal—and a good thing too, for the equipment of management is now groaning under the strain of load it was never meant to carry...technological disruptions, seditious competitors, fractured markets, rebellious shareholders—these 21st-century challenges are testing the design limits of organizations around the world and are exposing the limitations of a management model that has failed to keep pace with the time.*
>
> ― Hamel and Breen (2007, p. x)

There is much common ground between the landscapes of sport and business—success in both fields is often dependent on strategic management, including the development of effective leadership and motivation of key players. For example, a fundamental requirement in both sport and business includes the mobilization of finite resources (such as individualized talent), in order to maximize one's competitive potential. While there are many observable similarities between both fields of study, this thesis has examined how studying a theoretical model of group development from the unconventional cross-disciplinary lens of applied sport psychology can be useful for further advancing research in organizational studies. Specifically, the value that has been revealed through the incorporation of research in sport is in providing unambiguous and accessible measures of human performance that are readily adaptable to an organizational context.

While researchers have examined group development both in and outside of sporting contexts, empirical study conducted among athletes has proved to offer an added value that reveals the mutual impact of environmental, physical, cognitive and emotional factors, as inherently influencing performance outcomes. Moreover, as leaders in business and industry are increasingly seeking new tools and strategies to heighten levels of performance, sport lends itself as a fertile area for organizational experimentation, offering clear measures of performance, ample sources of data, and archetypal organizational design (Keidell, 1987).

Accordingly, the purpose of this thesis was to exhibit the compatibility of applied sport psychology with the traditional organizational literature, and further, reveal how the integration of two dominant models of group development from separate fields can provide a comprehensive and robust model for understanding the holistic process of group dynamics in varying contexts.

4.1 Summary of Findings

By exploring the conceptual similarities between Tuckman's (1965; Tuckman & Jensen, 1977) stages of group development and Carron's (1982) general conceptual system for cohesiveness in sport teams, the present study has examined how cross-disciplinary research conducted between organizational studies and applied sport psychology can serve to enhance current knowledge in both practice and pedagogy. By integrating these two dominant group development models from varying fields, this thesis has captured the complexity of group development, and transformed this knowledge within one cohesive model. Accordingly, the integrative cross-disciplinary schematic for group development (Figure 3.3a) depicts how interconnected external and internal factors are linked to group cohesion at both the interpersonal and task-related level, and how this dynamic impacts both individual and collective performance outcomes.

The integrative cross-disciplinary schematic developed in this thesis represents the transformation of Tuckman's (1965; Tuckman & Jensen, 1977) model into a multi-dimensional framework for the study of group development processes, while providing greater perspective on the development of cohesiveness within a group, and its subsequent relation to performance outcomes, as was theorized by Carron (1982). It is believed that this cross-disciplinary schematic will be useful for future organizational research by enabling the

researcher/practitioner to approach group development from a strategic perspective (as one would in a traditional organizational/business model), yet while incorporating humanistic undertones. In other words, by imposing recognition of the inherent influence that each individual group member has on overall performance, this schematic inspires a more complex and nuanced appreciation of organizational teamwork as a collaborative, rather than simply coordinated activity.

4.2 Implications of Study and Limitations

The primary objective of this thesis was to formulate an original, integrative, cross-disciplinary schematic of group development, with the intent of revealing the theoretical similarities and differences between both fields, in order to highlight the complimentary aspects harnessed by each model. As such, the conclusions drawn from this study inform the justification for future empirical research within this unconventional territory of cross-disciplinary study. Consequently, the resulting analysis generated from this study is not intended to be used as a framework for group development until additional testing of this cross-disciplinary model is executed.

Accordingly, the inherent design of this research was to provide the foundation for future cross-disciplinary research conducted between organizational studies and applied sport psychology, specifically regarding investigations relating to group development. As such, the analysis provided and conclusions drawn are also limited in their ability to influence future research within this topic of study, until more rigorous research has been conducted.

4.3 Future Research Directions

The present study comprised an investigative study exploring the potential transferability of research and methods achieved by cross-disciplinary research, specifically examining theories of group development within organizational studies and applied sport psychology. The objective of this thesis was to initiate future research in this relatively new direction of study, and to address the gap in the current literature concerning cross-disciplinary research within organizational studies. This was achieved by cross-referencing the unconventional, although theoretically similar field of applied sport psychology.

As a result of this initial study, there are a variety of directions future research could take. For example, as an extension of the current study, I recommend that this investigation could be advanced by empirically testing the cross-disciplinary schematic presented in Chapter 3, supplemented by recommendations or identifying limitations of this model. Further, the current study could also be replicated by integrating or replacing other comparable group development models from both proposed fields of study. In addition, future research could investigate specific topics of study, such as the effects of varying communication styles or patterns of leadership on performance, as advanced within both organizational studies and applied sport psychology. Specifically, these studies could include a meta-analysis conducted within both fields, accompanied by a comparison of dominant theories, in order to further identify the similarities and differences between these two fields of study. This direction of study could be further refined by limiting research to a specific group demographic, such as small group versus large group research. Ultimately, a closer examination into the perceptions of group members, vis-à-vis group development and perceived factors that promote or impede group performance, conducted within both organizational and sporting contexts, might also prove helpful in revealing how group

participation in both these realms contrast, and whether such comparative methods appear warranted.

4.4 Concluding Remarks

Many of today's organizations are struggling to realize the full potential of their human resources, which leading business theorists such as Luthans, Youssef, and Avolio (2007, p. 6) argue are required today more than ever when competing in a global economy with increasingly "borderless and ever-changing political, economic, technological, social, and ethical climates." Moreover, while acquiring and sustaining a competitive advantage within the current economic landscape proves to be a continuous challenge, many organizational leaders are turning to alternative or sophisticated results-oriented management models in an effort to develop successful team initiatives and elevate workplace performance. As such, work groups and project teams are often introduced in the workplace as a response to increasing task demands, and a growing need to remain competitive in finite markets, with the assumption that collective effort produces results rapidly, and is decidedly more efficient than individual effort alone (Fletcher & Major, 2006). However, such calculated practices often coincide with a focus on merely coordinating group activities for short-term gain, with a tendency to neglect the collaborative aspect required for long-term success (Moran, 2004).

Although often overlooked as an isolated field of study, this thesis has examined how applied sport psychology can provide an effective context for the study of organizational systems that inspires a holistic, systems approach, while highlighting how both personal and environmental factors can inhibit or maximize individual and collective performance outcomes. Accordingly, when juxtaposing theoretical models from such seemingly disparate

fields, one can readily observe how principles of elite performance in applied sport psychology strikingly mirror those attributes that are coveted and pursued by high-level management within successful organizations. While the thrust of this study has employed the dynamics of achievement in sport as a heuristic method, it also provides a unique lens for analysing theoretical models relating to group development and optimized performance. This study also serves as a potential vehicle for communicating organization theory at a comprehensive, yet comprehensible level. Moreover, as the field of communication has witnessed an expansion over the past few decades, attracting scholars from neighbouring fields who have enriched this growing field of study, the potential transferability of sport psychology might serve to offer an exciting and refreshing outlook on managing organizational groups and teams. Yet, perhaps of even greater significance, such unconventional, yet complementary cross-disciplinary research might serve to engage a new type of organizational management professionals, while inspiring an innovative direction in organizational studies.

Bibliography

Adcroft, A., & Teckman, J. (2008). A new look at the sports paradigm for business: Performing isn't enough. *Journal of Business Strategy*, *29*(5), 38-43.

Allport, F. H. (1920). The influence of the group upon association and thought. *Journal of Experimental Psychology*, *3*(3), 159-182.

Allport, F. H. (1924). *Social psychology*. New York, NY: Houghton Mifflin.

Al-Rawi, K. (2008). Cohesiveness within teamwork: The relationship to performance effectiveness - case study. *Education, Business and Society: Middle Eastern Issues*, *1*(2), 92-106.

American Psychological Association (APA) Division 47. (2009). History of APA Division 47. Retrieved from http://www.apa47.org/aboutHistory.php

Andreadis, N. (2009). Learning and organizational effectiveness: A systems perspective. *Performance Improvement*, *48*(1), 5-11.

Anshel, M. H. (2003). *Sport psychology: From theory to practice* (4th ed.). San Francisco, CA: Benjamin Cummings.

Argyris, C. (1964). *Integrating the individual and the organization*. New York, NY: John Wiley & Sons.

Avolio, B. J. (2005). The chief integrative leader: Moving to the next economy's HR leader. In M. Losey, S. Meisenger, & D. Ulrich (Eds.), *The future of human resource management: 63 thought leaders explore the critical HR issues of today and tomorrow* (pp. 95-102). Washington, DC: Society of Human Resource Management.

Barbusse, B. (2002). Sport et enterprise: Des logiques convergentes? *L'Année sociologique*, *52*(2), 391-415.

Bass, B. M. (1962). *The orientation inventory*. Palo Alto, CA: Consulting Psychologists Press.

Bassett, G. (1993). *The evolution and future of high performance management systems*. Westport, CT: Quorum Books.

Becker, B., & Gerhart, B. (1996). The impact of human resource management on organizational performance: Progress and prospects. *Academy of Management Journal*, *39*(4), 779-801.

Bennis, W., & Shepard, H. (1956). A theory of group development. *Human Relations*, *9*, 415-437.

Bernstein, P. (1997). *American work values: Their origin and development*. Albany, NY: State University of New York Press.

Bion, W. R. (1961). *Experience in groups.* New York, NY: Basic Books, Inc.

Boulding, K. E. (1956). General systems theory–the skeleton of science. *Management Science*, *2*(3), 197-208.

Boyle, I. A. (2002). *The impact of adventure-based training on team cohesion and psychological skills development in elite sporting teams* (Doctoral dissertation), University of Wollongong, Wollongong, Australia.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Burke, R. (2009). Preface: Achieving peak performance. In R. Burke & C. L. Cooper (Eds.), *The peak performing organization* (pp. xxi-xliv). New York, NY: Routledge.

Burke, R., & Cooper, C. L. (Eds.). (2009). *The peak performing organization*. New York, NY: Routledge.

Capra, F. (1982). *The turning point: Science, society and the rising culture.* New York, NY: Simon and Schuster.

Carron, A. V. (1982). Cohesiveness in sport groups: Interpretations and considerations. *Journal of Sport Psychology*, *4*(2), 123-138.

Carron, A. V., & Chelladurai, P. (1982). Cohesiveness as a factor in sport performance. *International Review of Sport Sociology, 2*(16), 21-41.

Carron, C. V., Hausenblas, H. A., & Eys, M. A. (2005). *Group dynamics in sport* (3rd ed.). Morgantown, WV: Fitness Information Technology.

Cartwright, D., & Zander, A. F. (1968). *Group dynamics: Research and theory*. New York, NY: Harper & Row.

Clegg, J. W. (Ed.). (2009). *The observation of human systems: Lessons from the history of anti-reductionist empirical psychology*. New Brunswick, NJ: Transaction Publishers.

Cohn, P. J. (1991). An exploratory study of peak performance in golf. *The Sport Psychologist*, *5*(1), 1-14.

Creswell, J. W. (1994). *Research design: Qualitative and quantitative approaches.* Thousand Oaks, CA: Sage Publications.

Crowley, M., Tope, D., Chamberlain, L., & Hodson, R. (2010). Neo-Taylorism at work: Occupational change in the post-Fordist era. *Social Problems*, *57*(3), 421-447.

Cutcher-Gershenfeld, J. (2006). Introduction to the annotated edition. In D. McGregor, & J. Cutcher-Gershenfeld (Eds.), *The human side of enterprise, Annotated Edition* (pp. xxv-liii). New York, NY: McGraw-Hill.

Danish, S., Owens, S., Green, S., & Brunelle, J. (1997). Building bridges for disengagement: The transition process for individuals and teams. *Journal of Applied Sport Psychology*, *9*(1), 154-167.

Davis, S. F., Huss, M. T., & Becker, A. H. (1995). Norman Triplett and the dawning of sport psychology. *The Sport Psychologist*, *9*, 366-375.

Deming, W. E. (2000). *The new economics: For industry, government, education*. Cambridge, MA: MIT Press.

Deszca, G. (2009). Foreword: Designing and nurturing peak performing organizations. In R. J. Burke, & C. L. Cooper (Eds.), *The peak performing organization* (pp. xvii-xix). New York, NY: Routledge.

Dion, K. L. (2000). Group cohesion: From "field of forces" to multidimensional construct. *Group Dynamics: Theory, Research and Practice*, *4*(1), 7-26.

Dion, K. L., & Evans, C. R. (1992). On cohesiveness: Reply to Keyton and other critics of the construct. *Small Group Research*, *23*, 242-250.

Drucker, P. F. (1959). *Landmarks of tomorrow*. New York, NY: Harper & Row.

Drucker, P. F. (1974). *Management: Tasks, responsibilities, practices*. New York, NY: Harper & Row.

Drucker, P. F. (1995). *Managing in a time of great change*. New York, NY: Truman Talley Books/Dutton.

Drucker, P. F. (2002). *Management challenges for the 21st century*. Burlington, MA: Elsevier Buttersworth-Heinemann.

Dutton, J. E. (2003). Breathing life into organizational studies. *Journal of Management Inquiry*, *12*(1), 5-19.

Emery, F., & Trist, E. (1965). The causal texture of organizational environments. *Human Relations*, *18*, 21-32.

Engle, J., Boozer, C., Cessar, J., & Correia, B. (2003). *Online learning communities: A model for applying Tuckman's theory of group development to the design and facilitation of online courses*. Symposium conducted at the TTC Worldwide Online Conference, Kapiolani Community College, University of Hawaii, Honolulu, HI.

Fisher, B. A. (1970). Decision emergence: Phases in group decision making. *Speech Monography*, *37*, 53-66.

Fletcher, T. D., & Major, D. A. (2006). The effects of communication modality on performance and self-ratings of teamwork components. *Journal of Computer-Mediated Communication*, *11*, 557-576.

Fletcher, D., & Wagstaff, C. R. D. (2009). Organizational psychology in elite sport: Its emergence, application and future. *Psychology of Sport and Exercise*, *10*(4), 427-434.

Ford, D. H. (1987). Humans as self-constructing living systems: A developmental perspective on behavior and personality. Hillsdale, NJ: L. Erlbaum Associates.

Forsyth, D. (1990). *Group dynamics* (2nd ed.). Pacific Grove, CA: Brooks and Cole.

Foster, S. (2002). Enhancing peak potential in managers and leaders: Integrating knowledge and findings from sport psychology. In R. L. Lowman (Ed.), *The California School of Organizational Studies handbook of organizational consulting psychology* (pp. 212-259). San Francisco, CA: Jossey-Boss.

Fuqua, D. R., & Newman, J. L. (2002). The role of systems theory in consulting psychology. In R. L. Lowman (Ed.), *The California School of Organizational Studies handbook of organizational consulting psychology* (pp. 76-106). San Francisco, CA: Jossey-Boss.

Garfield, C. A., & Bennett, H. Z. (1984). *Peak performance: Mental training techniques of the world's greatest athletes.* Los Angeles, CA: Jeremy, P. Tarcher, Inc.

Gersick, C. J. G. (1988). Time and transition in work teams: Toward a new model of group development. *Academy of Management Journal*, *31*, 9-41.

Gilson, C., Pratt, M., Roberts, K., & Weymes, E. (2000). *Peak performance: Business lessonsfrom the world's top sporting organizations*. New York, NY: Texere Publishing.

Gould, D., Guinan, D., Greenleaf, C., Medbery, R., & Peterson, K. (1999). Factors affecting Olympic performance: Perceptions of athletes and coaches from more and less successful teams. *The Sport Psychologist*, *13*, 371-394.

Gribas, J., & Downs, C. W. (2002). Metaphoric manifestations of talking "team" with team novices. *Communication Studies*, *53*(2), 112-128.

Grigg, L., Johnston, R., & Milsom, N. (2003). *Emerging issues for cross-disciplinary research: Conceptual dimension*. Department of Education, Science and Training, Commonwealth of Australia.

Halpern, D., Osofsky, S., & Peskin, M. I. (1989). Taylorism revisited and revised for the 1990s. *Industrial Management*, *31*(1), 20-23.

Hamel, G., & Breen, B. (2007). *The future of management*. Boston, MA: Harvard Business School Press.

Hamington, M. (2009). Business is not a game: The metaphoric fallacy. *Journal of Business Ethics*, *86*(4), 473-484.

Hardy, C. J., & Crace, K. R. (1997). Foundations of team building: Introduction to the team building primer. *Journal of Applied Sport Psychology*, *9*(1), 1-10.

Harmison, R. (2006). Peak performance in sport: Identifying ideal performance states and developing athletes' psychological skills. *Professional Psychology: Research and Practice, 37*(3), 233-243.

Hershenson, D. (1996). Work adjustment: A neglected career in counselling. *Journal of Counselling and Development*, *74*, 442-446.

Hershey, P., & Blanchard, K. (1977). *Management of organizational behavior utilizing human resources* (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Hodgetts, R. M., & Greenwood, R. (1995). Frederick Taylor: Alive and well and ready for the 21st century. *Academy of Management Journal: Best Papers Proceedings 1995*, 218-222.

Holmes, M. H. (2010). Modeling team-development lifecycle in public administration courses. *Journal of Public Affairs Education*, *16*(1), 53-66.

Hoopes, J. (2003). *False prophets−The gurus who created modern management and why their ideas are bad for business today*. Cambridge, MA: Perseus.

Jackson, M. C. (2000). *Systems approaches to management*. New York, NY: Kluwer Academic/Plenum Publishers.

Jenkins, W. (2005). The pitch for a new leadership metaphor. *Human Resource Planning*, *28*(1), 19-20.

Johnson, D. W., & Johnson, F. P. (2003). *Joining together: Group theory and group skills*. Boston, MA: Allyn and Bacon.

Jones, G. (2002). Performance excellence: A personal perspective on the link between sport and business. *Journal of Applied Sport Psychology*, *14*(4), 268-281.

Keen, T. R. (2003). *Creating effective & successful teams*. West Lafayette, IN: Purdue University Press.

Keidell, R. W. (1985). Baseball, football, and basketball: Models for business. *Organizational Dynamics*, *12*(3), 5-18.

Keidell, R. W. (1987). Team sports model as a generic organizational framework. *Human Relations*, *40*(9), 591-612.

Keyton, J. (1993). Group termination: Completing the study of group development. *Small Group Research*, *24*(1), 84-100.

Keyton, J., & Beck, J. S. (2008). Team attributes, processes, and values: Pedagogical framework. *Business Communication Quarterly*, *71*(4), 488-504.

Kochan, T., Orlikowski, W., & Cutcher-Gershenfeld, J. (2003). Beyond McGregor's theory Y: Human capital and knowledge-based work in the 21st century organization. In T. Kochan and R. Schmalensee (Eds.), *Management: Inventing and delivering its future* (pp. 85-113). Cambridge, MA: MIT Press.

Kopeikina, L. (2006, Winter). The elements of a clear decision. *MIT Sloan Management Review*, 19-20.

Krane, V., & Williams, J. M. (2006). Psychological characteristics of peak performance. In J. M. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (pp. 207-227). New York, NY: McGraw-Hill.

Kremer, J. M. D., & Scully, D. M. (1994). *Psychology in sport*. Philadelphia, PA: Taylor & Francis.

Landsberger, H. A. (1958). *Hawthorne revisited: Management and the worker - Its critics, and developments in human relations in industry*. Ithaca, NY: Cornell University Press.

Latham, G. P. (2007). *Work motivation: History, theory, research, and practice*. Thousand Oaks, CA: Sage Publications.

Latham. G. P., Greenbaum, R. L., & Baudes, M. (2009). Performance management and work motivation prescriptions. In R. J. Burke & C. L. Cooper (Eds.), *The peak performing organization* (pp. 33-50). New York, NY: Routledge.

Leibold, M., Probst, G., & Gilbert, M. (2005). *Strategic management in the knowledge economy: New approaches and business applications* (2nd ed.). Germany: Wiley.

Lengnick-Hall, M. L., & Lengnick-Hall, C. A. (2003). *Human resource management in the knowledge economy*. San Francisco, CA: Berrett-Koehler Publishers Inc.

Lewin, K. (1920). Die sozialisierung de Taylorsystems [The socialization of the Taylor system]. *Praktischer Socialismu*, 4, 5-36.

Lewin, K. (1939). Field theory and experiment in social psychology: Concepts and methods. *The American Journal of Sociology*, *1*(6), 868-896.

Lewin, K. (1945). The Research Center for Group Dynamics at Massachusetts Institute of Technology. *Sociometry*, *8*(2), 126-136.

Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues, 2*(4), 134-146.

Lewin, K. (1947). Frontiers in group dynamics: Concept, method, and reality in social science; social equilibria and social change. *Human Relations*, *1*(1), 5-42.

Loehr, J., & Schwartz, T. (2001, January). The making of a corporate athlete. *Harvard Business Review*, 120-128.

Lowman, R. L. (Ed.). (2002). *The California School of Organizational Studies handbook of organizational consulting psychology*. San Francisco, CA: Jossey-Boss.

Luhmann, N. (1995). *Social systems*. Stanford, CA: Stanford University Press.

Lumsden, G., & Lumsden, D. (2000). *Communicating in groups and teams: Sharing leadership* (3rd ed.). Elmont, CA: Wadsworth/Thomson Learning.

Luthans, F. (1995). *Organizational behavior* (7th ed.). New York, NY: McGraw-Hill, Inc.

Luthans, F., & Youssef, C. M. (2004). Human, social, and now positive psychological capital management: Investing in people for competitive advantage. *Organizational Dynamics*, *22*(2), 143-160.

Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital: Developing the human competitive edge*. New York, NY: Oxford University Press.

Mahoney, M. J. & Avener, M. (1977). Psychology of the elite athlete: An exploratory study. *Cognitive Therapy and Research*, *1*(2), 135-141.

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *The Academy of Management Review*, *26*, 356-376.

Marrow, A. J. (1969). *The practical theorist: The life and work of Kurt Lewin*. New York, NY: Basic Books.

Martin, J. (2005). *Organizational behaviour and management* (3rd ed.). Bedford Row, London: Thomson Learning.

Marx, K., & Engels, F. (1888). *The communist manifesto*. (S., Moore, Trans.). (original work published in German in 1848).

Maslow, A. H. (1943). A theory of human motivation, *Psychological Review, 50*(4), 370-396.

Matthews, C. O. (1992). An application of general systems theory (GST) to group therapy. *The Journal for Specialists in Group Work*, *17*(3), 161-169.

Mayo, E. (1933). *The human problems of an industrial civilization*. New York, NY: McMillan.

Mayo, E. (1945). *The social problems of an industrial civilization*. Boston, MA: Harvard University Press.

McAleese, D., & Hargie, O. (2004). Five guiding principles of culture management: A synthesis of best practice. *Journal of Communication Management*, *9*(2), 155-170.

McGowan, R. W., & Henschen, K. P. (1988). Coach/athlete communication: Group development. *Journal of Applied Research in Coaching and Athletics*, *3*(1), 75-79**.**

McGrath, J. E. (1984). *Groups: Interaction and performance.* Englewood Cliffs, NJ: Prentice-Hall.

McGregor, D. (1960). *The human side of enterprise*. New York, NY: McGraw-Hill.

McGregor, D., & Cutcher-Gershenfeld, J. (2006). The human side of enterprise, annotated edition. New York, NY: McGraw-Hill.

McMorris, L. E., Gottlieb, N. H., & Sneden, G. G. (2005). Developmental stages in public health partnerships: A practical perspective. *Health Promotion Practice*, *6*(2), 219-226.

Mealiea, L., & Baltazar, R. (2005). A strategic guide for building effective teams. *Public Personnel Management*, *32*(2), 141-156.

Miller, D. L. (2003). The stages of group development: A retrospective study of dynamic team processes. *Canadian Journal of Administrative Sciences*, *20*(2), 121-134.

Miner, J. B. (2005). *Organizational behavior 1: Essential theories of motivation and leadership.* Armonk, NY: M.E. Sharpe, Inc.

Miner, J. B. (2006). *Organizational behavior 3: Historical origins, theoretical foundations, and the future*. Armonk, NY: M.E. Sharpe, Inc.

Mintzberg, H. (1989). *Mintzberg on management*. New York, NY: The Free Press.

Moran, A. P. (2004). *Sport and exercise psychology: A critical introduction*. New York, NY: Routledge.

Morgan, G. (2006). *Images of organization* (Updated Ed.). Thousand Oaks, CA: Sage Publications.

Murphy, S. (1996). *The achievement zone*. New York, NY: Putnam.

Nelson, D. (1975). *Managers and workers: Origins of the twentieth-century factory system in the United States, 1880-1920*. Madison, WI: University of Wisconsin Press.

Nelson, D. (1992). *A mental revolution*. Columbus, OH: Ohio State University Press.

Nohria, N., & Khurana, R. (Eds.). (2010). *Handbook of leadership theory and practice: An HBS centennial colloquium on advancing leadership*. Boston, MA: Harvard Business Publishing.

O'Connell, T. S., & Cuthbertson, B. (2009). *Group dynamics in recreation and leisure: Creating conscious groups through an experimental approach*. Champaign, IL: Human Kinetics.

O'Leary, M., Goodnight, J., & Senge, P. (2003). Human capital and twenty-first century organization: Panel discussion. In T. Kochan and R. Schmalensee (Eds.), *Management: Inventing and delivering its future* (pp. 115-119). Cambridge, MA: MIT Press.

Orlick, T. (2000). *In pursuit of excellence: How to win in sport & life through mental training* (3rd ed.). Champaign, IL: Human Kinetics.

Peaucelle, J.-L. (2000). From Taylorism to post-Taylorism: Simultaneously pursuing several management objectives. *Journal of Organizational Change Management*, *13*(5), 452-467.

Perry, W. G., Jr. (1970). *Forms of intellectual and ethical development in the college years: A scheme*. New York, NY: Holt, Rinehart, and Winston.

Pfeffer, J. (1998). *The human equation*. Boston, MA: Harvard Business School Press.

Pichot, L., Pierre, J., & Burlot, F. (2009). Management practices in companies through sport. *Management Decision*, *47*(1), 137-150.

Pratt, M. (2001). A story of peak performance. *Management Communication Quarterly*, *14*(2), 476-483.

Privette, G. (1981). The dynamics of peak performance. *Journal of Humanistic Psychology*, *2*(1), 57-67.

Raynor, M., Ahmed, M., & Henderson, A. D. (2009, May/June). Where have you gone, Joe Dimaggio? Just what is really great about business performance. *Ivey Business Journal*, *73*(3). Retrieved from http://www.iveybusinessjournal.com/article.asp?int_ID=830

Reber, J. S., & Beckstead, A. B. (2009). Anti-reductionistic empiricism in contemporary psychological research. In J. W. Clegg (Ed.), *The observation of human systems: Lessons from the history of anti-reductionistic empirical psychology* (pp. 141-166). New Brunswick, NJ: Transaction Publishers.

Roethlisberger, F. J., & Dickson, W. J. (1939). *Management and the worker*. Cambridge, MA: Harvard University Press.

Rogers, E. (1997). *A history of communication study: A biographical approach*. New York, NY: The Free Press.

Saidla, D. D. (1990). Cognitive development and group stages. *The Journal for Specialists in Group Work*, *15*(1), 15-20.

Salas, E., Goodwin, G. F., & Burke, C. S. (Eds.). (2009). *Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches*. New York, NY: Psychology Press.

Schramm, W. (1997). *The beginnings of communication study in America: A personal memoir*. (S. H. Chaffee, & E. M. Rogers, Eds.). Thousand Oaks, CA: Sage Publications.

Segrave, J. (2000). The sports metaphor in American cultural discourse. *Culture, Sport, Society*, *3*(1), 48-60.

Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York, NY: Doubleday Currency.

Senge, P. M. (1993). Transforming the practice of management. *Human Resource Development Quarterly*, *4*(1), 5-32.

Shaw, M. E. (1976). *Group dynamics: The psychology of small group behavior*. New York, NY: McGraw-Hill.

Sheldrake, J. (1996). *Management theory: From Taylorism to Japanization*. Boston, MA: International Thomson Business Press.

Spink, K. S. (1998). Mediational effects of social cohesion on the leadership behavior-intention to return relationship in sport. *Group Dynamics: Theory, Research and Practice*, *3*(2), 92-100.

Stewart, D. W., & Kamins, M. A. (1993). *Secondary research: Information sources and methods* (2nd ed.). Newbury Park, CA: Sage Publications.

Stogdill, R. M. (1959). *Individual behavior and group achievement*. New York, NY: Oxford University Press.

Taber, T. (2007). Using metaphors to teach organization theory. *Journal of Management Education*, *31*(4), 541-554.

Taylor, F. W. (1903). *Shop management*. New York, NY: Harper & Row.

Taylor, F. W. (1911). *The principles of scientific management*. New York, NY: Harper & Brothers.

Thompson, J. A. (1967). *Organizations in action*. New York, NY: McGraw-Hill.

Thornton, F., Privette, G., & Bundrick, C. M. (1999). Peak performance of business leaders: An experience parallel to self-actualization theory. *Journal of Business and Psychology*, *14*(2), 253-264.

Triplett, N. (1898). The dynamogenic factors in pacemaking and competition. *The American Journal of Psychology*, *9*(4), 507-533.

Tsutsui, W. (2001). *Manufacturing ideology: Scientific management in twentieth-century Japan* (2nd ed.). Princeton, NJ: University Press.

Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological Bulletin*, *63*(6), 384-399.

Tuckman, B. W., & Jensen, M-A. C. (1977). Stages of small group development revisited. *Group and Organization Studies*, 2, 419-427.

von Bertalanffy, L. (1950). The theory of open systems in physics and biology. *Science*, *111*(2872), 23-29.

von Bertalanffy, L. (1951). Problems of general system theory. *Human Biology*, *23*(4), 302-312.

Waldo, M. (1985). Curative factor framework for conceptualizing group counselling. *Journal for Counselling and Development*, 64, 52-58.

Weber, M. D., & Karman, T. A. (1991). Student group approach to teaching using Tuckman model of group development. *Advances in Physiology Education*, *261*(6), 12-16.

Weinberg, R. S., & Gould, D. (1999). *Foundations of sport and exercise psychology* (2nd ed.). Champaign, IL: Human Kinetics.

Weinberg, R. S., & Gould, D. (2010). *Foundations of sport and exercise psychology* (5th ed.). Champaign, IL: Human Kinetics.

Weinberg, R. S., & McDermott, M. (2002). A comparative analysis of sport and business organizations: Factors perceived critical for organizational success. *Journal of Applied Sport Psychology*, *14*(4), 228-298.

Weisbord, M. R. (2004). *Productive workplaces revisited: Dignity, meaning and community in the 21st Century* (2nd ed.). San Francisco, CA: Jossey-Bass.

Wheelan, S. A., & Hochberger, J. M. (1996). Validation studies of the group development questionnaire. *Small Group Research*, *27*, 143-170.

Whelan, J. P., Mahoney, M. J., & Meyers, A. W. (1991). Performance enhancement in sport: A cognitive behavioral domain. *Behavior Therapy*, *22*(3), 307-327.

Widmeyer, W. N., & Williams, J. M. (1991). Predicting cohesion in a coacting sport. *Small Group Research*, *22*(4), 548-570.

Williams, J. M., & Straub, W. F. (2006). Sport psychology: Past, present, future. In J. M. Williams (Ed.), Applied sport psychology: Personal growth to peak performance (pp. 1-16). New York, NY: McGraw-Hill.

Wolfe, R. A., Weick, K. E., Usher, J. M., Terborg, J. R., Poppo, L., Murrell, A. J., Dukerich, J. M., Crown Core, D., Dickson, K. E., & Simmons Jourdan, J. (2005). Sport and organizational studies: Exploring synergy. *Journal of Management Inquiry*, *14*(2), 182-210.

Yukelson, D. (1997). Principles of effective team building interventions approach at Penn State University. *Journal of Applied Sport Psychology*, *9*(1), 73-96.

Zaleznik, A. (2005). Forward: The promise of Elton Mayo. In R. C. S. Taylor (Ed.), *The humanist temper: The life and work of Elton Mayo* (2nd ed.) (pp. 1-14). New Brunswick, NJ: Transaction Publishers.