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**Towards a Better Understanding
of Recreation Behaviour:
A Psychographic Typology
of Recreation User Types In Brockville, Ontario**

by

KAREN LAUREL CUGHAN, B. A.

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of
Master of Arts

Department of Geography

Carleton University
Ottawa, Ontario
April 20, 1990

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The undersigned recommend to
The Faculty of Graduate Studies and Research
acceptance of the thesis
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submitted by
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the degree of Master of Arts

A handwritten signature in cursive script, appearing to read "M. W. Smith", written over a horizontal line.

Thesis Supervisor

A handwritten signature in cursive script, appearing to read "David Bennett", written over a horizontal line.

Chair, Department of Geography

Carleton University

May 22, 1990

Abstract

An exploratory investigation of recreational behaviour was applied to survey data collected in Brockville, Ontario to examine the nature and structure of leisure participation patterns. The sample consisted of 168 individuals who responded to a 10-page questionnaire on their recreational behaviour, motivations, constraints, socio-economic-demographic circumstances, and household attributes. The average within groups hierarchical clustering procedure was used to formulate a typology of recreational users by comparing individual sample members on the basis of their response profiles. For the 9 clusters identified, the patterns and characteristics that distinguished each cluster from the rest of the sample were discussed. After the typology was assembled, three types of factors; motivational, locational and social status, were identified by cross tabulation and chi-square analyses as contributing to overall cluster group differentiation. The importance of these findings was discussed in light of existing behavioural explanations, as well as in terms of the value of this information in understanding recreational user behaviours and advancing planning applications.

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In the infinite words of Dr. Chris Burn, "the only good thesis is a finished

thesis."

It is now *my* time to recreate!

Karen Laurel Cughan

May 22, 1990

Ottawa, Ontario

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Chapter 1

Introduction

1.1 Introduction

Exactly what motivates a person to recreate is a question that has occupied leisure research for decades. Motivation studies have centred on the issues of why people choose particular leisure activities; what needs they are seeking to fulfill; what satisfactions they are actually deriving; and why there is variability in leisure satisfaction. Contemporary research has shifted to predicting future recreational behaviour by assessing current leisure motivations (Beard and Ragheb, 1983, 219). While these efforts are interesting and important for the development of theoretical concepts, there is little practical application of these results in the study of recreational behaviour. Before it is possible to provide satisfying leisure opportunities successfully and efficiently, expanded knowledge of the recreational user is essential.

From a planning point of view, the key to successful leisure management, organization, operation, and implementation is a thorough understanding of recreational users. For planners, it is necessary to know what psychological measures (e.g., style of participation, needs hierarchy, attitudes, and user perception) as well as practical and technical measures (i.e., provision and management of facilities),

are likely to be successful with respect to specific groups in given geographical areas (Marek et al., 1984, 206). Clearly, the first step is to identify the scope of the audience to be served, as organized leisure activities are geared to the user group and not individual interests. User groups are defined according to the activities they pursue, their age, socio-economic-demographic background, motivations, and so forth. The planning challenge is to adequately meet the changing recreational needs of a heterogeneous society.

The provision of recreational opportunities involves the identification and discrimination of potential user groups. Therefore, a means of identifying, assessing, and understanding recreational behaviour must be devised. In this context, one must take an interactionist perspective (Crandall, 1980, 51) to achieve an understanding of the joint importance of *all* the variables determining recreational involvement. Ideally, an integration of the objective and subjective components of recreational behaviour is required. The line of inquiry must solicit information about the supply of recreational opportunities, the people doing the activities and the reasons for their involvement. This thesis is concerned with understanding recreational behaviour and applying this understanding within a community-based planning context.

1.2 Inspiration for Topic and Research

To date, much of our knowledge about recreation and recreational behaviour has been derived from the disciplines of sociology, psychology and economics, particularly business marketing research. Sociologists study *what* people are doing with their leisure time. Psychologists examine the reasons *why* people are doing what they are doing. Marketing asks *how* behaviour can be manipulated in order to maximize the consumption of a product. Unfortunately, because of the interests of individual scholars, self-imposed limits of the disciplines engaged, and fragmented efforts of governments and business, there have been few efforts to integrate our understanding of leisure (Hendon, 1981, 1). The problem is not new, yet the current approach is, in the sense that recreational behaviour is assessed within

the confines of the planning framework, employing both objective and subjective information about the user and his or her environment.

Inspiration for this thesis stemmed from the idea of trying to optimally satisfy people's recreational needs. Intuitively it is argued that if the physical environment and consequently the recreational activities that are pursued within this environment were designed to meet the needs of the users, then the recreational experience would be genuinely pleasing and the subsequent utilization level would be high (i.e., needs would be satisfied). Formulating a method to implement this notion provides the challenge of overcoming the lack of connection between theoretical development in leisure research and the manner of delivering recreational opportunities.

Before satisfying recreational opportunities can be delivered, the nature and style of recreation have to be defined. This provides a basis to choose appropriate leisure opportunities. However, the problem arises as to how these opportunities can be rationally and functionally supplied at the community level.

Planning research argues that the user, the resource and its management are the major inputs of recreational planning (Jubenville, 1977, 48). The resource and its management only take on meaning in relation to the user. Participation in recreation is purposeful and the result of the user attempting to satisfy some unmet needs in his or her life. Recreational behaviour is therefore goal-directed. This goal of need reduction, in part, shapes recreational behaviour. Need determination is the cornerstone in establishing planning goals and directives. In light of a dynamic and heterogeneous society and a noticeable absence of theoretical foundations, the recreational planning response lags behind changes in needs, interests, and desires of the users.

Behaviour is the physical expression of an individual's psychological interpretation (i.e., attitudes, feelings, motives) of an event. Behaviour serves as an indicator of the needs which initially motivate participation (Schreyer et al., 1984, 36). The type, extent and diversity of recreational behaviour is both an indicator of the individual's level of satisfaction and the influences to their style of participation. Behaviour in general, and recreational behaviour in particular, is extremely com-

plex. Its multidimensional character is most important. Therefore, the patterns of recreational behaviour are fundamentally a composite of objective and subjective realities.

Work in the area of leisure motivation seeks to explain why people behave as they do (Crandall 1980; Beard and Ragheb 1980, 1983; Schreyer et al. 1984). Leisure theory advocates that the dimension of satisfaction is the most significant determinant in people's recreational behaviour, as well as in our understanding of this behaviour. Although diverse and specialized in topic, the research on this issue has been very general in its results. Noteworthy is the fact that this area of research began to measure the degree of satisfaction and began to account for variability in the gratifications received from recreation. There was substantial commonality between research in the satisfactions received from different activities. Furthermore, the researchers argued that the interaction between the underlying needs of the individual for leisure and the environment promote recreational behaviour, more than does either one alone (Crandall, 1980, 51). Leisure needs cannot therefore be separated from environmental influences.

The lack of application of methodologies set out in motivation research, the implied utility of this knowledge by the authors in this area, as well as the diversity of approaches to explaining behaviour fueled my interest. To use the knowledge gleaned from the literature a compromise between the ideal (i.e., the conceptualization of recreational behaviour) and what is practical has to be made. The central question is: what group(s) are to be served and how? A holistic interpretation of recreation with the needs of people at the centre of investigation is sought.

1.3 Purpose and Scope

The primary purpose of this thesis is to develop a typology of recreational users on the basis of similarities and differences in reported leisure behaviour to guide decision-making in recreational planning. The behavioural perspective which underlies this thesis reflects a belief that in order to contribute to the provision

and improvement of recreational opportunities, comprehension of recreational behaviour is required. A secondary aim is to augment behavioural explanation by examining the context and determinants of and influencers to recreational behaviour. This thesis proposes a methodology to determine and assess better the needs of recreational users. The issue of providing a satisfying recreational experience for the individual is the focus. Employing a *grounded theory*¹ approach, motivation literature in leisure and other disciplines, primarily sociology and psychology, is surveyed in order to secure a body of behavioural generalizations and theoretical constructs.

The present study is undertaken specifically to investigate three research objectives:

1. To identify the nature, patterns and style of recreational participation of a heterogeneous group of individuals,
2. To determine which variables are related to the typology, and
3. To specify which factors discriminate between recreational user types.

A recreational behaviour survey of Brockville, Ontario serves as the data source. In this thesis, the understanding of recreational behaviour is derived from the factors into which recreational user types are classified.

1.4 Research Approach

Psychographic research in marketing offers a rich description of consumer behaviour, and has proven useful in defining market segments for advertising promotion. Generally speaking, the audience to be served is described and explained through a combination of intuitive, quantitative and qualitative research (Wells,

¹*Grounded theory* is an inductive approach for generating theoretical concepts and generalizations through systematic comparative analysis of a wide variety of empirically related studies. Theory constructed is related to empirical research and reduces the heavy reliance on existing theories, despite the fact that these theories can serve as sources of concepts for the developing new theory.

1975, 288). The strategy employed is integrative in character. It looks at the observable behaviour of the consumer, as well as his or her psychology, socio-economic-demographic makeup and perceptions. This approach seems to parallel the manner in which recreational planning *should* be addressing the user.

To be effective, planning must be sensitive to the activities, interests and opinions of recreational users. Psychographic research approaches attempt to measure the activities, interests and opinions of the subjects under examination and subsequently form groups to be targeted for marketing based on these characteristics.

The nature of psychographics research offers a more operational approach for use in exploring and understanding leisure participation. This approach is essentially an extension of motivation research methodologies, yet it is different because "... it is amenable to quantification and respectable samples" (Perreault et al., 1977, 211).

1.5 Organization of the Thesis

This thesis is organized into two parts. The first part describes the nature of the problem, including the theoretical conceptualization of recreational behaviour as well as relationships between theory and practice. Chapter 1 introduces the complexity and intricate relations associated with leisure, and describes some of the difficulties in understanding the recreational behaviour of different groups of individuals. A brief review of the the evolutionary progression of recreation geography and motivation research in this field are discussed in Chapter 2. The theoretical postulates central to our understanding of behaviour are established in Chapter 3. The interrelationships between attitudes, needs and satisfaction of the individual are examined with respect to their association to recreational decision-making and exhibited behaviour. Chapter 4 moves beyond the individual and perceptual environment of the recreationist to map out the link between recreation planning and the behavioural environment of the individual.

The second part moves beyond theory to examine the recreational behaviour and leisure participation patterns of individuals residing in Brockville, Ontario.

The research design employed is discussed in Chapter 5. The final results of the frequency, cluster and cross tabulation analyses are outlined in Chapter 6, while the implications and significance of the findings to planning and behavioural explanation form Chapter 7.

Chapter 2

The Nature of Recreation Research

2.1 Introduction

The practical problems, implications and considerations important to planners and practitioners attempting to provide satisfying recreational experiences to the public have been introduced. The nature of recreation geography and an evolutionary progression of motivation research in the field of recreation geography will now be presented along with an integration of research results that have generally been considered separately by other researchers.

2.2 Recreation Geography Research

The greatest problem facing recreation geography research is the lack of definitive theories and methods (Smith, 1983, 183-190). This issue is, at least in part, a function of the diverse theoretical and methodological origins of recreational research in geography (e.g., sociology, psychology and economics). Smith (1983, 183) suggests that it is also probable that "current research is quite adequate to meet current needs, or at least answers the questions geographers care about". Therefore, there is *no* apparent need for a new methodology, let alone an accumulated body of knowledge. Or, is there? Many academics (Crandall 1980; Smith 1983) herald the importance of a strong theoretical conceptualization for the betterment of pure and applied research.

Recreation geography research is currently at a stage of "naive" phenomenology and "naive" induction, but on the threshold of development of a substantive body of theory. Naive phenomenology research concerns itself with the observation, description, definition, enumeration, and classification of leisure phenomena (London, Crandall and Fitzgibbons 1977; Pierce 1980; Beard and Ragheb 1980; Trafton and Tinsley 1980; Francken and van Raaij 1981; Ragheb and Beard 1982). Naive induction goes one step beyond naive phenomenology and attempts to develop tools, methods and approaches to explain those previously defined phenomena. Application of existing knowledge for political and social ends is an important concern, and predictive and normative analyses are also undertaken. It should be noted, however, that this naive phenomenology and naive induction research is based on unsophisticated concepts derived from other geographic specializations and disciplines. Ironically, the analytical techniques and methods used can often-times be very complex and intricate, and not at all naive. Recreation geography is an emerging specialization, a field yet to develop a formal organization of mutually acceptable theory and methodology. It is said to be in "a pre-paradigm state" (Smith, 1983, 183).

To achieve a paradigm, it is argued that there should be a synthesis of two schools of scientific thought: logical positivism and phenomenology (Smith, 1983, 186). The prevailing attitude is that a synthesis of these two opposing paradigms is essential to capture the subjective and personal value of recreation in a rigorous and objective manner. The intention is to create a mature approach where human values, perceptions and experiences can be made neutral and precise for research through replication and/or verification (Smith, 1983, 187).

In the search for a mature perspective¹, behavioural recreation research must

¹Here the concept *mature perspective* generally refers to a well developed philosophical theory or approach through which the world can be viewed, studied, and understood. In general, philosophical debate has moved beyond the doctrines of logical positivism and phenomenology. Contemporary emphasis addresses the linking of the more recently acceptable schools of humanism and historical materialism. Humanism is based on the interests and ideals of people. It asserts that people are constantly interacting, changing both themselves and the milieu in which they interact. Research in this form suggests that it is possible to understand the interactions of people

and does reach a compromise between logical positivism (objective) and phenomenology (subjective). Hendon (1981) argues that much of the published empirical work done in leisure and recreation does not have the kind of depth of insight that the theorists have been able to propose (Hendon, 1981, 82). He suggests that only certain works are useful, thereby making it difficult to derive empirically verifiable generalizations and to build theory. Furthermore, the explaining power of theoretical concepts and untested hypotheses cannot be ignored in practice. Despite all that can be observed, stated (re: individual values, experiences and perceptions), and rigorously tested in recreation research, the practice of recreation research still involves, to some degree, inferential explanation.

The preceding discussion has been largely abstract. Lack of development of a mature perspective with a set of standardized philosophical theories and methods in recreation geography is the theatre in which motivation research plays. Theoretical progress in the field of recreation is moving ever-so-slowly toward verifiable generalizations. Much of what has been previously researched is overlooked in the quest for answers to specific research problems. As such, theory building, and in turn the move to asking "new" questions, has yet to be achieved. Recreation geography is evolving toward generalization, not away from it.

Execution of research and of planning requires a mutual dependency on objective, subjective and inferential information and knowledge for input into the decision-making process, as well as for explanation of recreational behaviour. This

by studying the interaction as it is represented to the people. Historical materialism states that everything in the world really exists, can be explained in terms of matter, and as such, thoughts and perceptions in the mind are made tangible through the senses. In terms of achieving a mature perspective in recreation research, I would suggest that the doctrines of logical positivism, phenomenology, humanism and historical materialism are perhaps better thought of as "labels" that combine subjective and objective elements and understandings of the real world. I would suggest further that a mature perspective must not merely capture the objective and subjective aspects of the real world, but must also capture the interactions of these aspects. The linking of logical positivism and phenomenology is one perspective of how the world can be viewed both objectively and subjectively. It can be argued that the association of humanism and historical materialism is another, yet contemporary view.

combination of information provides us with a better understanding, meaning and expression of recreation. Most important, however, is the single fact that the success or failure of recreation is the result of individual evaluation and decision-making. Thus, if the key to successful recreation lies with the individual, perhaps then the key to successful theory building lies here also. The next section turns away from the general philosophical discussion in the field of recreation and moves to the literature in the area of motivation research. The purpose is to outline the results of work, from which to make generalizations and to build behavioural conceptualizations (see Chapter 3).

2.3 Leisure Motivation Research

The 1960s saw a turning away from what has been labelled objective quantitative research towards more subjective qualitative analysis. The majority of social science researchers followed this turn as it became apparent that people's attitudes were important to research.

In the following decade, few gains were made in determining the relationship between recreational behaviour and recreational satisfaction. In an attempt to be more empirical and therefore acceptable in the eyes of the research world, participation rates and involvement in certain activities were recorded. The traditional view and approach to providing recreational activities were solely that of supply and demand. The belief held was that high rates of involvement and participation reflected a high level of satisfaction and in turn, an increased demand for similar opportunities. Inherently tied to this was the notion that recreational opportunities would automatically be used as soon as they were supplied. Practitioners and researchers in the field of recreation began to observe that this argument did not necessarily hold true. People were not equally or similarly satisfied by the same activity. Benefits derived from participation varied with people, time and/or situation. Moreover, opportunities provided were not always utilized. Therefore, difficulty in supplying demand appeared to stem from misunderstanding the subjective value, personal to each individual, placed on recreational activities. Strides

made in sociology, psychology and economics suggested that people's attitudes were important influences on behaviour.

It was not until the mid-1970s that it became recognized that demand and need were not synonymous and that satisfaction was a result of need. Need creates demand; however, demand is also produced by opportunity, personal ability and participation (Lutzin, 1973, 125-126). Similarly, use is exhibited behaviour, which in turn, can be analyzed to assist in deriving demand (Hendon, 1981, 146). The needs of an individual motivate him or her to choose and/or consume an opportunity or mix of opportunities in an attempt to maximize his or her satisfaction(s). These relationships and conceptualizations are discussed further in Chapter 3. Observation and recognition of the relations briefly described above prompted both recreational researchers and practitioners to ask increasingly complicated questions with respect to individual, as well as group, recreational behaviour (Wall 1979; Hendon 1980).

The next phase of research sought to explain the diversity in observable recreational behaviour. One line of inquiry looked expressly at what things "caused" leisure to be sought. The terms "reasons", "needs" and "motivations" proliferated in the literature. A second line of query was directed at the "results" of leisure; the satisfactions, needed gratifications and psychological outcomes obtained from participation. Crandall (1980) provides a synopsis of these two lines of motivation research in his article entitled "Motivations for Leisure". His paper is an important introduction to the area of leisure motivation as it takes a historical as well as futuristic angle to the state of recreation motivation research. Since the publication of this article, investigation in the area of motivation has shifted. Most current work has focused on the psychological structure of recreation and sociological reasons for participation.

An ambitious three-part project undertaken by Pierce grouped leisure activities according to three different descriptive domains (Pierce, 1980, 6; Pierce, 1980, 152):

- adjectival descriptions (e.g., destructiveness, cerebration, fulfillment, flamboyance, solitude, humour, instinctiveness);

- satisfactions (e.g., intimacy, relaxation, achievement, power);
- characteristics (i.e., those attributes that are intrinsic to the activity rather than being interpretations or reactions on the part of the recreationist (e.g., involves walking, requires equipment, strength or knowledge of the rules)).

This series explored the psychological structure of leisure through dimensional analysis. Pierce (1980) clustered a list of adjectives that people perceived described the nature of their two favourite free-time activities, as well as the ratings of their professed satisfactions about their favourite free-time activity and their ratings of the appropriateness of the potential characteristics with respect to these activities (Pierce, 1980, 273).

The results of this project demonstrated that there is a functional similarity or equivalence in leisure activities as perceived by different people. Pierce argued that it was the profile of variables, which described the dimensions, that were important when characterizing an activity, rather than the single dimension itself (Pierce, 1980, 162). The results further suggested differences in the patterns of dimensions. For example, the power dimension was statistically higher in men's satisfaction than in women's satisfaction with free-time activities. By showing the dimensionality of the psychological structure of leisure activities, studies such as Pierce's generate knowledge for theoretical development, as well as for the substitution of functionally similar activities in practice.

Related studies by Ragheb (1980) and Beard and Ragheb (1980; 1982; 1983) sought to explain the influences of recreational behaviour through examination of the parametric dimension of satisfaction. Ragheb (1980) looked at the relationships between leisure participation, satisfaction and attitude utilizing six activity categorizations (e.g., mass media, outdoor activities, hobbies). Satisfaction was found to be the most powerful participation determinant, as well as the most important variable influencing attitude. Variations in behaviour were also determined to be a function of both gender and the number of years of formal education.

Given the interest in the significance of recreation and satisfaction to leisure planning and services, Beard and Ragheb (1980, 22) developed a Leisure Satis-

faction Scale (LSS) to provide a measure of the extent to which people perceived their needs were being met through their recreational choices. Development of this scale yielded six highly statistically reliable components of satisfaction: psychological, educational, social, relaxational, physiological, and aesthetic. In light of the work completed by Pierce (1980), it becomes obvious that the components or dimensions of leisure satisfaction can vary from the specific (e.g., intimacy) to the very general (e.g., social).

Later studies by Ragheb and Beard (1982; 1983) became more narrowly focused in topic. Research moved toward investigation of the motivators or elements that predisposed people to make the activity choices they did. The results of a Leisure Attitude Scale (LAS) developed and tested by these academics yielded empirical evidence that supported the idea that leisure behaviour was affected by the cognitive, affective and behavioural constituents of attitude. The affective component was statistically more reliable than either the cognitive or behavioural portions. The behavioural element was the least reliable, suggesting that indicators of behaviour are difficult to delineate (Ragheb and Beard, 1982, 161) and, more importantly, that they are specific to the situation. They concluded that behavioural intentions are caused more by what is perceived than by what is known about leisure activities (Ragheb and Beard, 1982, 164). It was further discovered that the socio-economic-demographic characteristics of gender, age, years of formal education, and level of income have an effect on people's attitude.

Scheyer et al. (1984) contributed further to the knowledge about the interaction of cognitions, feelings, motives, and behaviours. River recreationists on a variety of rivers throughout the United States were analyzed via a variable based on the experience use history (EUH) of those engaged. The study concluded that river recreationists with varying EUHs differed in their exhibited trip behaviour, motives for participation, subjective interpretation of their experience, perceptions, as well as attitudes (Scheyer, Lime and Williams, 1984, 47). The authors ascertained that EUH was a useful indicator in explaining differing patterns of behaviour in the same type of environment. In addition, this study indirectly explored the contributing role of attitudes to present behaviour.

Beard and Ragheb (1983) surveyed and evaluated the latent psychological needs or motivations driving people to engage in diverse recreational activities. Using the responses of both students and non-students involved in a variety of different leisure pursuits, as well as several basic psychological theories, Beard and Ragheb set out to assess socio-psychological reasons for engagement (Beard and Ragheb, 1983, 219-221). Results indicated four general motives for participation: intellectual, social, competence-mastery, and stimulus-avoidance reasons. This study is of great importance in that the connection between theoretical and applied research was initiated.

Other studies (Francken and van Raaij 1981; Buchanan 1983) accounted for variability in the recreational activities sought by people. One study (Francken and van Raaij 1981, 337) identified leisure satisfaction as the perceived discrepancy between the actual and desired state, which is also governed by the perceptions of the internal and external barriers that inhibit fruition of the desired situation. Based on a two-part discriminant analysis of types and degree of satisfaction, socio-economic-demographic classes were recognized as having different perceptions about which particular barriers impede their satisfaction. Preliminary results indicated people with lower satisfactions tend to belong to lower socio-economic-demographic groups, are younger in age and perceive internal constraints (i.e., personal interest, skill level) as obstacles to enjoyment. Those in the middle grouping consider external barriers, such as time, money and circumstances (i.e., lack of facilities), as being out of their control; thereby, limiting the time they can devote to leisure activities. Persons in the higher division are older and tend to belong to higher social classes. This group is able to pursue the activities of their choice.

Buchanan (1983) suggested variability in satisfactions within activities as being the result of the experience of the recreationist and not the activity per se. The recreational behaviour of 428 sport fishermen was studied by looking at the secondary activities they participated in while engaged in the main activity of fishing. Variations in the satisfactions of these fishermen revealed a relationship between secondary activities and the gratifications received from involvement in the main

activity. Results here implied that it is inappropriate to attribute pleasure solely to the primary activity. In this respect, Buchanan argued the contribution of secondary activities in providing enjoyment should not be ignored by planners trying to foster quality recreation (Buchanan, 1983, 49).

While many of the efforts in motivation research have been divergent, the pragmatic concern of understanding why people engage in certain activities is at the heart of these investigations. Findings have been helpful in providing specific factors and means of examination (i.e., LSS and LAS); henceforth, substantiating the body of knowledge that already exists. The proliferation of results, on the other hand, has been unfavorable to the development of theory. Commonalty between investigators exists in the notion that recreational behaviour must be viewed in the context in which it occurs and that the influences directing behaviour cannot be ignored in light of other research discoveries. Exactly what motivates a person to recreate is a boundless question in both research and practice.

Common to both leisure research and leisure practice is the abstract idea of "need". However, it is not axiomatic that research and planning address the same aspect of need. Research is concerned with determining leisure quality, whereas planning turns to the efficiency with which the quality of experiences may be made available. More often than not, emphasis in planning is placed on efficient choice of recreation rather than quality of choice.

The motivation studies outlined above emphasize a research orientation that recognizes a link between the internal decision-making systems of the individual and the external physical environment shaping the recreational choices made. Psychological structural analysis of leisure activities perpetuates blending of all the salient ingredients affecting recreational behaviour. Therefore, in order to provide pleasing leisure opportunities, the relationships between the activities, the needs they satisfy, the individual differences in their perceptions (about these activities) and their need-satisfying properties command simultaneous recognition in theoretical conceptualization and in practice (London et al., 1980, 255).

Ideally, there must be a broadening of knowledge or at least an extended conceptualization of recreation as set forth in Figure 2.1. Practically, achievement lies

Figure 2.1: The Nature of Recreation Research

in delimiting the very nature of the question we are trying to answer.

Chapter 3

Behavioural Conceptualization

3.1 Introduction

The theme permeating Chapter 1 and Chapter 2 indicates that the nature of recreation is indeed very complex. Different people participate in recreation for different reasons and exhibit different behaviours as a result of these motivations and/or constraints. Similarly, numerous variables influence these motivations. The provision of recreational opportunities involves the identification of these influences and their associated correlates. The purpose of this chapter is to more fully describe the multidimensional and multivalent character of recreational behaviour. The coverage here is not intended to represent *all* the relationships, but to identify those most important to behavioural understanding. We will first consider the theoretical distinctions between the concepts of leisure and recreation. Once developed, we will concentrate on understanding overt recreational behaviour, by looking expressly at the internal decision-making process of the individual, the attitudes associated with these behavioural choices and decisions, as well as the underlying needs precipitating initial recreational engagement. The connection between recreational behaviour and recreational satisfaction is also investigated. The major elements of attitude, need and satisfaction are discussed in terms of their association with recreational conceptualization.

3.2 Concepts of Leisure and Recreation

Before it is possible to examine the central relationships and the major elements guiding recreational behaviour, it is important to recognize the semantic differences existing between leisure and recreation. A review of leisure and recreational planning literature reveals confusion and overlap. "Recreation" is a widely used term, yet it defies precise definition. "Leisure" is another notion afflicted with imprecise terminology. No single definition of either has received the enduring support of a majority of social scientists. The meaning of leisure and the meaning of recreation, however, can be distinguished.

Traditionally, leisure has been discussed in terms of "time" and recreation in terms of "activity". To comprehend recreation, it is necessary to view leisure as a part of our daily lives. Consequently, it is pursued within the confines of the opportunities and constraints imposed by daily existence (Marek, Bennett and Kjobe, 1984, 205). Leisure takes place during residual or non-obligatory time¹ Hendon asserts:

That does not merely suggest that there exists a neat amount of work time and a mutually exclusive set of leisure hours; indeed, there is often an overlap ... Work time is primarily devoted to work, but some amount of leisure may occur. Similarly, leisure time is time primarily free from work, but some amount of work may take place. Further, work time is devoted to some form of economic productivity, while leisure time is essentially free from work or other obligations (Hendon, 1981, 24-25).

Moreover, non-work activities, such as religious involvement and civic duties, are neither work nor leisure per se, because one is not free to choose how to spend one's discretionary time. Despite the truth that leisure may occur during work and vice versa, leisure as a concept is something separate from work, but not isolated from it. Invariably, leisure is in opposition to work for our time and is therefore commonly defined in terms of work. Unlike work, leisure is vague in both fact and in definition.

Some forms of behavioural action can be regarded as a pleasure taking place during discretionary time or work taking place during obligatory time. Gardening,

¹Time which is leftover or free after work and individual responsibilities have been completed.

for example, can be a chore or a leisure time activity depending on the psychological interpretation of the individual involved. Hence, it is more appropriate to consider leisure as a psychological experience or, in the broadest sense of the word, an attitude. Leisure is something personal to each individual; a state of mind; a quality of feeling; or, a way of being (Neulinger, 1974, 7).

Recreation is inherently tied to leisure. It embraces a wide variety of activities which are undertaken during leisure (Wall, 1979, 3). All recreational activities take place in leisure, which in turn, due to the diversity of recreation, may not be satisfactorily fulfilled in recreation. In other words, the activities pursued in recreation may not always result in a pleasurable leisure time experience. Therefore, recreation tends to include activities which are selected to occupy leisure with the expectation of receiving a positive gratifying experience (Wall, 1979, 3).

While this distinction between leisure and recreation is appropriate for theoretical conceptualization, there is an amalgamation of both concepts in reality among and between individuals. Therefore, leisure and recreation are regarded by the general public as being synonymous. Conceptual separation, or lack of it, is difficult to implement in planning and in research because of the diversity of attitudes, activities and/or forms of recreation. Distinctions are further hampered by the conundrum surrounding discretionary and obligatory time components. People's inability to distinguish, organize and articulate what they do apart from their obligations during their free-time is yet another reason for this confusion.

For the purpose of this examination, leisure is accepted as being time which is outside work, sociocultural obligations and economic constraints (Maclean et al., 1985, 9). Recreation is defined as the range of types of actual experiences that are freely chosen by the individual, provide personal satisfaction and occur during leisure. Even though this latter definition is broadly defined and all-inclusive, it does describe the essence of recreational behaviour. A more narrowly conceived description would perhaps exclude individual conceptualizations of recreation as perceived by sample members.

Although conceptual differentiation between leisure and recreation is difficult to master even at the simplest level of abstraction, accounting for differences in

human activity is less troublesome. One can identify the various influences which led to the specific behavioural choice in question. Recreational behaviour is multidimensional. In particular, leisure actions involve different activities, numerous expectations and experiences leading up to these activities, as well as several benefits and satisfactions derived from activity involvement (Marans and Fly, 1981, 9). These behavioural patterns or tendencies are contingent on (compiled from O'Riordan, 1973, 18 and Marans and Fly, 1981, 44):

1. The socio-economic, demographic and cultural makeup of the individual.
2. The value systems of the individual.
3. His or her previous experience.
4. The knowledge of likely consequences of actions and the willingness or predisposition to gain new knowledge.
5. The extent to which one feels responsible for one's own acts.
6. The nature of the situation in which a behavioural decision is made.
7. The recreational resources and/or opportunities that are available.
8. The evaluation of available leisure resources.

It is important to note the fact that recreational behaviour is a variable dependent on a specific location, time, activity, and person.

Behavioural situations assume a primary role in determining leisure behaviour. Superimposed upon the physical environment is a behavioural setting, the tacit and spoken norms and rules which predispose one to act in a particular way due to the activity itself and the milieu in which it exists. It may be argued that situational factors govern recreational behaviour.

Geographer Doreen Massey suggests that "given forms of behaviour are only relevant to particular circumstances (particular historical periods, for example), and are therefore subject to change" (Massey, n.d., 201). Similarly, psychological theory concludes that "a person's attitude has a consistently strong relation with

his or her behaviour when it is directed at the same target and when it involves the same action" (Wrightsman and Deaux, 1981, 323). Where situational pressures are strong, individuals with widely differing attitudes may behave in a similar manner. Thus, if an area is promoted for an activity such as swimming, it is not important whether the physical environment for activity be a beach or neighbourhood pool. What is important is that the primary activity of swimming encourages similar exhibited behaviour. Furthermore, behaviour at one beach is akin to behaviour at another beach.

Constraints to leisure behaviour relate to the situation and the psychological definition through which the behaviour is translated by the individual. Clouded interpretations of behaviour emerge as a result of ascribing one's behaviour to conform to fit one's attitude or of adapting attitudes fitting one's behaviour. Awareness of these biases is important when examining people's actual recreational behaviour.

Exceptions to recognizable behavioural trends occur in the testing situation. While one set of attitudes may be salient in the testing situation, another set of attitudes may be salient in the behavioural situation. One reason for these incongruent attitudes centres on the idea that the respondent is answering the way he or she believes he or she is expected to (i.e., according to societal norms), and not according to his or her individual beliefs.

Another exception focuses on cognitive dissonance theory. Cognitive dissonance is a state in which a person holds two beliefs that are inherently different from one another (Wrightsman and Deaux, 1981, 322). For example, with respect to recreation, "according to dissonance theory, it would be difficult for people to express dissatisfaction with the places they intentionally choose to use" (Marans and Fly, 1981, 132). Hence to avoid "psychological tension" resulting from conflict between different cognitions, one's attitudes (i.e., beliefs) are distorted to justify a desired course of action. Essentially, one tries to alter one's beliefs to fit in line with one's behaviour, resulting in the compartmentalization of both beliefs and behaviour.

Clearly, it is misleading to infer underlying leisure preferences from exhibited

behavioural patterns if this is the sole source of information. Leisure behaviour and its physical expression, the activities pursued, are the product of both internal and external factors. Socio-economic-demographic, attitudinal and motivational characteristics from within the individual, as well as the attributes of the physical environment and societal pressures (social norms and roles) extraneous to the individual affect behavioural choice. The model in Figure 3.1. shows the relationships between the intrinsic characteristics of the individual and the extrinsic attributes to him or her. It also illustrates the links between these factors, behaviour and people's perception of the real world. Recreational behaviour is therefore a function of an individual's psychological interpretation, attitude and/or perception of information from the present situation as well as that information previously acquired.

Despite the overlap and semantic confusion surrounding leisure and recreational conceptualization and definition, it is possible to understand leisure behaviour and leisure choices. Because recreational satisfaction of the user is the goal of planning, it is important to delineate the psychological interpretations and responses of the recreationist in determining choice from his or her observable behaviour and use. The next section looks specifically at the concept of leisure attitudes and its significance in shaping exhibited recreational behaviour.

3.3 Leisure Attitudes

The model in Figure 3.1. indicates that attitudes, interacting through the intervening decision-making process of the individual, give rise to identifiable recreational behaviour. What is not made clear in this model is the fact that the resulting behaviour involves a conscious choice by the recreationist. Moreover, choice is dependent on attitude. The following paragraphs are intended to provide some insight on the part attitudes play in shaping recreational actions.

O'Riordon (1973) argues that "... an attitude seems more to be a mediating process which connects a stimulus (an object or situation or both) and a response." Similarly, Wall (1979) defines attitudes as relatively enduring beliefs about an ob-

Figure 3.1: Decision Model for Leisure Behaviour (Source: Marek et al., 1984, 207)

ject or situation which predispose one to respond in a particular way. Implicit in these statements is the assumption that attitude is related to behaviour. Motivation studies recently conducted show the existence of this connection. Concomitant with this assumption is the notion that attitudes must be inferred, thereby indicating that all cognitions do not necessarily promote specific and/or similar behavioural responses. In fact, as mentioned in the preceeding section, revealed behavioural actions can be constrained by an individual's attitude so much, that either the behaviour or the attitude is modified to justify the cognitions one has with respect to the situation. This suggests that the situation *per se* determines which attitudes contribute to an intention to act, and subsequently to an actual behaviour (Alberta Recreation and Parks, No. 8, n.d.). Hence, attitudes formed through direct experience with the situation show more consistent relationships than do attitudes formed less directly (Wrightsman and Deaux, 1981, 324).

Leisure attitudes contribute to the comprehension of the interaction of objective indicators (i.e., formal knowledge), subjective indicators (i.e., feelings), and leisure behaviour. The precise linkage(s) between attitude and behaviour is/are difficult to conceptualize, because attitude formation is a process which takes place in the mind. Behavioural psychological theory contends behaviour is a constituent component of attitude. This theory suggests that attitudes are comprised of three fundamental parts: beliefs or cognitions; affects or feelings; and, behaviour. Beliefs are probabilistic judgements or ideas about whether a particular object has a particular characteristic. Evaluative and emotional judgements which are associated with these cognitions (i.e., one's like or dislike for an object) lead directly to one's behaviour, action tendencies or role toward this object (Wrightsman and Deaux, 1981, 316-324). Attitudinal and behavioural relations are seen here as a step-wise progression.

At this juncture, it may be argued that the association between attitude and behaviour is not as straightforward as psychological theory would lead us to believe. It may be argued further that, because personal attitudinal and decision-making processes are so instantaneous, beliefs and affects cannot be separated, that they are a collective whole (i.e., attitude) influencing behaviour. Figure 3.2. sets out

Figure 3.2: Main Relationships Between Values, Attitudes and Behaviour

this conceptualization. A recent study conducted by the Alberta Recreation and Parks (n.d.) likens attitudes to feelings. This is an indication that, at least in practice, attitudinal comprehension is embodied within the perspective on cognitions and affects proposed here. No matter which theoretical orientation is taken, the constituent parts of cognitions, affects and behaviour remain the same. More importantly, in either instance, the basic mode of thinking about and relating to one's environment is through one's value or value system (Wall, 1979, 97).

Values may be described as broader or more abstract ideas that a person may have that lack any specific object or reference point. Examples include bravery, beauty and freedom. Webster's II New Riverside Dictionary (1984) defines "value" as "a standard or principle regarded as desirable or worthwhile." Furthermore, the importance or usefulness of this standard is only significant in the mind of its possessor, although different people can have similar values. Keeping in mind that the objective of recreation is achievement of a positively rewarding leisure experience, perhaps the standard that is sought is better thought of as an ideal than as a value.² Noteworthy, however, is the fact that values and/or ideals may develop specific attitudes. For example, if beauty is a primary value, many beliefs will evolve around the issue of whether a particular object is beautiful. Thus, one's attitude towards an object may be influenced by the degree to which one thinks it is aesthetically pleasing (Wrightsmann and Deaux, 1981, 317). In terms of attitude development, values are context dependent and specific to a defined activity, behavioural and physical setting (Jackson, 1985, 181). Moreover, as the literature suggests, attitudes are considered "a learned tendency" to respond to a situation in a consistent manner (Alberta Recreation and Parks, No. 8, n.d.).

In contrast to attitudes, perceptions are "feelings" about stimuli that come directly from the senses. For example, viewing a landscape in the present predisposes one to behave in a particular manner (Wall, 1979, 97). It is possible that recollection of this previous experience, be it favourable or unfavourable,

²An "ideal" is an ultimate standard or objective existing solely in the mind. Again, the terminology incites semantic debate. For the purposes of this thesis, values and ideals are assumed to be synonymous.

has contributed to subsequent attitude formation, which in turn nurtures future recreational decision-making.

Wall (1979) notes that values, attitudes and perceptions represent a continuum of constancy. This is to say that values are more enduring than attitudes, and attitudes are more permanent than perceptions. While this theoretical distinction is true, it can be argued that the subtleties between each of these concepts are such that differentiation in practice is clearly challenging and beyond the scope of this thesis.³

At first glance, the multidimensionality and multivalency of recreational behaviour, as well as the complexity of attitude development, is perplexing. Yet, throughout attitudinal formation, individual and group behaviour is consistent in terms of the activity, physical environment and time span over which it is congruous. It is an implicit assumption in the literature examined that attitudes influencing behaviour are therefore in accord with behaviour, although preferences and needs, and consequently behaviour, change with time. Simply stated, positive attitudes tend to encourage constructive behaviour whereas negative attitudes tend to induce destructive and delinquent behaviour. Attitude affects recreational choice and behaviour, but it does not promote it.

The preceeding discussion has implied that the decision to participate in recreation is moderated in the mind of the individual through cognitions and/or feelings formed directly or indirectly about the actual stimuli present. The choices made, action tendencies and behaviour exhibited are each reflective of the values and/or ideals we have previously assembled. The mind precludes direct determination and examination of attitudes, although knowledge as to relative views about leisure and recreation can be inferred.

Despite the contribution of attitudes to recreational behaviour, it is also of vital concern to take into account those forces which impel people to seek leisure initially. It is appropriate to ask why people partake in recreational experiences. Many leisure theories adopted from social and behavioural psychology (e.g., gen-

³A rigid distinction between values, attitudes and perceptions is difficult to ascertain in practice as respondents tend to describe and articulate each in terms of "feelings".

eralization, compensation, developmental theories) have evolved to explain the many leisure actions pursued, yet not one satisfactorily delineates *all* behaviour. Together these theories have suggested that there are a variety of underlying motives which prompt people to make certain recreational choices (Wall, 1979, 7). Exploration of the literature indicates that there is a common reasoning or motivational consistency among recreationists. Need gratification or satisfaction in general is the accepted common ground between these people. The remainder of this chapter describes the elements of need and satisfaction in terms of their linkage to recreational behaviour.

3.4 Leisure Needs

When individual recreational needs emerge, behaviour is shaped in terms of the psychological motivations, priorities and action taken. Fundamentally linked to this idea is the assumption that various groups of people within a population have different leisure needs that vary according to individual parameters, such as psychological motivations, gender, age, and socio-economic-demographic circumstances. Intimated in this argument is the notion that although recreation has personal significance to us, individuals in society share common expressions and reasonings for involvement in leisure pursuits. One might even go so far as to suggest that some needs, not unlike attitudes (i.e., dissonance theory and the testing situation), take precedence over others and as such, those most relevant to the individual's immediate personal life are dealt with first (Pacione, 1982, 498).

Maslow's (1954) hierarchy of needs model typifies this decision ordering. His hierarchical theory suggests that certain kinds of needs are more basic than others. Five levels of need are formulated under the simple premise that the foregoing levels have dominance in the order given (see Figure 3.3.).

The model suggests that once the basics of physiological or biological needs, safety needs and social needs have been satisfactorily fulfilled, the metaneeds of ego or esteem and self-actualization may be achieved respectively. An individual seeking biological needs will seldom be motivated by safety needs until the former

Figure 3.3: Maslow's Hierarchy of Needs (Source: Lutzin, 1973, 124-125)

is reasonably satisfied, even though it is possible to be seeking needs in two or more levels simultaneously (Lutzin, 1973, 124). Thus, on a daily basis, every individual will exhibit his or her own complex matrix of these needs.

This hierarchical model deals indirectly with recreational needs. Its applicability to behavioural understanding is important in both the general and the specific sense. The model suggests the types of needs people are generally looking for in life. Fulfillment and/or lack of fulfillment of one or more of these needs in life may result in an individual seeking to perpetuate or compensate these needs in recreation. On the other hand, however, to explain satisfying recreational experiences, "needs" are too broad a concept to be useful. "It is all well and good to have broad classes of needs such as Maslow's hierarchy of needs, but it is quite another thing to deal with need in a specific way, because from the standpoint of satisfaction many activities for individuals fulfill the same need" (Hendon, 1981, 24). Therefore, it is the substance constituting these needs that is significant to the study of recreational behaviour. Maslow's hierarchy of needs brings into question the dichotomous relationship surrounding the concept of need. If we accept the view that recreation is a human need, we have to decide for ourselves whether it is a genuine need that we have a right to, as our right to health, education and welfare, or is it a desire, luxury and/or metaneed that we aspire to after home, health, and food have been secured? This is an issue which is strongly debated in leisure literature. Ideally in practice, organized leisure provided at the community level is a right of all citizens. However, as the decision-making and attitudinal processes of the individual have yielded, recreation is something that is anchored in desire. For the purposes of this thesis, recreation is assumed to be a desirable human need which should be available to all sectors of the population.

Recreational behaviour is the result of need and is either promoted or inhibited within the personal parameters and decision-making of the individual. More precisely, it is people's perceptions and strength of their own necessity requirements that influence their leisure choices and behaviour (Pacione, 1982, 503).

The nature of people's leisure needs pertains to the supply of existing opportunities and hierarchy of personal needs. Pragmatically, the "need" for leisure

becomes the recreational services and activities deemed necessary for quality and efficacious leisure consumption (Hendon, 1981, 24). In this context, "need" is the demand for leisure opportunities. Need and demand, however, are not synonymous. Demand is generated by need, yet it is also produced by opportunity, personal ability and participation (Lutzin, 1973, 125-126). The availability of leisure opportunities, personal skill achievement through exploitation of these opportunities, as well as increased use frequency, create the demand for the improvement and/or expansion of existing facilities and resources and even perhaps the development of new opportunities. In this sense, demand may be defined as "the use of existing facilities and the desire to use recreation facilities now and in the future" (Wall, 1979, 63). Likewise, the leisure literature proposes that the demand for recreation is "a strong desire rigidly defined" or in a more practical sense, "the number of people requiring to take part in an activity" (Wall 1979; Hendon 1981). Thus, there seems to be a quandary as to just what demand for recreation is all about.

At this point, it is appropriate to step back from the definitional dissimilarity and expound upon the bent of the concept of demand. Demand created by need is less exact than demand generated by participation and lack of opportunity because of the difficulty in pinpointing a need precisely. Use is exhibited behaviour, and not equal to demand in general. Similarly, when studying recreational behaviour, we are actually considering that group of the population that consumes a mix of leisure services and opportunities. This consumption is referred to in the literature as effective demand, as opposed to deferred and potential demand which consist of people who would like to, but are not able to participate in recreation at the present time due to internal and external barriers (Wall, 1979, 63).

Needs are those intangibles that motivate people to use recreation. They become tangibles through the various perceptions and attitudes of each individual. Most people have only a vague idea of their needs, so that genuine needs tend to go unrecognized. It is the perceived needs that will be, at least in theory, dealt with first. If the attitude of the individual is such that he or she perceives the basic needs as more important, the metaneeds may not be realized or recreational

action may not be chosen. On the other hand, recreation may be sought as an end in itself rather than as a means to an end (i.e., need satisfaction), or it may be participated in for the sake of doing it and with little conscious recognition as to why this action is being pursued. Ultimately, through appropriate provision, needs are met.

By looking closely at the expressed interests, desires, preferences, and attitudes towards and about recreation rather than leisure behaviour per se, need determination can be facilitated (Lutzin, 1973, 127). Practically speaking, despite the fact that people may "need" or "demand" recreation, different kinds of activities may be interchangeable, particularly in the satisfactions they provide. Thus, it is the need-satisfying properties of selected activities which are perceived to be the same that affect leisure choice. In general, individuals who perceive the same need satisfying qualities, are likely to exhibit the same recreational behaviour.

3.5 Leisure Satisfaction

Satisfaction is a relative concept commonly defined as the discrepancy between expectation and the actual situation (Francken and van Raaij, 1981, 338). The notion that one has a knowledge of his or her expectations, needs, wants, desires, and preferences with respect to his or her future opportunities is implicit with this concept. However, "even if one knows how satisfied or dissatisfied people are, this is essentially irrelevant since people may be ignorant about the true impact of various life conditions ... " (Pacione, 1982, 507). Thus, satisfaction depends both upon the way the world "actually" is and how this reality is "perceived" by the individual.

Beard and Ragheb (1980) propose six components of perceived satisfaction (Beard and Ragheb, 1980, 23):⁴

1. Psychological: sense of freedom, enjoyment, involvement and challenge.

⁴See also John R. Kelly, *Leisure Identities And Interactions*, (London: George Allen & Unwin Ltd., 1983), p. 6.

2. Educational: intellectual challenge and knowledge gains.
3. Social: rewarding relationships with other people.
4. Physiological: fitness, health, weight control and well being.
5. Relaxational: relief from strain and stress.
6. Aesthetic: response to pleasing design and beauty of environments.

Each component adds to the overall value that leisure pursuits provide for the individual. Therefore, the quality assessment of a leisure experience is dependent upon how a person perceives the attributes of his or her recreational environment in meeting these six aspects, and upon the personal standards (i.e., values, attitudes and needs) against which they are judged.

People's involvement in activities and their behaviour in the leisure situation is the first stage of satisfaction (hunger). Here, a person is seeking need satisfaction or a means to achieve it. People act to optimize their overall satisfaction by maximizing their leisure satisfactions (Hendon, 1981, 147). Stage two (satiation) occurs when satisfaction is attained. It may be argued that a person's enjoyment and regular involvement in a particular activity or set of activities provides him or her with an acceptable level of gratification, although he or she may be looking for "new" activities to compensate other needs. Consecutive consumption of the same activities or adaptation of behaviour to these activities can also lead to diminishing levels of joys. As such, people may become involved in substitution (Hendon, 1981, 147). The concepts of adaptation and substitution are discussed in greater detail below. Stage three (oversatiation) is a state of surfeit. In general, the activities consumed no longer provide "challenges" to their user, who then turns away from these activities. The recreationist is thereby motivated to seek satisfaction elsewhere in different activities. It should be noted that if satisfaction is not achieved, frustration occurs and relief from it becomes the motivating force for involvement in various other leisure pursuits. Because recreational involvement occurs in all stages, it is practically impossible to distinguish at what level satis-

factions are being met. Thus, overall satisfaction, not what phase of satisfaction, is of importance to the practice of recreation.

Overall satisfaction with a person's recreational environment and activities is appraised by the individual following two methods. The first approach is founded on the threshold concept.⁵ Following this criterion, overall satisfaction is dependent upon the presence of a threshold number of satisfactions; furthermore it does not matter which components are satisfactory, as long as a minimum number is met.⁶ Certain lower needs or basic needs must be at least somewhat gratified before the upper order needs or metaneeds can be addressed. Hence, there may be an upper threshold of satisfaction above which any increase in the amount of satisfaction fails to produce a corresponding gain in overall gratification (Pacione, 1982, 504). The second method is more simplistic in nature. Each individual adds up for himself or herself the significance that each need satisfying component has to his or her overall satisfaction. Consequently, each component has equal weighting, as the joys in one area may compensate for the deficit in another (Pacione, 1982, 504). Because recreation relies heavily on personal tastes and preferences, evaluation of total group satisfaction may not be comparable within or between groups of people, or adequate for recreational assessment, whereas the differential weighting of the threshold measure encourages comparability between individuals and groups.

Two concepts affecting overall satisfaction and in turn demand are labelled substitutability and adaptation (Cheek, Field and Burdge 1976; Pierce 1980; Hendon 1981; Wrightsman and Deaux 1981; Maclean, Peterson and Martin 1985). Substitution is the primary mode of comparison of recreational choices. If one choice is a substitute for another, then the competing activities are perceived as fulfilling the same need-satisfying property. Moreover, according to economic supply and demand theory, it is assumed that as the demand for this substitute increases, the functional utility of the initial opportunity decreases. In the case of

⁵See Michael Pacione "The use of objective and subjective measures of life quality in human geography" in *Progress in Human Geography* Vol. 6, No. 4, 1982, pp. 495-514.

⁶The choice as to which components are used is assessed by the individual.

a total package of activities⁷, individual activity packages may be considered to be complimentary to one another rather than being substitutes for one another. The increase in demand for one package will likely lead to an increase in demand for another package.

Adaptation is a result of prolonged exposure to a one's recreational environment and activities. Because of a lack of alternative leisure satisfiers, individual parameters influencing decision-making, affecting evaluation and choice, change. As a result, the recreationist moves toward greater acceptance and satisfaction with his or her leisure choices, rather than rejection and dissatisfaction (Wrightsmann and Deaux, 1981, 513). Cognitive dissonance is just one example of adaptation of choice (see Section 3.2).

What promotes or prohibits satisfaction for the individual is as variable as the expressions and reasonings behind leisure itself. When the appropriate background information is known, relative levels of satisfaction may be discriminated. This is to say that if the expectations, needs, wants, desires and preferences of an individual can be articulated and compared with his or her actual behaviour, then an individual's stated degree of recreational satisfaction can be assumed to have practical significance for planning.

Essentially, what has been discussed in this chapter is the process of individual decision-making and recreational choice-making. It is important to point out that the elements affecting choice are associative, but not causative. Each element can be correlated with the behaviour exhibited. However each cannot be shown to cause particular behavioural actions. Each individual is driven by his or her own needs or necessity requirements, whether cognizant or not, to engage in recreation. In turn, the benefits an individual is seeking from involvement also may or may not be cognizant, although they can be articulated.

The satisfactions being sought in recreation have more to do with the need-satisfying properties or satisfaction components perceived to be desirable than

⁷This concept refers to a set of activities consisting of a primary and associated secondary activity(ies) which contribute to the single recreational experience, as well as to the overall satisfaction received from the experience.

with the actual needs *per se*. In this way, different recreational activities may be perceived to be similar or substitutable for one another. Prolonged exposure to the same opportunities (i.e., physical environment and/or activities) can produce a state of adaptation on the part of the individual. Here people justify their behavioural choices and diminishing satisfaction with these choices by accepting the consequential situation. Moreover, the existing situation is rationalized in the mind, thereby tempering people's attitudes to justify their actions.

In general, it is the combination of needs, satisfactions and attitudes that constitute recreational choice and similarly the behaviour manifested in them. Although these are the principal elements determining leisure actions, they themselves are shaped by a variety of parameters that are ever-changing. Therefore, recreational choices and behaviour are consistent in terms of the needs, satisfaction components and attitudes directing action, given a specific time and geographic location. Furthermore, recreational choices and behaviour are consistent across groups of people who tend to have the same or similar backgrounds (i.e., socio-economic-demographic variables).

Most importantly, it is the connection between the attitudes, perceptions and behaviour of the individual that is significant to recreational planning. Planning requires knowledge about individual choice and decision-making so as to better address and supply those needs people are demanding. While it is all well and good to elaborate on individual recreational decision-making, it is also important to clarify the link between this conceptualization and the practice of recreational planning, and to explore the relations between behaviour, perceptual understanding and planning in the real world. Turning to the idea of leisure and recreation as processes, the following chapter explores the interrelationships between the environment and people (i.e., the leisure system), as well as the links between the leisure system and planning.

Chapter 4

Environments and Systems of Recreation

4.1 Introduction

The arguments in Chapter 3 addressed the individual's internal decision-making process, focusing on the elements that affect rational recreational choice and the exhibited behaviour that ensues. Complementing the conventional definitions of leisure and recreation, the concept of recreational behaviour presented in this thesis recognizes leisure and recreation in general as psychologically meaningful and motivated processes. Both leisure and recreation therefore are investigated as cognitive processes rather than merely in terms of their manifestations (e.g., activities and participation rates devoid of motivations and meanings). Cognitive interactions with the environment, internal and external to the recreating individual, are subsumed under this conceptualization. In this chapter, the linkages between the internal decision-making and external environment of the individual are discussed and clarified. The interaction between people's behavioural, perceptual and operational environments as recognized by Sonnenfeld (1978) are highlighted in terms of their contribution to our understanding of leisure behaviour. The systematic association of recreational planning, people and the physical environment is described as a context for focusing our understanding on the practical delivery of quality and effective leisure.

4.2 Environments of Recreational Behaviour

The concept of environment represents different things to many different people, and is often very much dependent on our philosophical orientations. A sociologist, a psychologist and a geographer interpret environment in different ways. For the behavioural sociologist and the behavioural psychologist, environment is accepted as being those conditions which elicit behaviour and behavioural interactions. As such, feelings created by pressures from outside the individual are given environmental consideration in both behavioural sociology and behavioural psychology. For the geographer, on the other hand, environment is the physical environ in which a person reacts external to himself or herself. The behavioural socio-psychological interpretation of environment is primarily concerned with the role of social interaction¹ influencing behavioural actions within the real world, whereas the geographic definition of environment overlooks this interaction of people as a context for behavioural influence (Sonnenfeld, 1978, 31). Strictly, the socio-psychological perspective of environment recognizes a person as experiencing "feelings" and consequently reacting in the physical setting according to these "feelings". Behaviour is accepted as being more than just the product of a person-environment interaction; it also incorporates a social context or societal pressures and influences. Behaviour, according to the geographic definition given, is primarily considered to be a response to the immediate stimuli and correspondingly is merely directed at the environment (Sonnenfeld, 1978, 31). Generally therefore, the environment can be described as "the combination of external physical conditions affecting the growth and development of organisms" (Webster's II New Riverside Dictionary, 1984). While this definition may be true and quite

¹William S. Hendon suggests *social interaction* takes place at two levels: in the micro-environment and in the macro-environment. According to Hendon, the micro-environment is the immediate social context for behaviour, while the macro-environment represents the societal conditions (i.e., municipal, provincial and national economic trends, population structure of the community and so forth) under which the actual behavioural experience occurs. See William S. Hendon "Leisure Satisfaction In The Group" in *Evaluating Urban Parks And Recreation*, (New York: Praeger Publishers, 1981) for more details.

adequate for comprehension purposes, it is also limiting in its meaning for behavioural insight. Contraction of the environment to only the external physical conditions belies the variability in behaviour exhibited within the same setting. Regardless of the fact that the physical environment which exists in the real world can stimulate the individual to act, in reality it is solely that part of the physical environment that appears as significant in the mind of the individual that affects behavioural choice and actions (Sonnenfeld, 1978, 27). Likewise, not all environments or environmental components provide the same or similar stimulation to the behaving individual. The behaviour exhibited and the benefits reaped from action within and interaction with the environment are also different for every person. In terms of the recreational decision-making process, the meaning that the physical environment acquires for an individual is reflected in his or her attitudes and perceptions. The total behavioural environment therefore involves a mind-environment-behaviour partnership.

In this thesis thus far, the connection between the real world and the psychological world of the individual has been viewed as tenuous. In general, the mind-environment-behaviour interaction is seen in terms of a one-way cause and effect relationship, where the components of the real world environment attenuated in the mind, result in behavioural expression. From a socio-psychological and a behavioural-geographical perspective, it is clear however that there is no one-to-one relationship between the physical world and the individual's impression of it (Marek, Bennett and Kjobe, 1984, 206). In reality, each recreationist sees the real world in general as operating through a complex network of channels that are interrelated. An imperative prerequisite to individual recreational decision-making, as well as to behavioural comprehension, is understanding where the boundary between the subjective psychological world and the objective physical world is to be drawn and how these two behavioural locales can be best distinguished from one another.

When attempting to limit and describe the total behavioural environment of the individual, this "dichotomy of location" of the environment between the psychological and geographical worlds of the recreationist accentuates two important

Figure 4.1: Sonnenfeld's Behavioural Classification of Environment Model
(Source: Sonnenfeld, 1978, 28)

issues. The first item of concern pertains to the extent or boundary of the behavioural environment and how it can be distinguished from the physical world. The second issue originates from and relates to the nature of this boundary and the degree to which the internal and external environments interact with one another (Sonnenfeld, 1978, 28).

Sonnenfeld's behavioural classification of environment model (see Figure 4.1.) is employed here as a context for describing the total recreational behavioural environment of the individual. This model is an attempt to delineate the person-environment interaction. Sonnenfeld argues that the relationship between the real world and the psychological world can be viewed as a nested series of people-oriented environments. Within the geographic real world three spheres of psychological influence or environments can be clearly distinguished although they cannot be completely separated from one another. The total behavioural environment can

be separated and distinguished from the internal decision-making process of the individual, but does not exclude this process.

Sonnenfeld proposes that the behavioural environment can only be understood in relation to its position in the real world (Sonnenfeld, 1978, 28). Under this premise, he delimits four environments: geographical, operational, perceptual and behavioural. The model suggests further that in general, only certain components of the geographical environment have a functional utility or significance to people. From this, Sonnenfeld concludes that the real world is reduced to those environmental components that have meaning to the individual and affect his or her behaviour. Hence, this environment incorporates everything that impinges on or influences the individual. This environment is referred to as the operational environment, and similar to the geographical environment, is external to the recreationist. However, in contrast to the geographical environment, the operational environment varies according to the character of the behavioural situation and the individual involved in recreating (Sonnenfeld, 1978, 29). Consequently, the operational environment is different for every person, even though the external stimuli may be the same for these people; whereas the geographical environment is neutral. This is to say that it provides the same external stimuli for all people. The decision to participate in certain leisure activities determines the nature of the operational environment. This is the level at which we can "objectively" describe and measure the "subjectively" founded recreational behaviour of individual and groups of people.

Nested within the operational environment is what Sonnenfeld refers to as the perceptual environment. This "perceived" environment is constructed through an individual's attitudes and perceptions. Here, the internal decision-making process of the individual "transforms" the external environmental stimulating-components into a psychologically interpretable image; an environment which may or may not contain characteristic remnants of the geographical environment. This environment includes all those physiographical and psychological landscape elements which the recreationist is consciously aware of. It can be argued that the perceptual environment also includes those elements of the environment which the

individual is unconsciously aware of. It is in the mind that the salient elements are registered and eventually acted upon. Sonnenfeld argues that this perceptual environment has both symbolic and sensory dimensions. At this point it should be noted, however, that in terms of the decision-making process, it is not axiomatic that both dimensions exist simultaneously, but rather one dimension or the other can have precedence and characterize the very nature of the perceptual environment. Leisure attitudes, either past or present, are the mode through which the individual finds meaning in the physical environment either directly or indirectly. According to Sonnenfeld, this transformation constitutes the symbolic aspect of the perceptual environment (Sonnenfeld, 1978, 30). Perceptions are, on the other hand, the mode via which the meaning of the environment is derived directly from the environment through the senses, and establish the sensory impression of this environment. The essence of the perceptual environment relates to the underlying values and motivations of the individual.

According to this behavioural classification model, the behavioural environment is identified as that part of the perceptual environment of which the individual is cognizant, and directs his or her behavioural action or action tendencies toward. The discussion of the decision-making process has suggested however that the distinction between what is perceived to be, actually exists and transpires are often very different. Most important is the fact that there is a change in view with regard to the concept of environment. The relational direction between the internal and external environments of the individual is seen as two-way. The total behavioural environment is more than just a stimulus, it becomes a resource for people, and as such is subject to utilization. It is inherent to the behavioural environment that the individual and/or society at large can act to manipulate, control or accommodate for the environment with respect to its utilization. Recreational planning is one example of organized manipulation.

Sonnenfeld's behavioural classification of environment model alludes to the fact that the interaction of mind-environment-behaviour functions/operates at three different but not mutually exclusive psychological levels. The connection between the internal and external environments of the individual are relative to one another

and to the personal definition under which they are operationalized. In short, the geographical environment provides the "gross context" for behaviour. This model is useful in that it suggests one rationalization of the link between the recreational decision-making process of the individual and planning. Under the model proposed by Sonnenfeld, it is difficult, however, to separate conceptually environment per se from the recreating individual. Although it is not explicitly stated in this model, it is an inherent assumption that the relationship which exists between the physical environment and the recreationist is best viewed as a system. Bennett (1984) refers to this interaction of people and the environment as the "leisure system". The interface between the real world and the behaviour in it is distinguished in the operational and perceptual environments. It is now appropriate to turn to the link between the leisure system and planning.

4.3 Systems of Recreation

In order to capture fully the total recreational environment, it is essential to examine the interplay between the leisure system and recreational planning. In this respect, it is necessary to put planning into a leisure context. The first step is to delimit planning by employing a systems approach², or by accepting a holistic overview of recreation and stepping beyond the understandings set out in the model above and in Chapter 3. Reducing systems theory to a few paragraphs does an injustice to the intent of the theory's author, however the purpose here is solely to identify the critical functional elements according to systems theory. Ideally, the systems approach enables us to identify a set of interacting functional relationships, that may be too difficult to discriminate just from practical experience. This approach offers a more purposeful rationalization of leisure and of recreational planning.

Fundamentally, planning deals with people and their values and is the means of providing satisfaction relative to these qualifications. Ultimately, the target

²See Alan Jubenville "The Basic Outdoor Recreation Management Model" in *Outdoor Recreation Management* (Toronto: W. B. Saunders Company, 1978).

of planning and of the recreationist is to satisfy optimally the needs of the individual, thereby leading to a gratifying recreational experience. The primary objective of planning is to influence social reality principally through the manipulation of the physical environment (Marek, Bennett and Kjobe, 1984, 206). Social reality embodies the operational environment of the recreationist, as well as planning management mandates. A guiding leisure philosophy represents the nature and significance of the people involved in recreation, and the direction of planning influences relating to these people. The philosophy of recreation proposed throughout this thesis reflects one fundamental view that the planning system, and more specifically planning efforts, should be tempered to the needs of the individual as a member of a group of *like* individuals.

The general structure of recreation is shown schematically in a systems model (see Figure 4.2.). A system is a set of interrelated and interdependent elements or subsystems which act as a total unit under a given situation (Jubenville, 1978, 14). In the case of recreational planning, when viewed in the appropriate context, the leisure system is a subset or subsystem of the larger hierarchical planning and total recreation systems. Because the total recreation system and recreational planning system are nested within one another, this arrangement of systems is identified as a "recursive system". The recreational planning system delineated is comprised of three subsystems: the planning system, the leisure system and the leisure research system. Concern here is with the connection between the planning system and the leisure system, and with the intervention of planning guiding recreational behaviour.

The baseline condition or system state of the existing structured relationships is dynamic over time. The linkages between the systems are probabilistic rather than deterministic, suggesting that the inputs into the total recreational system and/or individual subsystems change through feedback and feedforward interaction, either positively or negatively depending on the perspective taken by the analyst. Controlled inputs can in general be manipulated to produce a desired outcome, whereas uncontrolled inputs cannot be managed, although their stochastic nature can be accounted for in the system. For example, the effect of cyclic

Figure 4.2: A Systems Model of Recreation

weather patterns on recreational behaviour cannot be adjusted, however, facilities can be designed to take in periods of bad weather (i.e., enclosed indoor facilities as opposed to open outdoor facilities). Moreover, uncontrolled inputs can alter or induce modifications in the internal structure of the system and/or subsystems, consequently causing change through the entire system or in the other subsystems.

Each subsystem is comprised of state variables or broadly defined elemental dimensions. For example, the leisure system includes the dimension of recreational behaviour. In turn, state variable vectors or correlates provide a description of each of the state variables defined. These correlates are usually measureable and quantifiable. Behaviour, for instance, is detailed by gender, age, education, income, activities, and so forth (see Chapter 3). It is important to note that these correlates are also related to other state variables. In the examples used here, the list of correlates given also relate to the state variable of leisure attitudes.

The discussion so far, while largely theoretical and abstract, has attempted to set out an expanded conceptualization of recreation. The constructs and models utilized in this chapter and in Chapter 3 are not new, yet they have not generally been considered together. Invariably the nature of recreation is, and will likely always be very complex and intricate. However, this does not excuse or preclude the lack of development of solid theoretical generalizations in the field of recreation. The conceptualization presented does not eliminate or explain *all* the intricacies, but rather has endeavored to remove some of the interrelatedness in our leisure comprehension. The perspective taken suggests that leisure and/or recreation is perhaps better understood in terms of a dynamic psychological process, inclusive of time and activity components, as well as needs and gratifications, than as time and activities per se.

The preceeding chapters have provided some insights into the multidimensional character of recreational behaviour. These insights form a basis for the development of the survey questionnaire described in the next chapter. The conceptualization constructed suggests that the recreational behaviour of an individual is influenced by the behavioural situation, which includes the social norms of society, one's social interactions and relationships, socio-economic-demographic

circumstances, attitudes, perceptions and values about one's physical environment, capabilities, and expectations, awareness of one's own needs, satisfactions, motivations, and constraints, as well as the actions taken. It is also evident that many of the factors constituting the behavioural situation are interrelated and feedback into the situation, thereby altering the circumstances of the individual with each recreational experience.

Chapter 5

Research Design

5.1 Introduction

In this chapter, the procedures and techniques utilized in developing the survey questionnaire, in the data collection and in the analyses of the data are discussed in detail.

5.2 Study Design

The study consisted of a survey carried out on selected residents in Brockville, Ontario (see Figure 5.1). The primary aim of the survey was to furnish data which could be used to examine the underlying patterns and structures of recreational behaviour among groups of like individuals.

The questionnaire was administered to occupants of single-family dwellings. Apartment buildings and other multi-family complexes were not surveyed. The potential difficulty in gaining access to these densely populated dwellings and the amount of time available to complete the survey were two major administration considerations. As known rental units are removed from the sampling frame, attempts to generalize findings to the overall population of Brockville introduces a bias into the survey.

Figure 5.1: Location Map of Brockville, Ontario

5.3 Questionnaire Development

A questionnaire was designed to directly capture people's responses about their recreational behaviour. A provisional list of factors previously found important with respect to recreational behaviour was constructed. The variables/indicators considered for inclusion in the questionnaire are noted in Table 5.1. Drawing upon the variables/indicators listed, the item content of questions fell into five general categories. The questionnaire considered:

1. recreational behaviour
2. satisfaction
3. reasons for recreational participation
4. household attributes
5. respondent information

Development of the questionnaire followed the guidelines and recommendations offered by Sheskin (1985) for question construction. In addition, two different surveys designed to elicit responses on the leisure attitudes and interests of recreationists were reviewed – one for LaSalle County, Illinois (Jubenville 1977); the other on the perceptual-attitudinal makeup of Winterlude participants in Ottawa, Ontario. An urban planning survey designed to solicit information about the behaviour of residents living in the Carleton Square development in Ottawa, Ontario was also studied for the types of questions that would be compatible with the information being sought in this survey questionnaire. The assumption here was that previously designed and tested question formats would produce more reliable data and eliminate the need for consecutive pilot tests during the preliminary phases of questionnaire design. Furthermore, it could be logically argued that this would increase data reliability.

level of household income
level of formal education
occupation
age
gender
ethnicity
social status
"stated" or "perceived" needs
situational factors
self-awareness of needs
personal capabilities
level of satisfaction
availability of recreational opportunities
stage in family life cycle
marital status
attitude
exhibited behaviour
activity(ies)
facility
season
awareness of need
disposable income
amount of non-obligatory time available

Table 5.1: Variables and Indicators

5.4 Data Collection

5.4.1 Pre-test

A pre-test of the questionnaire was conducted within the Ottawa-region between March 3, 1987 and April 7, 1987. Time constraints precluded the administration of a pilot test in Brockville. The sample included students, professionals, and various other managerial, clerical and salespeople. Nine men and seven women were asked to complete the questionnaire as if it were actually being administered to them; however, the participants were instructed to ignore questions relating specifically to Brockville. The majority of the pilot sample was between 26 and 35 years of age, although older people were captured in this pre-test.

The aim of the pilot questionnaire was to test the appropriateness of the questions and to see if the responses obtained were the type of answers that were suitable for analysis. Respondents were asked to assess the following qualitative aspects of the questionnaire:

- clarity of the items
- reading level of the items and the instructions
- the likelihood of the items being objectionable to the respondent

Individuals were also encouraged to offer informal comments and to make suggestions they felt would contribute to the overall improvement of the questionnaire design. In addition, respondents were asked to identify questions and facets of the pre-test questionnaire which caused the greatest amount of difficulty.

Overall, the instrument posed few problems. Responses to the questionnaire were generally favourable with respect to the types of questions asked. The general consensus among respondents was that terminology and concepts included in several questions were too broad and thereby required greater clarification, definition and explanation. The concepts of work and recreational environment were construed by the pilot sample as problematic, leading to inconsistency in the responses gathered. As a consequence, questions incorporating these concepts were

reviewed and operational definitions were provided to clarify the question. The meaning of work, for example, was defined in the final version of the questionnaire.

The major complaints given by pre-test participants related to the physical layout and organization of the instrument. Many argued that the 8-page pilot questionnaire was too lengthy and therefore initially intimidating to respondents. Ironically, when asked how long it took to complete the questionnaire, most responded that it took "between 10 and 30 minutes". According to Hartman and Hedblom (1979, 112), "a respondent should be able to complete a questionnaire in one hour or less." In light of these comments, it was obvious that the length of time required to fill in the questionnaire was seemingly more a perceptual problem than a practical one. This meant that during the administration of the actual survey the respondents should be reassured that the length of the questionnaire was not directly proportional to the amount of time essential to complete the instrument or to the level of difficulty of the questions. The way in which this problem was overcome is discussed in detail in section 5.4.3 below.

Some individuals stated that the number of lines and the spacing left between lines to answer questions were intimidating. These people argued that the number of lines should be reduced and standardized for every question and the spacing between lines should be increased, not only for design aesthetics, but so that those completing the questionnaire would not feel compelled to write more than necessary.

Respondents in the younger age groups commented that the survey was perhaps geared toward older segments of the population. They felt the questions were designed for individuals with so-called "established recreational patterns and/or leisure behaviour". More importantly, it was argued that the questions were set up for those that could "afford" to recreate. This observation proved to be worrisome. A review of similar existing questionnaires revealed that the questions in the pilot questionnaire complemented these items in both kind and format. Thus, using these existing questionnaires as a reference point, the information being sought did not appear to be slanted toward one group of the population or another. Those perceiving a bias in the instrument tended to be contemporaries of the investigator

and therefore students and/or non-students who were beginning careers, and who due to time and monetary limitations had no set recreational patterns. The bias appeared to be a result of the sample and not the questionnaire design per se.

Questions not reading well were ones asking about people's vacation behaviour as opposed to recreational behaviour in general. Suggestions resulted in the re-ordering and separation of vacation behaviour from one's general pattern of recreational behaviour. This led to less confusion on the side of the respondent, eliminated question overlap and repetition, and contributed to better overall readability of the questionnaire.

The reasons section of the pilot questionnaire was found to solicit the same or similar responses. Individuals felt that this section was repetitive and overlapped too much in the information requirements. After careful consideration, questions that appeared to elicit duplicate responses were removed from the final version of the questionnaire.

In the respondent information section of the pilot, it was argued by one sample member that the question pertaining to the respondent's level of education required further category breakdown. A three-point scale of secondary, post-secondary and other was considered too narrow in scope. It presumed that the respondents could be readily slotted into one of the three categories. The inclusion of a more detailed education level breakdown was developed for the final version of the questionnaire.

Once these changes had been incorporated there was overall confidence with the resulting questionnaire. A final version of the questionnaire used in the survey can be found in Appendix A.

5.4.2 Expert Review

Having completed the pre-test, the survey instrument was then subjected to an expert review. The pilot questionnaire was evaluated for clarity, for relevance to leisure motivation, for item objectionability, and for structural layout and design by a member of the Gloucester Department of Parks and Recreation. The ques-

tionnaire was judged to ask "pertinent questions" and to identify "good variables" for subsequent analyses. Design weaknesses and potentially problematic questions due to poor question construction and/or sensitive item content were flagged during this review.

Based upon the pre-test and expert critiques, several revisions were made to the questionnaire. Questions that lacked clarity were re-written. Personal and somewhat sensitive questions relating to household ownership and annual household income were retained in the final version of the questionnaire. Examination of the pilot revealed that despite their content sensitivity, the questions themselves were not an issue of objectionability. To increase the likelihood of these questions being completed, the questionnaire was restructured so that all socio-economic-demographic oriented questions would be asked at the end of the questionnaire. In this way, a certain level of confidence on the side of the respondent could be built up prior to asking personal questions.

5.4.3 Survey

A total of 232 households within the study area of Brockville, Ontario were contacted between late July and early August 1987. One hundred and eighty-one questionnaires were returned, yielding a 78.0 percent response rate.

The city was arbitrarily divided into three sectors for the purposes of distributing the questionnaire: Sector 1 – the West End, Sector 2 – the East End, Sector 3 – the North End (see Figure 5.2). As discussed below, divisions are based on parkland and open space disparities and facility deficiencies identified in the Technical Appendices of the Official Plan of Brockville (n.d.).

Analyses conducted as background to the Official Plan looked at the quantity, distribution and type of recreational opportunities (i.e., facilities, parks and open spaces) existing in the city as well as deficiencies in the current system based on guidelines and standards provided by the Ontario Ministry of Culture and Recreation. Although privately-held properties were not included in the analyses, the distribution of park space within Brockville was determined to be uneven (City

Figure 5.2: Map of Study Area

Planning District	Sector*	Population in 1978	Parkland in Acres	Open Space in Acres
1	West	3,165	20.4	-
2	West/East	2,900	14.7	-
3	East	3,875	59.8	-
4	East	4,050	63.45	32.75
5	East/West	2,050	33.1	17.1
6	West	970	2.5	-
7**	North	300	4.0	-
8	North	1,750	77.75	-
9	North	180	-	-
Total		19,240	275.7	49.85
			325.55	
- data not available				
* equivalent sectors chosen for the distribution of the survey				
** industrial areas - no parkland or open space requirements				

Table 5.2: Existing Parkland and Open Space in Brockville (Source: City of Brockville, n.d.:105)

of Brockville, n.d., 102). Quantitative data on parkland and open space disparities is reported in Table 5.2 and is summarized in Table 5.3.

Conclusions drawn indicated that the "older sections of western Brockville... have an acreage of parkland per 1,000 residents, which is significantly lower than other Districts" (City of Brockville, n.d., 102). The central portion of the city, which falls within two sectors of the study area was also characterized as being low in parkland. Disparities in parkland and open space according to the hierarchical park classification, clearly indicate that most of the parkland (number and size) is situated within the East End and North End of Brockville (see Figure 5.3).

Sector	Parkland and Open Space (in Acres)
West	46.8
East	147.15
North	81.75

Table 5.3: Summary of Existing Parkland and Open Space in Brockville
(Source: Compiled from City of Brockville, n.d.:105)

	Standard	Total Existing	Need
Baseball diamonds	4	1	3
Tennis courts	12	5	7
Wading pools	4	2	2
Outdoor pools	1	0	1
Training pools	4	0	4
* only those facilities that are deficient according to Ontario Standards are listed			

Table 5.4: Facility Deficiencies for the City of Brockville (Source: City of Brockville, n.d.:107)

Evaluation of the recreational facilities available within the city were also found to be inadequate according to the standards set out by the provincial government. Table 5.4 shows the facility deficiencies for Brockville as identified in the Technical Appendices. The findings revealed that the recreational facilities were insufficient in the older districts of the city (i.e., the West End and East End). A lack of public parkland and recreational facilities, particularly in the West End, suggests the residents living within this sector might look elsewhere, perhaps even travel to other sectors of the city for recreation. In light of this, it might be assumed that the availability (and lack) of leisure opportunities is a constraining factor on recreational behaviour and as such, individuals residing in "park-poor" or "facility-poor" sectors would exhibit different recreational behaviour patterns.

The sampling itself was carried out using a drop-off/pick-up survey approach.

Figure 5.3: Distribution of Parkland and Open Space in Brockville
(Source: Brockville, 1983)

Household selection was accomplished through a form of quota sampling. Place of residence (i.e., sector) was controlled for during this phase of administration. A target for a total of 300 completed questionnaires was set: 100 for each of the sectors. Given a desired accuracy of 10 percent error, a 95 percent confidence level and a population of 20,880 people, a sample of 100 respondents would be the minimum size permissible for statistical analyses (Yamane 1973; Grosof and Sardy 1985).¹

The choice of which households to include in the sample was at the discretion of the investigator. Homes chosen were approached, and the purpose of the survey was explained to the individual who came to the door. This person was asked if he or she or someone else in the household would be willing to fill out a questionnaire. Inclusion in the sample was strictly voluntary.

It should be noted that a purposive sample, such as this one, is subject to the personal biases of the investigator. Furthermore, because respondents volunteer to participate in the survey, it is highly likely, but not axiomatic, that they are involved in some form of recreational activity. As a result, recreational non-participants are likely to be excluded from the sample. It is assumed, however, that the sampling procedures utilized are well suited to the exploratory nature of the investigation.

All survey participants contacted were asked if they would be willing to complete a 10-page self-administered questionnaire. Those who agreed to participate were left a questionnaire and were asked to complete it within a predetermined time period. Respondents were instructed to leave completed questionnaires in household mailboxes or other mutually agreed upon areas in order to lessen respondent inconvenience and to expedite questionnaire collection. Elderly respondents willing to participate in the survey and unable to complete the questionnaire on their own were read the questions aloud by the investigator. In numerous cases when asked by the respondent, the investigator recorded the responses given by the respondent. A contact sheet containing the respondent's address was maintained for

¹Using the formula outlined in Sheekin (1985), for a precision error of +/- 5% and a population of 20,880, the minimum sample size would be 96 given a 95% confidence level.

collection and call-back purposes. Where necessary, second and sometimes third call-backs were made to gather questionnaires.

A drop-off/pick-up survey approach was used because it was expected to ensure a higher response rate. It also allowed the investigator the opportunity to address respondent concerns not handled in the covering letter. Specifically, respondents could be reassured about the length of time required to complete a 10-page questionnaire. A self-administered questionnaire delivered door-to-door lowered overall production costs. The self-administered format allowed for the inclusion of a map question and offered the participants the time to think about and answer questions more accurately.

Personal time constraints on the part of the investigator compounded by sluggish returns on completed questionnaires made it difficult to achieve the desired number of completed questionnaires. Of the 181 questionnaires collected, 168 cases were employed in subsequent analyses. The final sample consisted of 67 cases from the West End, 53 cases from the East End, 45 cases from the North End, and 3 cases with an unidentified residential sector.

5.5 The Data and Analyses

5.5.1 The Data

Prior to data manipulation and statistical analyses, questionnaires were sorted according to city sector. Incomplete and unusable questionnaires were consequently separated out. To optimize the accuracy and consistency of the data arrangement, useable questionnaires were numbered. Numbers assigned to these corresponded to the case number of the data coded on the spreadsheet, as well as the record number of the case included in the computer file. Each record in the datafile represented the responses of one participant. Missing data values were coded "0".

During data entry, all data were subjected to routine checks and verification. Once data entry had been completed, the entire data set was submitted to another verification.

The Statistical Package for the Social Sciences (SPSS-X) available at Carleton University was used for statistical analyses of the sample. A fully documented systemsfile was created for the data manipulation. It should be noted, however, that specific analyses relating to a three-parameter variable, such as pattern of recreational behaviour which consists of activity, time and season parameters, were conducted using a program created using IBM Basic. The complexity and length of time required to produce a sequence of commands using SPSS-X were offset by the flexibility of the microcomputer. The appropriate variables necessary for these analyses were copied from the datafile and downloaded onto the microcomputer.

5.5.2 The Analyses

The statistical techniques used to analyze the sample data consisted of the following:

- frequency analysis
- cluster analysis, and
- cross tabulation

Toward the objective of developing a typology and understanding of recreational user types, the analysis proceeded through three steps.

1. Frequencies were calculated for all variables; for the entire sample and separately for each sector. As necessary, selected variables were recoded to prevent undue fragmentation in the analysis.
2. Using a matrix of squared Euclidean distance coefficients (D) as a measure of profile similarity, a series of hierarchical cluster analyses were performed in order to group together individuals with similar leisure participation patterns.
3. Cross tabulations were conducted to identify relationships between the recreational user types derived in Step 2 and the 30 variables used to formulate

the typology. Cross tabulation is "... a statistical technique which allows for evaluation of the presence and significance of a relationship (though not necessarily the strength) yet retains enough of the raw data to permit a thorough and meaningful description of the relationship" (Jackson, 1982, 9).

Chapter 6

Results and Discussion

6.1 Introduction

This chapter presents a description and interpretation of the results of the survey data analyses. For the purposes of this thesis, the respondents were questioned on a variety of topics relating to the type, extent, diversity and style of their recreational behaviour. Information obtained included socio-economic-demographic characteristics of the respondent, household attributes, motivational factors, and recreational activities engaged in. Presentation of the findings is organized into three sections – the first describes the characteristics of the sample; the second presents data on the actual recreational behaviour patterns of those surveyed; and the third describes the recreational user types. Discussion and interpretation of the findings are reported in summary form.

6.2 Sample Characteristics

The characteristics of the entire sample are presented in Table 6.1.

	Number of Cases	Percentage of Sample
Age		
16-25	12	7.1
26-35	34	20.2
36-45	22	13.1
46-55	36	21.4
56+	62	36.9
NR	2	1.2
Gender		
Male	70	41.7
Female	93	55.4
NR	5	3.0
Household Composition		
Households with Adults	92	54.8
Households with Children	65	38.7
NR	11	6.5
Size of Household		
1 person	16	9.5
2 people	64	38.1
3 people	32	19.0
4 people	37	22.0
5 people	12	7.1
6 people	3	1.8
8 people	1	0.6
NR	3	1.8
Size of Family		
1 person	16	9.5
2 people	61	36.3
3 people	30	17.9
4 people	35	20.8
5 people	11	6.5
6 people	3	1.8
8 people	1	0.6
NR	11	6.5
Education		
Secondary or less	75	44.6
Some level of Post Secondary	87	51.8
NR	6	3.6

Table 6.1: Sample Characteristics

	Number of Cases	Percentage of Sample
Marital Status		
Married	130	77.4
Other	35	20.8
NR	3	1.8
Annual Household Income in 1986		
less than \$10,000	7	4.2
\$10,001 - \$20,000	24	14.3
\$20,001 - \$30,000	29	17.3
\$30,001 - \$40,000	27	16.1
\$40,001+	58	34.5
NR	23	13.7
Occupation		
Professional	31	18.5
Managerial	15	8.9
Clerical	10	6.0
Sales	10	6.0
Tradesperson	9	5.4
Labourer	5	3.0
Domestic Work	2	1.2
Retired	34	20.2
Student	7	4.2
Homemaker	25	14.9
Other Skilled Worker	4	2.4
Currently Unemployed	1	0.6
Other	12	7.1
NR	3	1.8
NR - no-a-responses		

Table 6.1: Sample Characteristics

Gender

More females (55.4 percent) than males (41.7 percent) comprised the sample. Three percent of the respondents surveyed did not indicate their gender on the questionnaire. The data showed that females consistently outnumbered males in each of the three sectors. The 1986 Census of Population for Brockville indicated that of the total population (20,880), females (10,965) slightly outnumbered males (9,915). This suggests that the sample does not overrepresent females.

Age

A majority of the respondents, 58.3 percent, were 46 years of age and older. The

group between the ages of 26 and 35 made up 20.2 percent of the sample.

A breakdown of the respondents in the present sample by age and by city sector revealed characteristically different age profiles. The West End was mainly composed of older individuals, with over 79 percent of those responding being 46 years of age and older. The data for the East End indicated a bimodal distribution in age structure with a majority of the respondents (52.8 percent) inclined toward the older age groups and a second younger group between 26 and 35 years of age (22.6 percent). The survey found that respondents in the North End were relatively younger than in either the West End or the East End. Approximately fifty-six percent of these respondents were between 26 and 45 years old. About a third were 46 years old and older.

Socioeconomic Status

Income

Table 6.1 indicates that most respondents were of middle to upper income. A comparison of the sample by income level and by city sector showed that sixty-eight percent of the respondents from the East End had annual incomes in excess of \$30,000. Slightly over fifty percent and over one third of the respondents in the North End and West End respectively reported an annual household income of \$30,001 or more. The data indicate that in general the sample is affluent, despite the fact that stated annual incomes for respondents in the North End tend to be almost evenly spread across all income levels.

Occupation

The most frequent response indicated for occupation was retired. Other prevalent employment types for the sample, in rank order, included professional, homemaker, and managerial occupations. When results were combined, the predominant employment type was professional/managerial. Variations in the frequencies of predominant employment type were found between respondents in the West End, East End and North End. These differences are shown in Table 6.2.

Education

In general, the survey results imply that the sample was highly educated (see Table 6.1). The current education level attained clearly varied between respondents

Occupation	West	East	North
	Number of Cases		
Professional	6	17	7
Managerial	6	4	5
Clerical	3	4	3
Sales	2	5	2
Tradesperson	1	1	7
Labourer	1	2	2
Domestic Work	1	-	1
Retired	22	5	6
Student	1	3	3
Homemaker	15	6	4
Other Skilled Worker	1	1	2
Currently Unemployed	-	1	-
Other	5	4	3
NR	3	-	-
Total N = 168	67	53	45
- no data			

Table 6.2: Occupation Type by City Sector

in each sector. The level of education denoted by subjects in the West End is generally equally divided between those who had some level of post secondary education (49.3 percent) and those who had some level of elementary and/or secondary education (46.3 percent). The majority of the respondents in the East End (60.4 percent) had some level of post secondary education and the majority (51.1 percent) in the North End had some level of elementary and/or secondary education. Furthermore, the data show frequencies to be almost evenly distributed across all levels of education in the North End.

Vehicle and Home Ownership

Almost nine-tenths (86.9 percent) of those questioned indicated one and/or two motorized vehicles were owned by members of the household. Similarly, 87.5 percent of the sample stated they owned their home.

Household Composition and Marital Status

Generally, the size of households sampled tends to be small. The average number of people per household was 2.8 (i.e., the average number of people per household ranged between 2 and 3 people). Of the 157 people who outlined household composition in detail, 92 homes were identified as having adult membership (16 years and older) only. Sixty-five households contained school age and/or pre-school children. Slightly over 63 percent of the "adult-only" households contained two people. In contrast, the majority of households with children, 49.2 percent, were composed of four people.

Differences in household composition were found between the three sectors. In the West End, over seventy-seven percent of the households were "adult-only" households. The North End, on the other hand, was characterized by households with children (twenty-five households), although a substantial number of households (fifteen) was composed solely of adults. Households in the East End had membership which was equally divided between homes with children (twenty-four) and with adults (twenty-five).

The results indicated that the majority of the sample (77.4 percent) was married. A small number of people questioned indicated they were either single (8.9 percent) or widowed (8.3 percent). The statistics showed one quarter of the "adult-

only" households (25 percent) in the West End consisted of a single member. A very small number of single member households was found in the other two sectors employed in the survey.

Discretionary Time

The amount and flexibility of discretionary time available are critical factors in determining recreational behaviour patterns. The average number of hours worked per week for the sample was 35 hours. 43.5 percent worked 40 hours or less and 39.3 percent worked over 40 hours per week. Of the 168 sample members, 126 individuals were members of the "working portion" of the population. The majority of the people in this group (50.8 percent) worked more than 40 hours per week. Of the remaining 42 individuals who were either retired, students or currently unemployed, most tended to work less than 40 hours per week. Respondents were also asked if they had time off during the week (Monday-Friday). Over sixty percent answered "yes" or "sometimes", 33.9 percent answered "no" and 6.0 percent did not respond. The majority of the respondents had their weekends free.

Years and Place of Residency

Years and place of residency are an indication of a person's level of familiarity with his or her recreational environment. The number of years lived in Brockville varied between respondents. Approximately sixty-eight percent of the sample had lived in Brockville for more than 10 years, whereas 3.6 percent had lived in the city less than a year. Sixty-seven people indicated they lived in the West End, 53 in the East End and 45 in the North End. Of the 168 people in the present sample, three did not identify which sector of the city they resided in.

Summary

Generally, the sample was composed of older, educated individuals who had modest to upper incomes. The validity of the survey sample is largely supported by the results of the 1986 Census of Population for Canada. It should be noted, however, that the data collection procedures followed during the administration of the survey preclude generalizations from being made about the population of Brockville. Therefore, findings are limited to the actual sample.

6.3 Recreational Behaviour

The recreational behaviour patterns of the present sample are described in the following paragraphs.

Coparticipant Status

According to the results of the analyses, people seldom recreate alone. A distinct coparticipation pattern found in the survey suggests that respondents more frequently participate in recreational activities with members of their immediate family, such as their spouse, children, parents and siblings. The data also indicate that neighbours and friends, often including other couples, comprised another important coparticipant group. Recreational associations with co-workers, business associates, club and/or team members were mentioned infrequently. These findings appear to suggest a focus on a family-centred style of participation.

Motivational Factors

Reasons for Activity Participation

Respondents were asked to outline their reason(s) for engaging in recreational activities. Based on the description of the six components of perceived satisfaction identified by Beard and Ragheb (1980), responses were classified as follows:

1. Psychological
2. Educational
3. Social
4. Relaxational
5. Physiological
6. Aesthetic

A total of 139 individuals responded to this question. Due to the open-ended nature of the question, responses varied in number between respondents. An arbitrary cut-off of the first four reasons stated was chosen in order to identify principal reasons for participation. Of the 279 responses denoted, 32.6 percent,

	Reasons			
	1	2	3	4
Psychological	1	2	3	*
Educational	5	5	5	1
Social	4	3	1	2
Relaxational	3	4	4	2
Physiological	2	1	2	2
Aesthetic	6	6	5	2
No. of N/A	29	68	134	162

* did not rank

Table 6.3: Ranked Frequencies of the Reasons for Participation

30.1 percent, 16.5 percent, 12.5 percent, 6.1 percent, and 2.2 percent were classified as physiological, psychological, social, relaxational, educational, and aesthetic reasons respectively. Table 6.3 lists the ranked frequencies of reasons. The data clearly suggest that the principal reason for recreational engagement is related to the maintenance of the respondent's mental and physical health, fitness and well-being. The relaxational component, relief from strain and stress, which frequently ranked relatively high, is inherently tied to the psychological and physiological components. Individuals also chose to participate in recreation in order to keep up and/or develop social relationships with other family members, such as children.

Satisfaction

Another question was designed to evaluate the respondents' satisfaction with their recreational environment. A five-point Likert scale ranging from completely satisfied through to completely dissatisfied was used for this purpose. By design, the question was ambiguous. The assumption was that a person's recreational environment was defined by this person and could be his or her home, a sports facility, a park, the outdoors and so forth. Therefore, only the individual could

define his or her recreational environment and determine its role in fulfilling his or her needs. Survey results show that the respondents are generally satisfied at some level with their current environment: 33.3 percent are somewhat satisfied; 29.8 percent are completely satisfied. Nine percent of those surveyed are either somewhat dissatisfied or completely dissatisfied with their situation. Over seventeen percent of the sample (17.3 percent) are neither satisfied or dissatisfied. Non-responses to the question were 10.7 percent, suggesting subjects are possibly unsure of their satisfaction level. Dissatisfaction occurred more frequently among the respondents living in the North End of Brockville (13.3 percent); less than ten percent of the respondents resided in the West End and East End respectively.

Activities

Respondents were asked to specify what recreational activities they engaged in during the week (i.e., weekdays and weekends). A cursory examination of completed questionnaires revealed that the number of responses given varied with each person. For analyses purposes, the first 5 recreational activities identified by respondents were recorded with their observed daily and seasonal temporal components. Because of the number of variables relating to recreational behaviour and a conscious decision to keep the datafile small, an arbitrary cut-off of 5 activities was assumed to be sufficient to show distinct patterns of activity involvement. It should be noted, however, that some respondents participated in fewer than five activities, others in more than 5 activities, and still others indicated they did not participate at all.

Of the 154 people who recreate, 117 people indicated they participated in fitness activities. The following were the most frequently reported fitness activities: swimming 59, walking 75, aerobics/exercises 20, jogging/running 7, and skating 23.

Secondary Activities

Respondents were asked if they participated in other or secondary recreational activities while engaged in the primary activity. The assumption behind this question is that recreational behaviour is not a single act, but rather an event which includes a set of activities. Only 76 respondents answered this question and

Primary Activity			Secondary Activity		
Rank	Activity	# of Cases	Rank	Activity	# of Cases
1	boating/sailing	38	1	picnicking	47
2	fishing	22	2	swimming	18
3	swimming	19	3	boating/sailing	15
4	walking	9	4	fishing	10
5	canoeing	8	5	sightseeing	8

Table 6.4: Frequently Listed Primary and Secondary Activities

provided from one to four responses.

Each primary activity specified was manually cross tabulated with its identified secondary activity(ies). A total of 149 responses was obtained. Frequencies were counted for both primary and secondary activities and then rank ordered. Table 6.4 lists the top 5 frequently indicated primary and secondary activities. Activities which were mentioned less than 8 times by respondents are not shown in Table 6.4. A pattern which emerges reveals some overlap in the activities identified; boating/sailing, fishing and swimming are considered both primary and secondary activities by respondents. A further breakdown of the primary and secondary activities in the above table according to their constituent activities is presented in Table 6.5.

Examination of Table 6.4 and Table 6.5 suggests that water based recreational behaviour tends to be an event, involving a set of activities.

A matrix of the top 5 primary and secondary activities indicates an association exists between boating/sailing, fishing, swimming, canoeing and picnicking. The data in the matrix suggests picnicking is a secondary activity done in combination with swimming, fishing, canoeing and boating/sailing (Appendix C). Sightseeing appears to be another secondary activity tied to water based participation. Walking is an activity which is unrelated to the primary and secondary activities in the current analysis.

Primary Activity	# of Cases	Secondary Activities	# of Cases
boating/sailing	38	picnicking	11
		fishing	8
		swimming	7
		skiing	5
		biking	1
		cycling	1
		travel	1
		shopping	1
		siteseeing	1
		photography	1
		bird identification	1
fishing	22	picnicking	9
		boating/sailing	8
		swimming	2
		camping	2
		siteseeing	1
swimming	19	picnicking	13
		boating/sailing	2
		barbequeing	2
		siteseeing	1
		sunbathing	1
walking	9	shopping	3
		visiting	2
		playing w. child(ren)/pet	2
		running	1
		exercise	1
canoeing	8	picnicking	4
		fishing	1
		hiking	1
		swimming	1
		camping	1

Table 6.5: Primary and Secondary Activities with Constituent Activities

Secondary Activity	# of Cases	Primary Activities	# of Cases
picnicking	47	swimming	13
		boating/sailing	11
		fishing	9
		canoeing	4
		hiking	4
		exercising	1
		skiing	1
		cycling	1
		camping	1
		squash	1
		football	1
swimming	18	boating/sailing	7
		fishing	2
		guides	1
		canoeing	1
		camping	1
		hiking	1
		motorcycling	1
		cycling	1
		exercising	1
		picnicking	1
		skiing	1
boating/sailing	15	fishing	8
		camping	3
		swimming	2
		cottaging	1
		exercising	1
fishing	10	boating/sailing	8
		canoeing	1
		cottaging	1
siteseeing	8	travel	2
		cycling	2
		boating/sailing	1
		picnicking	1
		fishing	1
		swimming	1

Table 6.5: Primary and Secondary Activities with Constituent Activities

Recreational Environments

Respondents were asked to identify where in Brockville they engaged in most of their recreational activities in order to determine the most frequently used sites. A total of 141 respondents completed this question. The number and variety of responses given was different for each respondent. A listing of respondent recreation sites can be found in Appendix D. Responses, ranging from the general to specific, included locales outside the boundaries of the study area, such as local conservation areas, regional national and provincial parklands. In order to economize space in the datafile, the first 3 sites identified by each respondent were employed in the present analysis. The city per se, the St. Lawrence River and city parks emerged as the three most frequently used environments.

Community Leisure Group Involvement

In order to determine the extent and type of community leisure group involvement, respondents were asked what recreational clubs, teams or organizations they belonged to. Over half of those in the sample (54.8 percent) did not belong to any formally organized leisure group. Another 4.2 percent did not answer this question. Individuals who did respond reported having one to four recreational affiliations. A list of community leisure group affiliations identified can be found in Appendix E.

The types of leisure group involvement embrace the private, private non-profit and commercial service sectors of Brockville. The data suggest that those who responded belonged primarily to private paid membership organizations: The Brockville Country Club and other golf clubs, Yacht Club, Rowing Club and YM/YWCA. Service and social clubs and associations, such as the Royal Canadian Legion, Masonic Order and Shriners were also frequently listed. Other prevalent groups reported were sports teams (e.g., hockey, baseball, soccer, lawn and alley bowling), outdoor clubs, such as skiing, and church oriented and/or affiliated groups. Table 6.6 ranks frequently responded clubs, teams and organizations.

Constraints

Another question was designed to elicit responses pertaining to the type of constraints prohibiting respondents from using recreational facilities in their sector of

Community Group	No. of Responses
Brockville Country Club	14
YM/YWCA	10
Brockville Yacht Club	8
Golf Club (unspecified and/or other than B.C.C.)	6
Hockey Team	6
Brockville Rowing Club	5
Royal Canadian Legion	5
Alley/Lawn Bowling	4
Fitness Club	4
Church Organizations	4
Minor Soccer Association	3
Baseball Team	3
Scouting/Youth Associations	3
Bridge Club	2
Fraternal Societies such as Masonic Order/Shriners	2
Tennis Club	2
School Teams	2
Ski Club/School	2
Operatic Society/Theatre	2

NOTE: responses with a frequency of 1 were not included.

Table 6.6: Community Leisure Group Affiliations by Ranked Frequency

Constraint	No. of Responses
Lack of facilities	35
Rec. Behaviour doesn't warrant use	18 *
No interest	15
Lack of time	12
Retired	3
Cost	2
Personal health/laziness	2
Lack of knowledge of	2
Age	1
Distance	1
Location	1

* interrelated with all other reasons identified

Table 6.7: Constraints On Recreational Behaviour

the city. Over fifty-two percent of the sample gave no response or no answer. The most frequently cited reasons for non-use of facilities are as follows: lack of facilities; recreational behaviour does not warrant the use of the facilities; no interest; lack of time; and retired. See Table 6.7 for a complete listing of constraints.

6.4 Typological Analyses

6.4.1 Cluster Analysis

Cluster analysis is a multivariate statistical procedure used to objectively identify relatively homogeneous groups of cases on the basis of their shared similarities. The CLUSTER procedure available in SPSS-X was employed for the purposes of assigning respondents to unique groups or clusters. A series of cluster analyses were initially run using average linkage between groups (BAVERAGE), single linkage (SINGLE), complete linkage (COMPLETE), and centroid clustering (CENTROID)

methods in an attempt to group respondents on the basis of their reported behavioural, motivational and socio-economic-demographic characteristics. Each of these methods, however, failed to produce a solution which clearly distinguished cluster group membership. Further analysis, using the average linkage within groups method (WAVERAGE) generated a solution that maintained the original structure of the data by combining clusters so the average distance between all cases in the resulting cluster is as small as possible. This solution is desirable because the original structure of the sample data is unknown.

In the present study, clusters established using the WAVERAGE method compared the 168 sample members on the basis of their recreational behavioural profiles. Appendix F provides a listing of the 30 variables considered in each of the clustering methods discussed so far. Vacation behaviour variables were excluded from the analysis in order to reduce the number of variables under examination. In addition, it was assumed that the nature of vacation behaviour is significantly different from that of recreational behaviour and is, therefore, beyond the scope of this study. To ensure the greatest generalizability possible, both the general recreational activity group (e.g., mass media) and the specific recreational act (e.g., watching t.v.) were considered in the analysis.

An agglomeration schedule was built up from the results of the analysis in order to determine the number of clusters needed to represent the data. The agglomeration schedule using average linkage within groups is presented in Table 6.8. Examination of this table reveals that at the Euclidean distance coefficient (D) level of 146012.3 the first sizable jump or increase in the coefficient value occurs. This implies two relatively dissimilar clusters have been merged. Accordingly, the number of clusters prior to amalgamation is the most probable solution. In this instance, two clusters were identified.

Further examination of Table 6.8 yielded support for further subdivision of the two-cluster solution. Four smaller jumps can be found in the values of the fusion coefficients. Specifically, these increases occur between a five-cluster and six-cluster solution, a nine-cluster and ten-cluster solution, a ten-cluster and eleven-cluster solution, and an eleven-cluster and twelve-cluster solution. This would suggest a

Number of Clusters	Euclidean Distance Coefficient
12 clusters	155567.8
11 clusters	146012.3
10 clusters	100956.6
9 clusters	81230.2
8 clusters	76143.3
7 clusters	72018.1
6 clusters	69357.5
5 clusters	66939.5
4 clusters	65063.6
3 clusters	62765.0
2 clusters	57281.8
1 cluster	20633.0

Table 6.8: Agglomeration Schedule

five-cluster, nine-cluster, ten-cluster, or eleven-cluster solution respectively. Because of the heterogeneous nature of the data and consequently the large values of the fusion coefficients, inspection alone does not tell which cluster solution is most appropriate.

The dendrogram summarizing the fusion of clusters is presented in Figure 6.1. Inspection of the dendrogram also strongly suggests the presence of two clusters. Interpretability is extremely limited. In short, a two-cluster solution distinguishes between recreational participants and non-participants. Moreover, this solution does not yield particularly useful information about the nature of recreational behaviour. Therefore, this solution was deemed unsatisfactory and subsequently was rejected because of the limited amount of information it provided.

Following Aldenderfer and Blashfield (1984), a graph of the number of clusters implied by the average linkage within groups method dendrogram against the fusion coefficients was used as an ancillary technique to determine cluster numbers. Figure 6.2 shows the resultant graph. A marked flattening in the curve begins at the nine-cluster solution suggesting that additional cluster amalgamation produces

2 of/de 2

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

Figure 6.2: Number of Clusters vs. Fusion Coefficients

very little, if any, new information. It is important to note that the curve line is flat at the two-cluster solution thereby implying that two clusters are most likely present in the data. Although the curve line is flat at this solution, a nine-cluster solution appears to be optimal. For the purposes of interpretation, the nine clusters of recreational participants were considered appropriate for discussion and kept to the purposes of this thesis.

The clustering pattern which is revealed in the dendrogram clearly discriminates respondents across a spectrum of participation levels. Closer examination of cluster membership suggests that the final fusion merges individuals who are engaged in passive activities with those who are involved in more active pursuits, such as team sports.

Identifiable cluster groups, including size, are presented in Table 6.9. It is cautionary to note that for Table 6.9 the inclusion of a specific activity or activity group label indicates only how each cluster is distinguished and should not be taken

Cluster	Label	N
Cluster I	Non-participants	N = 16
Cluster II	Water-oriented recreationists	N = 35
Cluster III	An astronomer	N = 1
Cluster IV	Single activity participants	N = 7
Cluster V	Walkers	N = 19
Cluster VI	Hobbyists/Indoor party game players	N = 2
Cluster VII	Outdoor recreationists	N = 26
Cluster VIII	Fitness activity participants who read	N = 6
Cluster IX	Active sports/fitness participants	N = 56
		Total N = 168

Table 6.9: Description of Clusters

as an indication of the only activities or types of activities engaged in. Cluster titles in no way describe the entire cluster. Clusters are titled according to the recreational activity or activity group which most distinguishes the cluster.

To facilitate comparison of the groupings, variable frequencies and modes were calculated for resultant clusters. Groups containing few members, such as Clusters (III, IV, VI, VIII), should be interpreted with caution. They may be considered outliers. The following cluster descriptions are based on examination of recreational behavioural profiles, which includes behavioural, motivational, and socio-economic-demographic information.

Cluster I

Non-participants

Over eight percent of the sample or 87.5 percent of this subsample are distinctive in what they do not do in terms of recreational participation. Most of the individuals in the group indicated they did not recreate by their non-responses to most behavioural and motivational questions. Individuals who were involved in recreational activities had common interests in reading for leisure and walking for

fitness. As would be expected, cluster members appear not to belong to any community groups or organizations, with the exception of those associated with the church. The recreational environments identified, specifically the home and city of Brockville per se, are consistent with these findings. Coparticipant groups during leisure tend to be family-oriented. Although the number of responses are low and varied, reasons for recreational engagement seem to be health-related and/or socially-related.

People in this cluster are generally older in age, retired, married and have resided in Brockville for more than ten years. Members tend to have lower levels of education and annual household incomes. Moreover, education and income levels within this group are somewhat below the levels of the entire sample.

Cluster II

Water-oriented recreationists

Cluster II consists of thirty-five individuals, almost 21 percent of the total sample, who are generally diversified in the types of recreational activities they seek. Involvement in sports, in particular fitness activities, is the most frequently identified recreation pursued by this group, albeit mass media, social, cultural, and outdoor activities and hobbies are engaged in. While walking is the most prevalent fitness activity within Cluster II, a review of specific activities and activity types indicates a focus on water-oriented activities, such as swimming, boating/sailing and fishing.

Similar to Cluster I, cluster members are older in age, married and have resided in Brockville for than ten years. In contrast, however, most higher annual household incomes in the middle to upper income levels and are employed in professional-managerial, sales, clerical or trades occupations.

A majority of individuals in this group work 40 hours or more per week, thereby suggesting a limited amount of discretionary time is available to them on a weekly basis. This limitation of amount of available free-time, let alone potential recreating time, is reflected in the timing and location of activity engagement for this group, as well as coparticipant associations. Findings indicated the evening was the time of day many recreational activities were undertaken. The home was iden-

tified most often as the location of recreational engagement, yet participation was not exclusively limited to this site. The St. Lawrence River showed up as a focal recreational environment, as well as golf courses, the Brockville Country Club and Curling Rink, sports arenas, city parks and the city per se. Further, cluster members appear to participate primarily with neighbours and friends and their spouse. Interestingly, club members also appear as an important social group.

Cluster III

An astronomer

This cluster should be interpreted with caution because of its small size ($N=1$). Astronomy is the prevailing distinguishing feature of this cluster. Resistance to fusion with Cluster II until later is due to socio-economic-demographic and situational differences in the profile of Cluster III (see Figure 6.1). For example, this gentleman is widowed, rents his home and has lived in Brockville for less than one year. He is highly educated, and has a relatively lower income level thereby enhancing cluster differentiation.

Cluster IV

Single activity participants

Cluster IV cannot be as simply characterized as the other groups in the analysis, however a definite cluster structure can be observed. Individuals in this cluster reported they were involved in one recreational activity only (with the exception of one member who identified two activities). Although there is a definite orientation towards sports activities, no single activity discriminates this clusters. Golfing and walking are the two most repeatedly listed activities. Five of the 7 members in this group did not belong to any community groups. Golf courses and city parks are denoted as the environments where cluster members engage in their recreational activities. Other environments indicated include local arenas and rinks, the St. Lawrence River, regional provincial and/or national parks, as well as the city itself.

For the most part and not unlike Cluster I and Cluster II, cluster members are older, married and have had long-term residency in Brockville. In contrast, household membership is small, consisting of one or two adults only. Like Cluster I, education levels tend to be low.

Despite the fact that the majority of the people in this group were retired, discretionary time available during the week seems to be somewhat limited. Activity engagement in the evening and during the summer (i.e., golfing and walking) highlights this tendency.

Health-related, especially physiological, motives are given as reasons why recreation is sought for this cluster. Neighbours and friends are more frequently identified as the social group cluster members affiliate with during leisure time.

Cluster V

Walkers

The people in this group, over 11 percent of the entire sample, appear as fitness-oriented recreationists with comparatively high frequencies of participation in walking. In comparison to Cluster IV, this group of individuals is relatively more affluent with the modal annual household income level being between \$30,001 and \$40,000. Of those members stating annual household income, over 81 percent had incomes in excess of \$20,000.

The environment most frequently used by individuals in this cluster is the city itself, which includes city streets. This finding appears to be consistent with the activity of walking. However, utilization is also made of private club facilities, such as the Brockville Yacht Club, Brockville Rowing Club and Brockville Country Club and Curling Rink. Although most cluster members did not belong to any recreational community groups, those who did, belonged to private clubs and organizations, such as the Rowing Club and Yacht Club. Recreational coparticipants appear to be primarily divided between the family, and neighbours and friends. Health-related considerations, mainly psychological, are cited as reasons for recreational involvement. Social/education motives appear to be secondary factors.

Cluster VI

Hobbyists/Indoor Party Game Players

Cluster VI is made up of two individuals who are involved in social and mass media activities, as well as hobbies. Again, because of the size of the cluster, these results need to be interpreted with caution. Individuals in this group share a common

interest in indoor party games, such as cards. Yet, there is a clear gender separation in the hobbies pursued. The male cluster member identified woodworking and household repairs as his recreational pursuits, whereas the female member indicated knitting and crocheting as her hobbies.

Both individuals are between 46 and 55 years of age, married and have lived in Brockville for more than 10 years. Annual household income levels for this cluster are high at \$40,001 or more, despite lower education levels.

Shared coparticipant groups included neighbours and friends and one's spouse. Reasons for participation are also gender specific: the male cluster member identifies relaxational motives whereas the female member cites physiological motivations for recreational involvement.

Differences in satisfactions levels with their current recreational environment are also found. The male member is completely satisfied and tends to utilize a greater variety of environments (i.e., home, other people's homes, movie theatres) in comparison to the female cluster member who is somewhat satisfied and cites golf courses as her only recreational environment.

Cluster VII

Outdoor recreationists

The people in this cluster, 15.5 percent of the total sample, are distinguished by their involvement in outdoor recreational activities. It is evident from frequency counts that sports participation, specifically in fitness activities, is uppermost for this group. However, fitness activities, such as swimming, walking, skating and jogging which primarily take place in the natural environment or outdoors may also be considered forms of outdoor recreation.

The choice of recreational environments reported by members in this cluster reflects the nature of the activities undertaken. For instance, the St. Lawrence River, the home, and sports fields/arenas and rinks are identified as the sites and locations most patronized for recreation purposes. These environments relate to swimming/fishing, gardening and team sports respectively; activities (or activity types) which emerge as important recreational acts for this grouping next to walking. City parks, parkland surrounding the city, islands parks, regional parks, and

local sports fields and school yards are other focal points of activity.

Expectedly, health-related motivations appear to be the most important factor affecting leisure involvement for this group of people. Social reasons, however, also stand out as meaningful factors. This latter finding lends support for family-oriented recreation. Households are largely made up of families with school and preschool aged children. In contrast to preceding clusters, this grouping has a relatively larger number of single and younger adults. Furthermore, there are considerably fewer retirees comprising this clusters.

Cluster VIII

Fitness activity participants who read

In comparison to all the clusters uncovered in this analysis, excluding Cluster III (N=1), this grouping is quite unique. All cluster members are female. These women appear as fitness-oriented recreationists who share common interests in exercising, reading and watching television. Cluster membership is evenly divided between women who are 56 years or older and women who are between 36 and 45 years of age.

Recreational coparticipation occurs primarily with other family members, in particular with one's spouse and/or children. The younger women in this cluster each have two school aged children and work 50 or more hours per week. This subgroup is also involved in family-oriented activities such as attending sporting events as a spectator, camping and boating. The older grouping of women belong to adult-only households and are involved in one activity which is not home-based, such as recreational driving, lawn bowling and going to the movies.

Accordingly, reasons for recreational involvement are health-related. Psychological and relaxational motives appear to be the main impetus for participation, yet social and educational motivations are revealed as other important considerations.

Place of residency within Brockville was evenly divided between the West End and North End of the city. Furthermore, the younger women resided within the North End of the study area, while the older women lived in the West End.

The younger grouping of women had occupations that took them outside the

home. The fact that they worked more than 50 hours per week is consistent with this finding.

Cluster IX

Active sports/fitness participants

Over a third of the total sample comprise this group. One of the unifying characteristics of members in this cluster is extensive participation in recreation. Cluster members are involved in all types of activities, however, there is a definite concentration on outdoor and sporting pursuits, especially on fitness-oriented acts. Walking for fitness, swimming, skating and skiing, either downhill or cross country, in the winter, as well as individual sports (e.g., golf) and dual sports (e.g., tennis) are the predominant activities engaged in by cluster members.

Recreational environments are varied. The city per se, the St. Lawrence River, city and regional parks, local golf courses, arenas and rinks, and the home are frequently identified as activity sites and locations.

The community groups which cluster members were involved in tended to be primarily sports and fitness related. For example, a pattern which emerges reveals membership in curling, tennis, badminton, golf and fitness clubs, the YM/YWCA, and hockey baseball and soccer teams and associations. Seventy-six percent of this cluster grouping had annual incomes above \$30,000.

Overall, members of this cluster are younger in age and are a part of the working population. The age group mode is between 26 and 35 years of age. The prevailing employment type is professional/managerial.

Cluster members appear to recreate mainly with family members, including one's spouse and children. Neighbours and friends are an important secondary coparticipant group.

Summary

The data suggest that there are at least nine groups of individuals who share similar recreational behavioural patterns and profiles. With exception of Clusters I and III, there appears to be a strong orientation towards fitness activities, more precisely towards walking for fitness, by cluster members.

Activities tend to take place within the city of Brockville. Moreover, most recreational behaviour is home-based, either taking place in the home or using the home as a focal point. Walking, for example, tends to occur in the area close to one's home.

Results appear to support the notion that the behavioural situation is the most salient dimension affecting recreational behaviour. The findings suggest that even though participation may include the same specific activity, behavioural differentiation between groups of similar individuals can be made if the conditions or context of the situation are known.

6.4.2 Cross tabulation and Chi-Square Analyses

In order to determine whether or not situational considerations are important when differentiating recreational user behaviours, a series of cross tabulations were conducted using the results of the average linkage within groups cluster method and the original 30 cluster variables employed in the analysis itself. The types of data collected in the questionnaire preclude the use of sophisticated analytic techniques which require the data to be in interval or ratio form.

The results of the cross tabulation analyses suggest an association exists between the resultant nine-cluster solution and several of the cluster variables. However, inspection of the resulting contingency tables does not reveal how likely these relationships are to occur in the sample. See Appendix F for an example of these computer-generated tables.

In lieu of the addition of other variables as controls and the addition or reduction of variable categories in the contingency tables, it was decided that the chi-square statistic would be used to assist in determining whether a relationship existed between the nine clusters and cluster variables. At this juncture, it is important to note that due to the frequency distribution of cases according to clusters and variable categories, all cells in the contingency tables do not meet the minimum observation requirement of 5 cases per cell. In fact, some cells are empty. Because the cluster solution structure was based on the existing frequency

Variable Labels	Calculated χ^2	df	Probability Level
ENGAGRS1	78.50518	48	.0036
ENGAGRS2	82.28868	48	.0015
INCOME	62.56628	40	.0128
SAT	72.84761	40	.0011
YRSHOME	46.93565	32	.0430
YRSB	57.55675	32	.0037
WHER1	284.85411	208	.0003
HTENURE	36.47896	24	.0493

Table 6.10: Variables Found to be Associated with the Typology

distribution pattern and the exact probability of a relationship is computed by CROSSTABS in SPSS-X, it was concluded that the chi-square statistic would be useful in determining which variables were related to the cluster solution.

For all the chi-square analyses, the rejection level for the null hypothesis was set at $p = .05$. The results of these tests reject the null hypothesis that cluster groupings are not dependent on situational variables for their composition for almost a third of the variables examined. Table 6.10 displays a listing of these variables with calculated chi-square statistics, degrees of freedom and probability levels.

In general, the findings here tend to support the notion that situational variables are important for understanding the structure of clusters for the present sample. Because the actual relationships are unknown, there is no way of telling whether or not a Type II error has been committed. That is to say, we have no idea if the null hypothesis has been falsely accepted for the other variables being tested. Thus, it may be concluded that there is an apparent association between the cluster groups and the variables in Table 6.10.

6.5 Discussion

Results from the preceeding analyses of recreational user types and of the relationship between types and discriminating variables have been considered.

The major difference between this study and earlier work is the origin of the typology. Previous typology research has tended to identify either the discriminating factors, factor categories or activities a priori into which individual recreational behaviours are classified and situational variables (i.e., socio-economic-demographic factors) are predicted. In this case, the typology was formed by clustering reported individual recreational profiles and searching for distinguishing characteristics and patterns in the clusters derived. Individuals were compared on the basis of their responses in all variable dimensions.

On the basis of the chi-square analyses, it would appear that the variables associated with the resultant typology are primarily behavioural antecedents. While inferences about the variables identified are difficult to make, it is evident that cluster groupings are influenced by three types of factors: motivational (reasons, level of satisfaction, familiarity with recreational environment), locational (environment), and social status (level of income, household tenureship). Consequently, results derived generally confirmed the notion of the behavioural situation as the major determinant of recreational behaviour. Findings also supported the explanation of behaviour set out in this thesis, where recreational behaviour was viewed as a complex, dynamic interrelated decision-making process.

Results indicate that, for the sample examined, unconventional variables may be used to distinguish between recreational user types. Findings suggest that in terms of deciphering behaviour, situational conditions may contribute more to our understanding of the recreational user than our knowledge about the socio-economic-demographic makeup of the group of individuals under examination. It is apparent, therefore, that increased attention must be given to more complex explanations of recreational behaviour and user types. The data from this study would suggest that it is inappropriate to focus on motivational, locational or lifestyle explanations alone as a means of understanding and describing user

behaviours.

If recreational behaviour is conceptualized as a multidimensional and multi-valent experience which is centred on needs and is context dependent, then the results above may in fact be valid. It is, however, necessary to show that the relationships identified in this study can be replicated across samples and different user groups.

Earlier typology studies in leisure, which tended to look at distinct factors and their specific contribution (i.e., improvement) to behavioural explanation, offer some useful insights into the findings of this study. Ditton et al. (1975) discovered that the addition of an environment variable produced more useful descriptions of groups of water-based recreationists in northeastern Wisconsin than descriptions based on participation frequencies alone. Study results indicated that distinct activity patterns were related and exclusive to certain environments. The argument put forward by Ditton et al. suggested "...that in terms of distinguishing behavior, individuals may first relate to environments and choose activities secondarily" (Ditton et al., 1975, 293). Evidence found in the present study appears to be in accord with this proposition. Clustering group relationships with an environment variable and not with an activity(ies) variable suggests that, at least for the sample studied, the behavioural setting partially differentiates user types.

In contrast to the findings of Ditton et al., in none of the 9 clusters studied were members distinguished by their use of one single environment. Among the clusters identified in this typology, there appeared to be an overlap in both the activities and environments chosen. No activity or environment appeared to be mutually exclusive to one cluster or the other. Results implied that certain types of recreational activities were more apt to take place in and relate to particular environments. For instance, water-oriented recreationists (Cluster II) identified the St. Lawrence River as an important recreational environment, whereas members of Cluster V (Walkers) make use of the city (i.e., city streets).

Yu (1980) identified the socio-economic variables of age, income, and education as important components in discriminating leisure behaviour. Despite the inclusion of age and education variables in the present analyses, these factors did not

emerge as important contributors to typology structure. It is plausible that the fragmentation of the education variable across 10 categories, as well as a leaning towards an older sample caused Type II errors, subsequently these factors were determined to be unassociated with the typology, when in fact they actually might be related. The number and nature of the activities employed by Yu are much more narrow in scope than those reported in the present study. Moreover in the Yu study, there appears to be a bent on activities geared toward younger age groups, such as off road vehicles, horseback riding, and indoor sports.

Income is a common factor shared by both the present study and Yu's study. Level of income, more generally social status variables, emerge as an important variable separating recreational user types. One group of clusters (V, VII, IX) were found to have higher levels of income in comparison to all other clusters. The types of activities pursued and the affiliations maintained by this group were somewhat reflective of the socio-economically privileged. This finding suggests that those who are financially able have more opportunity to select and participate in activities of their choice. Although somewhat nebulous, this discovery would seem to support the lifestyle (i.e., social status) explanation of behaviour which argues that lifestyle is pervasive throughout many aspects of a person's life (Perreault et al., 1977, 223).

Satisfaction levels for this group of clusters were generally higher than for the other user types under examination. In addition, this finding would suggest that these individuals are more able to reach their desired situation. Prior findings by Francken and van Raaij (1981) concur that people from higher social groups seem to have higher leisure satisfactions.

Other selected studies have looked solely at what variables influence recreational behaviour. Ragheb (1980) tentatively concluded that satisfaction was the strongest dimension affecting behaviour and behavioural choices, and that satisfaction levels were a function of both sex and completed years of education. Even though education and gender variables did not appear to be associated with the present typology, satisfaction with one's current environment was conditionally found to be related. Differences in findings are likely attributable to the types

of activities sought. Most of the recreational activities engaged in could be described as "generic" in nature. This is to say that they are not gender-specific. For example, walking, gardening, swimming, skating, boating/sailing, golfing, and picnicking are activities that both men and women can equally participate in and enjoy. As indicated in Cluster VI, hobbies tend to be the only activities that appear to be related to gender.

Sectoral location and facility constraint variables are conspicuous by their absence in the chi-square analyses. Neither of these two factors appear to be associated with the typology. What this suggests is that the recreational behaviour of the sample is not affected by place of residency within the city of Brockville. It also negates the initial hypothesis that the lack of parkland and open space in certain sectors of the city would contribute to different behavioural patterns.

Summary

Given the present results, situational change is likely to induce a change in recreational behaviour. The findings of this study suggest that the clusters derived are heterogeneous in nature. Clusters are presumably different because the context or situation of each group of individuals is different.

Chapter 7

Conclusions and Implications

7.1 Overview

This investigation aimed at understanding the nature and structure of leisure participation patterns, using a psychographic approach to produce a typology of recreational users. A hierarchical cluster analytic technique was used to group individuals. The analysis revealed that an interpretable typology of 9 clusters or user types was identifiable in the sample employed. Upon closer examination of these clusters, heterogeneity in the profiles of individuals assigned to each cluster was apparent. As a result, clusters were generally found to be lacking in intra-group homogeneity. Differences were a result of individualized recreational patterns. Nevertheless, differences between these nine clusters appeared to be patterned, rather than random.

The type, extent, diversity, and structure of activity involvement were differentiated between user types in the typology presented. The nature of recreational behaviour in each cluster differed enough for each to be considered a separate user type, even though walking for fitness appeared throughout the entire typology.

Cluster size varied. Predominant user types appeared to be water-oriented and outdoor recreationists, walkers, and active sports/fitness participants. Clusters containing few members, such as Cluster III (An Astronomer) and Cluster VI (Hobbyists/Indoor Party Game Players), represented individuals with distinct behavioural patterns. Non-participants made up another important cluster group.

Findings indicated a concentration on a family-oriented style of participation for the overall sample. Coparticipant groups primarily with other family members, such as one's spouse and/or child(ren) was evidence in support of this discovery. With the exception of Cluster IX (Active sports/fitness participants), participation seemed to be generally focused on informal and unorganized recreational activities which are home-based. A lack of organized community leisure group affiliations throughout the sample confirmed this finding.

Results of the cross tabulation and chi-square analyses suggest a systematic relationship exists between the typology formulated and three factors, involving motivational, locational and social status considerations. Specifically, these factors encompassed the following variables and indicators; familiarity, reasons for participation, satisfaction, environment, income, and household tenureship. These factors suggest that the basis of cluster groupings and subsequently the typology appear to be antecedental in nature and situation specific.

7.2 Significance of Findings

The usefulness of the typology of recreational users is in the extent to which it advances knowledge of the factors that differentiate recreational user groups. The behavioural situation assumes a primary role in determining leisure behaviour and is an important factor in differentiating, describing and understanding user behaviours.

Locational Factor

The identification of an environmental variable (i.e., locational factor) implies that leisure participation is spatially structured. This further implies that certain types of environments encourage or discourage certain kinds of behaviour, although the actual activity might be the same. For instance, outdoor recreationists (Cluster VII) tend to use regional parkland as opposed to city parks and open spaces. Extending the results further, it can be ascertained that certain locations attract different kinds of users. For example, the St. Lawrence River fosters three kinds of water-craft activities: boating, sailing and canoeing. Likewise, the river is used

for swimming in the summer and skating in the winter.

Social Status Factor

Differences in social status are reflected in leisure participation patterns between user types. While the types of and specific activities pursued by the more affluent participants did not appear to differ from those activities sought by users in other income levels, the organizations and affiliations maintained in association with the activities did. Involvement in private and/or paid membership clubs, teams and organizations prevailed. Younger and wealthier participants tended to engage in more active and more competitive recreational pursuits (i.e., Cluster IX) whereas, older groups were more inclined to passive activities, such as walking (e.g., Cluster V). When considered in light of the results above, such as a concentration on a family-oriented style of participation, differences among users in the typology may be dependent on life style, rather than social status *per se*.

Motivational Factor

In the same manner, motivational factors were different between user types. For example, one group of users ((Clusters (V, VI, IX)) tended to have higher satisfaction levels relative to the remaining groups of users in the typology. Besides being involved in different recreational activities, the former group was found to be generally more affluent than other user types.

The primary motives for leisure involvement were health-related. This observation is consistent throughout the typology; however there are variations in the secondary motive between user types. The maintenance of social relationships with other family members, especially children, as well as neighbours and friends are important for women (e.g., Cluster VIII) and for those people who belong to private clubs (i.e., Cluster V).

The type, extent and diversity of participation are clearly influenced by an individual's level of familiarity with the city and/or local region (i.e. recreational environment). The pattern observed suggests that those individuals who have had long-term residency in both their home and in Brockville are far less active in recreational participation both in variety and in number of specific involvements.

The potential value of using motivational factors lies in their linkage to the

internal decision-making process of the individual. Motivational factors are attitudinal indicators. Given that attitudes and actions are in accord, behavioural understanding is meaningful to the internal structure of leisure participation patterns.

The interrelatedness of the findings suggests that behavioural explanations need to be expanded. The nature and level of specificity at which data are required to achieve an appropriate understanding of recreational user types is also highlighted. Clearly, the participation patterns and recreational behaviour identified here are dependent upon the variables chosen.

This investigation provides an initial framework within which issues concerning recreational geography and motivational research could be conducted. Consider the following points:

1. It provides some basis for the notion that the behavioural situation should be given consideration as a way of explaining and understanding recreational behaviour.
2. It highlights some of the problems associated with the traditional conceptualization of recreational behaviour.
3. It signifies that behaviour cannot be considered simply in terms of recreational activity, such as biking, swimming, and walking, nor can people be studied merely in terms of use frequencies.
4. It provides some empirical grounding for research concerned with the conceptualization of recreational behaviour.
5. It provides a basis in support of theoretical advancement in leisure research through a grounded theory approach.

7.3 Limitations of Study

The sampling procedure used in this investigation was restrictive. The method was initially chosen for lower overall production costs and the amount of time

necessary to administer the questionnaire, which prevented generalizations from being made about the population. Moreover, because the sample was not randomly captured, probabilities and predictions about the recreational behaviours of the residents of Brockville cannot be directly made from the typology. However, there is no evidence to suggest that the sample selected should not be treated as being representative of the population from which it is drawn, despite the limitations of the research methodology.

This study does not take into consideration intra-group differences in the activities being sought or in the typologies developed. It is this intra-group variation that accounts for the lack of homogeneity in each of the 9 clusters found. Between-activity investigations like the present study are suitable for decision-making planning. Intra-group inquiries and specialization studies are perhaps more applicable to technical planning decisions where the exact nature and subtleties of recreational behaviour influence facility and site designs as well as programming strategies.

7.4 Implications for Planning

Traditional planning considerations, such as participation frequencies, gender and age groups, have presumed a more narrowly defined and less intricate behavioural conceptualization. This study has demonstrated the need to extend and include the contextual information of the user or user groups, including satisfaction levels, participation motives, recreational environments, social involvement and coparticipant groups. Practical planning techniques aimed at developing appropriate opportunities (facilities and/or programming) require knowledge concerning the activities themselves, such as the temporal and seasonal components and the environments of recreational participation.

Findings from this study also lend support to the notion of opportunity segmentation. It would be functional for communities, such as Brockville, to provide a combination of opportunities that are consistent with the mix of users found. In this way, individual satisfaction levels are likely to be higher since it is probable that most user groups will be better recognized in the community leisure

system. Furthermore, it is also probable that optimal use will be made of existing community recreational opportunities.

Knowledge of different types or groups of users can facilitate better decision-making in planning. Moreover, our understanding of recreational users is enhanced by examining the variables that might be expected to differentiate user types, such as environments, income and satisfaction levels, and motives. Knowing the social aspects of leisure are important to women, for example, would suggest that recreational opportunities for women should be designed to encourage social interaction with friends. In this study, user types were analyzed over socio-economic-demographic, household, motivational and behavioural variables. Implicit in the analyses were the general assumption that greater behavioural understanding could be achieved if the context or behavioural situation of individual users was known. As suggested by Hautaluoma and Brown (1978), refinement of the hypotheses behind typology construction would improve our understanding and would lead to better descriptions of users and user behaviour. As noted previously, the cluster groupings identified in this thesis are not homogeneous. A more narrowly defined research assumption might produce a less complicated typology with clearer and more statistically precise descriptions of users and user behaviour. However, it is likely that such an assumption might lead to a gross overgeneralization of the behavioural conditions under examination.

Psychographic approaches to behavioural understanding would permit planners to direct their efforts to user needs in terms of specific situational context variables like income, satisfaction levels, environments, reasons for recreating, non-sector use of facilities, coparticipant groups etc., instead of directing their efforts toward opportunity usage. In this respect, planning decisions and directives can be evaluated in terms of these issues to determine whether adequate opportunities are being supplied.

7.5 Implications for Future Research

This study is similar to previous ones in that it has focused on adult activity. Given a concentration on family-oriented styles and patterns of recreational behaviour in the sample, future behavioural research investigations in Brockville could address the recreational needs of children. Specifically, typological studies which classify children into user groups could be conducted. Psychographic examination of different types of family behaviour could provide another research opportunity.

The activity typology which was developed in this thesis was based on respondents' actual recreational behaviours. The typology was formed by clustering individual observations and searching for distinguishing/common features in the identified clusters. It is probable that a typology developed using the same data, but identifying common traits *a priori* and then aggregating respondents on the basis of these traits would produce a different cluster grouping. This issue is especially important, because in terms of deciphering behaviour, and given the apparent importance of the situation in understanding the recreational behaviour of the sample, components of the behavioural situation would essentially be removed from the typology specification. Subsequently, resulting types may be devoid of salient descriptors.

The research conducted for this thesis offers an operational approach for exploring and understanding the recreational behaviour of a heterogeneous group of individuals. The study, which aimed to achieve a greater comprehension of recreational users, can be seen as exploratory. It considered a wide range of variables and relationships which previously contributed to an explanation of behaviour.

The nature of the approach used is generally referred to as "psychographics" research. To be effective, psychographic approaches to behavioural understanding must incorporate as many meaningful variables as possible and must not be limited only to participation frequencies and socio-economic-demographic considerations. To be useful in recreational planning, psychographic research should consider the activities, interests and opinions of the user. The psychographic method applied here suggests that for the sample studied, different groups of recreational users

could be distinguished by a combination of situational variables.

In summary, the results of this investigation tend to support the interactionist perspective that the behavioural situation is the most important distinguishing factor of recreational behaviour and recreational users. Findings support the conceptualization of recreational behaviour in terms of the situation hypothesized in this thesis. The results also support arguments in favour of different methodological approaches to recreational planning. This study has shown that "applied approaches" for explaining recreational behaviour can be integrated with selected theories of behavioural explanation.

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Appendix A

Final Sample Questionnaire

Carleton University
Ottawa, Canada K1S 5B6

SURVEY OF RECREATIONAL BEHAVIOUR, ATTITUDES,
AND SATISFACTIONS IN THE BROCKVILLE REGION

Dear Respondent:

I am a geography graduate student at Carleton University in Ottawa. In order to fulfill my degree requirements, I must complete an M.A. thesis. My primary research objective is to develop a tool for recreational planning incorporating both objective and perceptual - attitudinal information of current leisure participants.

The purpose of this questionnaire is to solicit information about recreational behaviours, attitudes and satisfactions to be used as a basis for developing a theoretical recreational planning methodology. The answers provided will remain strictly confidential, and the results will be used in statistical form. Your co-operation in completing this questionnaire is greatly appreciated.

If you have any questions concerning this questionnaire, please do not hesitate to contact Dr. Suzanne Mackenzie at (613) 564-5622 or leave a message at (613) 564-2641.

Sincerely,

Karen Cughan
Department of Geography
Carleton University

A. RECREATIONAL BEHAVIOUR

1. How many hours per week do you work? (Work is defined as the amount of time devoted to your occupational and household activities. If you do some work at home related to your job, include those hours too).
- _____

2. a) As a rule, do you have time off during the week (Monday-Friday)?

_____ Yes
_____ No
_____ Sometimes

- b) Do you have your weekends free?

_____ Yes
_____ No
_____ Sometimes

3. During the week, what recreational activities do you engage in?

4. At what time during the day do you practice these recreational activities?

<u>Activity</u>	<u>Time</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

5. a) Are there any recreational activities in which you are involved that are season dependent?

_____ Yes
 _____ No

- b) If yes, please list below.

<u>Winter</u>	<u>Spring</u>	<u>Summer</u>	<u>Autumn</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. a) Do you participate in other or secondary recreational activities while engaged in the primary activity? For example, if the purpose of your outing is to go fishing, do you also engage in picnicking and boating.

_____ Yes
 _____ No

- b) If yes, please list these other recreational activities.

<u>Primary Activity</u>	<u>Secondary Activities</u>
_____	_____
_____	_____
_____	_____
_____	_____

7. With whom do you partake in your recreational activities?

8. Identify where in Brockville you engage in most of your recreational activities (this includes parks, golf courses, municipal pools and rinks and the like):

9. a) Do you frequent recreational facilities in your sector of the city? (Refer to the accompanying map)

_____ Yes
_____ No

- b) If no, why not?

10. How do you travel to and from your recreational environments? (Please note that your mode of travel may include motorized transportation, biking, running, walking and the like.)

11. Generally, how much time do you spend each week travelling to and from your recreational environments? _____

APPENDIX A.

120

12. How many weeks of vacation do you get each year? _____

13. When do you usually take your vacation?

_____ Winter
_____ Spring
_____ Summer
_____ Autumn
_____ No specific time

14. Why do you take your vacation(s) at this particular time of the year?

15. Approximately, how much of this vacation time is spent in the Brockville region? Please express this answer as a percentage of 100 (e.g., 25%).

16. a) During your vacation, do you engage in any leisure activities?

_____ Yes
_____ No

b) If yes, what three leisure activities do you engage in most often?

17. a) Do you own any recreational equipment?

_____ Yes
_____ No

b) If yes, please list.

18. What recreational clubs, teams or organizations do you belong to?

B. SATISFACTION

1. How satisfied are you with your current recreational environment?
Please check one.

- ☐ completely satisfied
☐ somewhat satisfied
☐ neither satisfied or dissatisfied
☐ somewhat dissatisfied
☐ completely dissatisfied

2. What improvements and/or changes would you like to see in the recreational facilities and environments you currently frequent?

<u>Facility/Environment</u>	<u>Improvement(s)/Change(s)</u>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

C. REASONS

1. My reason(s) for engaging in recreation activities are:

2. a) Recreational activities I would like to become involved with are:

- b) Reasons why I am not currently involved in these activities are:

D. HOUSEHOLD INFORMATION (These questions are concerned with basic information about your household.)

1. Do you own or rent your home? Please check one only.

Own _____
Rent _____
Other (please specify) _____

2. How many persons in your household? _____
Number of adults? (18 years and older) _____
Number of school age children? _____
Number of pre-schoolers? _____

3. Number of motorized vehicles owned by household members? _____

4. How many years have you lived in this home? Please check one only.

Less than 1 year _____
1 - 5 years _____
6 - 10 years _____
More than 10 years _____
Do not know _____
No response _____

5. How many years have you lived in the city of Brockville?
Please check one only.

Less than 1 year _____
1 - 5 years _____
6 - 10 years _____
More than 10 years _____
Do not know _____
No response _____

6. What sector of the city do you live in? Please refer to the
accompanying map.

Sector 1 - West End _____
Sector 2 - East End _____
Sector 3 - North End _____

E. RESPONDENT INFORMATION

1. Sex Male _____
 Female _____

2. Age 16 - 25 years old _____
 26 - 35 years old _____
 36 - 45 years old _____
 46 - 55 years old _____
 56 years old and older _____

3. Are you self-employed?

Yes _____
No _____

4. What is your occupation? Please check as appropriate.

☐ professional (please specify) _____
☐ managerial
☐ clerical
☐ sales
☐ tradesperson
☐ labourer
☐ domestic work
☐ retired
☐ student
☐ homemaker
☐ other skilled worker (please specify) _____
☐ currently unemployed
☐ other (please specify) _____

5. Please indicate your current level of education? Please check one.

☐ some primary
☐ completed primary
☐ some secondary
☐ completed secondary
☐ some college
☐ completed college
☐ some university
☐ completed university degree
☐ second degree (please specify) _____
☐ other (please specify) _____

6. Are you: (please check one)

☐ single
☐ married
☐ widowed
☐ separated/divorced
☐ other (please specify) _____

7. Please state your ethnic background. _____

8. Please indicate your total household income for the last year. This information is for control purposes only.

_____	less than \$10,000
_____	\$10,001 - \$20,000
_____	\$20,001 - \$30,000
_____	\$30,001 - \$40,000
_____	\$40,001 or more

9. Comments

Thank you for taking the time to fill out this questionnaire.

Appendix B

List of Recreational Activities

Mass Media Activities

1. watching TV
2. reading magazines and newspapers
3. going to the movies
4. listening to music
5. computer programming

Social Activities

1. visiting friends
2. entertaining friends
3. dating
4. attending parties (socials, birthdays, holidays)
5. social dancing
6. indoor game parties (darts, card games, such as bridge)
7. playing bingo
8. volunteer work (Meals-On-Wheels, church activities)
9. social and service clubs (Pioneers of America, Eastern Star, Senior Citizens Group)

10. dining out
11. letterwriting

Outdoor Activities

1. picnicking
2. fishing, hunting
3. gardening
4. day outings (zoo, museums, day bus trips)
5. hiking
6. boating, canoeing, sailing
7. nature study
8. camping
9. biking
10. skiing (downhill, cross-country, water)
11. yardwork (mowing grass, other yard upkeep)
12. recreational driving (sightseeing, travelling)
13. shopping
14. tobogganing, sleighing
15. sunbathing, tanning
16. playing with pet/child(ren) in park
17. cottaging
18. snowmobiling
19. woodcutting

Sports Activities

1. attending sports events as a spectator
2. fitness activities, such as swimming, track and field, skating, gymnastics, physical fitness, aerobics/workouts/exercises, weight training, jogging, running, walking

3. team sports, such as football, soccer, hockey, curling, basketball, softball, baseball
4. individual sports, such as golf, lawnbowling, alleybowling, fencing, archery, snowshoeing, karate
5. dual sports, such as tennis, badminton, hardball, squash, racquetball
6. coaching

Cultural Activities

1. attendance at concerts, musical events, singing
2. attendance at ballet, dance, opera performance
3. visiting art museum
4. participation in square dancing, folkdancing, folksinging, folklore
5. attendance at theatre plays
6. visiting historic landmarks
7. participation in amateur theatre

Hobbies

1. painting, drawing, sketching
2. woodwork, carpentry, carving, furniture refinishing
3. collections: stamps, coins, insects, aquariums
4. needlework, knitting, crocheting, sewing, quilting, smocking, needlepoint
5. floral arranging, indoor plant care
6. weaving, pottery, decoupage, sculpture, rug making
7. photography, movie making
8. repairing small electrical appliances
9. cooking
10. astronomy
11. craftmaking

Appendix C

Matrix of Primary and Secondary Activities

PRIMARY

SECONDARY		boating/ sailing	fishing	swimming	walking	canoeing	picnicking	sightseeing	
	boating/ sailing		8	2	0	0	0	0	10
	fishing	8		0	0	1	0	0	9
	swimming	7	2		0	1	1	0	11
	walking	0	0	0		0	0	0	0
	canoeing	0	0	0	0		1	0	1
	picnicking	11	9	13	0	4		0	37
	sightseeing	1	1	1	0	0	1		4
		27	20	16	0	6	3		

Appendix D

List of Recreational Activity Sites and Locations

1. home
2. city, city streets
3. arenas, rinks (Memorial Centre, Centennial Youth Arena, Old Memorial Centre Ice Surface)
4. indoor pool (Rotary Pool)
5. golf courses (Highland, Sherwood, Brockville)
6. river (Brockville waterfront, Tunnel Bay, Lily Bay)
7. bowling alley (Cadillac Lanes)
8. municipal parks (e.g., Victoria, St. Lawrence)
9. Brockville Arts Centre
10. school yards (Commonwealth, B.C.I.V.S., T.I.S.S., St. Lawrence College)
11. island parks (includes both federal and municipally owned parks)
12. regional parks (includes provincial and national parks and township recreational areas)
13. parkland surrounding city, specifically the conservation area known as the Back Pond
14. Brockville Yacht Club
15. Brockville Rowing Club

16. facilities on the property of the Brockville Psychiatric Hospital (lawning bowling surface, tennis courts)
17. sports fields (e.g., Kelly, Brakenreed)
18. trails (Maitland trails, Caigers trails)
19. YM/YWCA
20. privately owned sports facilities (Shape Up shop)
21. fraternal organization halls (Shrine Hall, Masonic Hall)
22. Royal Canadian Legion
23. artists studios (Victoria School)
24. Brockville Country Club and Curling Rink
25. school buildings (includes primary and secondary schools, as well as St. Lawrence College)
26. Brockville Public Library
27. tennis courts (includes those located at the Brockville General Hospital and on Strowger Boulevard)
28. movie theatres (Parkedale Cinemas)
29. church (e.g., Wall St. United Church)
30. volunteer centres (e.g., Shepherds Centre)
31. cottage
32. other people's home (e.g., friends and family members)
33. hospital buildings (Brockville General Hospital, St. Vincent De Paul Hospital, Brockville Psychiatric Hospital)

Appendix E

List of Community Groups Identified by Respondents

1. Brockville Yacht Club
2. Pioneer Life Members Club
3. Eastern Star
4. Church Organizations (e.g., Wall St. Seniors)
5. Bluebird Club
6. Brockville Rowing Club
7. Royal Canadian Legion
8. Fraternal Organizations (e.g., Masonic Order, Shriners, Knights of Columbus)
9. St. Lawrence College Art Group
10. Brockville Artist's Studio and Gallery
11. Golf and Country Clubs (e.g., Brockville Country Club)
12. Shepherd's Centre
13. Bridge Club
14. Bowling Team (alley bowling and lawn bowling)
15. Tennis Club

16. Fitness Club (e.g., Shape Up Shop)
17. Badminton Club
18. Cycling Club
19. YM/YWCA
20. Hunt Club
21. Snowmobile Club
22. T-Ball Team
23. Swim Class
24. Brockville Minor Hockey Association
25. Neighbourhood Watch Committee
26. Operatic Society and Theatre Guild
27. Brockville Minor Soccer Association
28. Baseball Team
29. Ski Club
30. Business Groups (e.g., Brockville District Advertising and Sales Club)
31. Special Events Committees (e.g., Riverfest)
32. Curling Club
33. Library Membership
34. School Teams
35. Power Squadron
36. Squash Club
37. Dance Club
38. Marathon Running Team
39. Maitland Trails Membership
40. Youth Leadership (e.g., Girl Scouts, Youth Plus for Teens)

Appendix F

List of Variables Included in Analyses

HOURSWK	Number of hours worked per week
TOWK	Time off during the week (Monday - Friday)
TOWD	Time off on weekends (Saturday & Sunday)
A1	Activity Type (1)
T1	Time of day (1)
S1	Season (1)
A2	Activity Type (2)
T2	Time of day (2)
S2	Season (2)
A3	Activity Type (3)
T3	Time of day (3)
S3	Season (3)
A4	Activity Type (4)
T4	Time of day (4)
S4	Season (4)
A5	Activity Type (5)
T5	Time of day (5)
S5	Season (5)

W1	Coparticipant Group (1)
W2	Coparticipant Group (2)
W3	Coparticipant Group (3)
WHER1	Rec. Environment (1)
WHER2	Rec. Environment (2)
WHER3	Rec. Environment (3)
WHER4	Rec. Environment (4)
NSUSE1	Non-Sector Use of Facilities (1)
NSUSE2	Non-Sector Use of Facilities (2)
MODE1	Mode of Transportation (1)
MODE2	Mode of Transportation (2)
MODE3	Mode of Transportation (3)
TRAVT	Travel Time
REQUIP	Number of Pieces of Rec. Equipment Owned
RECLUB1	Community Leisure Group Affiliations (1)
RECLUB2	Community Leisure Group Affiliations (2)
RECLUB3	Community Leisure Group Affiliations (3)
RECLUB4	Community Leisure Group Affiliations (4)
SAT	Satisfaction Level with Current Environment
ENGAGRS1	Reason for Participation (1)
ENGAGRS2	Reason for Participation (2)
ENGAGRS3	Reason for Participation (3)
ENGAGRS4	Reason for Participation (4)
HTENURE	Household Tenureship
NINHOME	Size of Household
NADS	Number of Adults
NSKIDS	Number of School-aged children
NPSKIDS	Number of Pre-school children

VECOWN	Number of Motorized Vehicles Owned
YRSHOME	Years Residency in Home
YRSB	Years Residency in Brockville
SECT	Sector
SEX	Gender
AGE	Age
SEMPLOY	Self-employed
INCOME	Household Income
OCCUP	Occupation
ED	Completed education level
MARIT	Marital status
ACT1	Specific Activity (1)
ACT2	Specific Activity (2)
ACT3	Specific Activity (3)
ACT4	Specific Activity (4)
ACT5	Specific Activity (5)

Appendix G

Example of Cross tabulation Contingency Table

19 APR 90 SPSS-X Release 2.1 for Honeywell CP-6
15:40:57 Carleton University Honeywell CP-6

		CROSS TABULATION OF								
CLUSMEM9		BY INCOME							LEVEL OF INCOME	
CLUSMEM9	COUNT ROW PCT COL PCT TOT PCT	INCOME							ROW TOTAL	
		LESS THAN \$10,000	\$10,001- \$20,000	\$20,001- \$30,000	\$30,001- \$40,000	\$40,001 OR MORE				
1	15.4 17.4 2.4	1	11.3 12.5 1.8	11.3 10.3 1.8	23.1 22.2 3.6	34.6 15.5 5.4			26 15.5	
2	42.9 13.0 1.8		28.6 8.3 1.2	28.6 4.7 1.2					7 4.2	
3	11.4 17.4 2.4	2 5.7 1.2	11.4 16.7 2.4	25.7 31.0 5.4	5.2 7.4 1.2	14 40.0 24.1 0.3			35 20.8	
4	33.3 8.7 1.2			50.0 10.3 1.8		16.7 1.7 .6			6 3.6	
5	6.3 4.3 .6	12.5 28.6 1.2	43.0 29.2 4.2	10.8 10.3 1.8	12.5 7.4 1.2	6.3 1.7 .6			16 9.5	
6	15.8 13.0 1.0		15.8 12.5 1.8	15.8 10.3 1.8	31.6 22.2 3.6	21.1 5.7 2.4			19 11.3	
7	10.7 26.1 3.6	2 3.6 1.2	7.1 16.7 2.4	10.7 20.7 3.6	11 19.6 6.5	27 40.2 46.6 15.1			56 33.3	
8			1 100.0 4.2 .6						1 .6	
9						2 100.0 3.4 1.2			2 1.2	
COLUMN TOTAL	23 13.7	7 4.2	24 14.3	29 17.3	27 16.1	58 34.5			168 100.0	

CHI-SQUARE	D.F.	SIGNIFICANCE	MIN E.F.	CELLS WITH E.F. < 5	
62.56628	40	.0128	.042	42 OF	54 (77.02)
STATISTIC	SYMMETRIC		WITH CLUSTERING DEPENDENT	WITH INCOME DEPENDENT	
LAMBDA	.07009		.05357	.12727	
UNCERTAINTY COEFFICIENT	.10780		.10358	.11238	
SOMERS' D	.13618		.13724	.14514	
ETA			.16721	.34176	
STATISTIC	VALUE		SIGNIFICANCE		
CRAMER'S V	.27272				
CONTINGENCY COEFFICIENT	.52042				
KENDALL'S TAU B	.13618		.0137		
KENDALL'S TAU C	.12917		.0137		
PEARSON'S R	.14057		.0346		
GAHHA	.16891				
NUMBER OF MISSING OBSERVATIONS = 0					

END

1|5|0|4|9 1

FIN