

AN ANALYSIS OF ETHNIC INTRA-URBAN MIGRATION:
THE CASE OF WINNIPEG

by

Bernard D. Thraves

A thesis
presented to the University of Manitoba
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in
The Department of Geography

Winnipeg, Manitoba

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ABSTRACT

This thesis argues that the assessment of individual migration behaviour underlying ethnic residential segregation has constituted a relatively neglected aspect of migration study. The thesis examines the past and prospective migration behaviour of selected ethnic groups residing in Winnipeg, Manitoba. Specific objectives and related hypotheses are linked to: 1) the distance and directional properties of past migration; 2) the determinants of past migration; 3) the designation of most and least preferred residential areas in prospective migration; 4) the appraisal of place attributes in prospective migration; 5) the estimation of migration intentions; and, 6) the forecasting of change in the intensity of ethnic residential segregation. The hypotheses are tested using inferential statistical procedures. Analysis of migration behaviour focuses on: 1) a citywide comparison of six of Winnipeg's principal ethnic groups; and, 2) an intra-district comparison of ethnic groups residing in six areas of distinct ethnic identity.

Findings indicate that few inter-ethnic differences are evident in the spatial biases of past migration behaviour. Thus, distance bias is common to the migration all ethnic

groups, and the respective ethnic core locations appear to have acted as important nodes in influencing the direction of ethnic migration. In addition, few inter-ethnic differences are found in the determinants of past migration. Housing adjustments are identified as the major move determinants of all ethnic groups. Broad similarities in ethnic behaviour are also observed in aspects of prospective migration. Each ethnic group is characterized by: home community bias in the selection of residential place preferences; positive appraisals in the assessment of most place attributes; and, non-mover bias in the specification of both short and medium-term migration intentions. Also, because of shared home community place preference biases, a major medium-term decrease in the intensity of ethnic segregation in Winnipeg is not expected.

These findings suggest that the experience and expectations of ethnic migration are characterized by relatively few inter-ethnic differences in behaviour. Where differences in behaviour are confirmed, these differences tend to involve groups with distinctive segregation, income or urbanization (familism) characteristics. However, the identification of inter-ethnic variation in these characteristics provides a poor basis for predicting differences in ethnic migration. Overall, the findings indicate that the behavioural attributes of ethnic migration activity are less variable than Winnipeg's sustained

patterns of segregation might suggest. Such similarity in behavioural attributes in the absence of integration is consistent with the view that Winnipeg's ethnic groups have experienced acculturation without assimilation.

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Chapter I

INTRODUCTION

This thesis is primarily concerned with the imprint of ethnic groups on the city. Areas of distinct ethnic identity are found in most large cities. In Canada, examples include the predominantly Chinese areas of Vancouver, and the Italian and Jewish districts of Toronto. Change in the distribution of ethnic groups is best accomplished through processes of intra-urban migration. Consequently, in observing the disposition ethnic neighbourhoods the urban geographer is immediately faced with several intriguing questions. In chronological order these might be stated as: 1) when did the ethnic groups first migrate to the city? 2) to what extent have they become integrated by migrating from their original points of settlement? 3) what aspects of migration have given rise to the present distributions of the groups? 4) what factors will influence the future migration of the groups? and, 5) will the future migration of the groups reflect continued integration (or segregation)?

The conventional view of ethnic residence is that segregation will decline in response to intra-urban migration. Despite this, distinctly ethnic neighbourhoods

remain a persistent feature of the city, and it is tempting to ask whether their existence is related to between-group differences in ethnic migration behaviour. Aside from such factors as discrimination in the market place, there are important reasons for believing that ethnic groups may differ in their migration behaviour. The foremost of these reasons is the unequal extent of segregation experienced by each group. In addition, a cursory glimpse at census data indicates that income, tenure and family composition characteristics vary between ethnic groups. On the basis of such variations, one might question whether ethnic groups possess different interests and capacities with respect to migration. For example, do ethnic groups with contrasting levels of segregation exhibit different spatial biases in migration? Similarly, do ethnic groups with contrasting incomes place different stress on aspects of the move environment. Or, do ethnic groups with contrasting tenurial and family status characteristics express different intentions to move?

This thesis is essentially concerned with an exploration of such questions. Hence, its primary objective is to examine selected features of ethnic intra-urban migration. Comparative analysis will focus on the migration behaviour of ethnic groups residing in Winnipeg, Manitoba. More specifically, a retrospective analysis will compare the spatial properties and determinants of recent migration,

whilst prospective analysis will evaluate the residential place preferences, place attribute appraisals and move prospects of intended migrants. A secondary objective is to establish closer linkage between ecological (macro-statistical) and behavioural (micro-statistical) interpretations of ethnic residential structure. The balance of this chapter pursues three related objectives: 1) to outline Canada's immigration history insofar as it has contributed to the formation of a multicultural urban society; 2) to briefly review ecological and behavioural interpretations of intra-urban residential space; and, 3) to present the conceptual framework, and the specific objectives and related hypotheses of the study.

1.1 ETHNICITY, IMMIGRATION AND MULTICULTURALISM

The concept of ethnicity used in this study is identical to that employed by the Canadian census prior to 1981. It refers to the ethnic or cultural group to which a person or his/her male ancestor belonged upon immigration to North America (Statistics Canada, 1972). As such it differs from that used in the United States where only the foreign-born population and their immediate descendants are classified as ethnics or persons of foreign stock. This distinction seems to reflect a basic philosophical difference between the two countries. This is expressed in the assimilative ideal of the United States melting pot and the ethnic pluralism of

the Canadian cultural mosaic or kaleidoscope (Bernard, 1969, pp.100-102; Munro, 1978; Gleason, 1979).

The emergence of ethnic consciousness in Canada can be traced to government policy and public attitudes towards immigration. Following Confederation in 1867, the mainstream of Canadian immigration flowed from Britain and to a lesser extent from northern and western Europe (Gertler and Crowley, 1977, pp.57-61). However, during most of the next thirty years Canada's demographic growth rate was quite modest. Part of this slow growth was attributable to the "false idealization of [British] ethnic homogeneity" which encouraged the onward migration of immigrants to the United States (Bernard, 1969, p.206). This situation changed dramatically during and following the wheat boom of the mid-1890s when, under the Interior Ministry of Clifford Sifton, immigration on a massive scale included substantial numbers from non-traditional source areas such as Poland, the Ukraine, Russia and Scandinavia (Canada, 1971; Elliot, 1979). Moreover, it was during this phase of Canada's immigration history that the rapid settlement of the prairie provinces took place. In the twenty years of intensive immigration prior to World War I Canada's ethnic roots became transformed (Kalbach, 1970, pp.25-33). Regrettably, Sifton's moderately selective immigration policy was the forerunner of the Immigration Act of 1910 and regulations in 1906, 1919 and 1923, each of which increased discrimination

against potential immigrants on the basis of race or ethnicity (Kalbach, 1970, pp.10-17; Canada, 1974; Munro, 1978). After World War I a 'preferred' status clause and 'assisted passages' further ensured that most immigrants were of British or western and northern European origin.

In the first two decades after World War II immigration was encouraged to assist expansion of the national economy. Government policy reflected a desire to appraise potential immigrants on the basis of Canada's 'absorptive capacity' and stressed the occupational skills required in the labour market (Kalbach, 1970; Hawkins, 1972). Successive reforms of the discriminatory elements in Canada's immigration law culminated in the 1967 pronouncement that "discrimination on the basis of race or nationality was [to be] eliminated for all classes of immigrants" (Canada, 1974, p.33). Consequently, the points of origin of Canada's post-war immigrants have become increasingly varied, with significant proportions being drawn from the Caribbean and from parts of the Asian and African continents (Richmond, 1970; Hill, 1976a; Richmond and Kalbach, 1980, pp.59-69). As in previous generations, the post-war immigrants have formed a larger segment of the population (13.5% in 1981) than their counterparts in the United States, and have provided a significant impetus to commercial and residential development in urban areas (Mercer, 1979; Statistics Canada, 1983a). Within the large metropolitan centres distinct

ethnic neighbourhoods have been sustained (Hill, 1976a; Quann, 1979, pp.24-25; Richmond and Kalbach, 1980, pp.183-200).

Despite the history of restrictive immigration measures indicated above, or perhaps because of them, ethnic particularism has prospered in Canada (Wrong, 1955). Moreover, the preservation of cultural or ethnic identities has been assisted by several factors, including: 1) a weak sense of national identity stemming from the uneasy dualism of English-French biculturalism; 2) Canada's quasi-colonial status, monarchical institutions and continued links with Britain (and some resentment of the same); and, 3) the rejection of American ideals of 'enterprise and social equality' insofar as they might hasten Americanization of Canada's frail national identity (Clark, 1964; Porter, 1977). Being a more conservative society than the United States,¹ the assimilative appeal of the melting pot has never been wholeheartedly embraced. Instead, the preservation of individual cultural identities has been viewed as a more practical and harmonious means of accommodating peoples from a diversity of cultural backgrounds (McKenna, 1969). Most recently this willingness to accommodate a diversity of cultural expressions has been witnessed in the 'ethnic revival' and in the federal

¹ Conservative in this context refers to the non-revolutionary political origins of Canada and to the country's refusal to "reject the 'European father' as the Americans have" (McKenna, 1969, p.443).

government's commitment to a "policy of multiculturalism within a bilingual framework"² (Richmond, 1970; Burnet, 1976).

1.2 HUMAN ECOLOGICAL DIFFERENTIATION AND ETHNICITY

Any assessment of the ethnic component in modern urban processes would be incomplete without reference to the pioneering work of Robert E. Park and other members of the Chicago School of sociologists. Drawing on the biotic evidence of relationships in natural ecosystems, the primary concern of the School was to describe the human ecology of urban areas. In Park's (1936) view society was composed of two elements: 1) the biotic, in which the competitive forces and ordering of natural ecosystems were replicated in urban populations by their differentiation into natural areas; and, 2) the cultural, this being the superimposition of norms, values and institutions within the natural areas. The study of natural areas became the major focus of the Chicago School during the 1920s and 1930s (e.g., Zorbaugh, 1926; Wirth, 1928) and they were assumed to occur in all American cities:

² Statement included in Prime Minister Trudeau's address to the House of Commons October 8, 1971 in accepting the recommendations of the Royal Commission on Bilingualism and Biculturalism. These recommendations concerned "the contribution by other ethnic groups to the cultural enrichment of Canada and the measures that should be taken to safeguard that contribution" (Canada, 1970, p.1).

Every city has its central business district; the focal point of the whole urban complex. Every city, every great city, has its more or less exclusive residential areas or suburbs; its areas of blight and heavy industry, satellite cities, and casual labor mart...Every city has its slums; its ghettos; its immigrant colonies... These are the so-called **natural areas** of the city (Park, 1952, p.196).

Moreover, it was Burgess' (1925) attempt to define an orderly spatial framework to fit the processes of ecological interaction between such natural areas which led to his formulation of the now classic concentric zone theory.

The concentric zone theory (model) suggests that the propensity of social groups to move outward or to locate at varying distances from the urban core is a function of socio-economic status and increases in the same. Burgess argued that processes of invasion and succession in natural areas were directly linked to immigrant activity and implied that, given time, ecological assimilation of ethnic minorities would take place:

In the expansion of the city a process of distribution takes place which sifts and sorts and relocates individuals and groups by residence and occupation...[and] invasion of the city by immigrant groups has the effect of a tidal wave inundating first the immigrant colonies, the ports of entry, dislodging thousands of inhabitants who overflow into the next zone, and so on until the momentum of the wave has spent its force on the last most distant urban zone (Burgess, 1925, pp.54,57-58).

The notion of ecological succession through a series of residential zones was subsequently adopted as a basis for describing the residential dispersal and supposed

assimilation of ethnic minorities (Cressey, 1938; Ford, 1950; Kiang, 1968).

The concentric zone theory has been criticized on many grounds, not least for its failure to account for the distorting influences of industrial land uses and inertial community factors (Quinn, 1940). Sectoral (Hoyt, 1939) and multiple nuclei (Harris and Ullman, 1945) models have been advanced to describe alternative land-use configurations reflecting the influence of transportation corridors, topography, high status residential demands and industrial location requirements. But, unlike the concentric zone model, neither of these models is related to a general theory of urban development, and only the multiple nuclei model acknowledges the variation in urban patterning that may result from cultural factors such as ethnicity (Rees, 1970). Despite this, the concept of the natural area has retained relevancy through its resurrection in the guise of social area analysis.

1.2.1 Social Area Analysis, Factorial Ecology and Ethnic Segregation

The terms social area analysis and factorial ecology refer to two macro-analytic procedures employed by human ecologists, geographers and other social scientists to determine the social structure of urban areas. The former procedure involves the classification of urban sub-areas

(census tracts) according to their scores on indices of social rank, urbanization (familism) and segregation (Shevky and Williams, 1949). These indices summarize a small number of socio-economic variables,³ and when cross-matched they provide a typology of sixteen social areas ranging from low social rank/high urbanization status to high social rank/low urbanization status. In turn, each social area may be further differentiated on the basis of high or low segregation status. The observed diversity of social areas is expected to increase with societal scale⁴ (Shevky and Bell, 1955; McElrath, 1968). A rich typology of social areas has been observed in Canadian metropolitan areas (Schwirian and Matre, 1974; Balakrishnan and Jarvis, 1976, 1979).

Despite a variety of criticisms concerning its theoretical justification and practical application (Duncan, 1955; Hawley and Duncan, 1957; Johnston, 1971a), the utility of social area analysis has been confirmed by more sophisticated factorial ecology studies. These studies have

³ The social rank index is based on measurements of occupational and educational status; the urbanization index is based on measurements of fertility, female participation in the labour force, and occupancy rates for single-family dwellings; and, the segregation index is based on the relative isolation of racial and national groups (Shevky and Bell 1955, pp.4,54-58).

⁴ Societal scale refers to the level of development or modernization in a society. It is measured by: 1) the range and intensity of inter-personal relations; 2) the differentiation of economic functions; and, 3) the complexity of organization in society.

extracted factors or components equivalent to the social rank, urbanization and segregation dimensions of social area analysis from data sets containing essentially unlimited numbers of variables (Johnston, 1971a; Rees, 1971). A parallel has also been drawn between factor analytic studies and the classical models of urban residential change. This is expressed in concentric urbanization, sectoral social rank and nucleated segregation patterns. Moreover, ethnicity has been recognized as a major component in the factorial ecology of Canadian metropolitan areas (e.g., Murdie, 1969; Davies and Barrow, 1973).

1.3 INTRA-URBAN MIGRATION

Migration is a fundamental demographic process by which populations experience change in their size, distribution and composition.⁵ Historically, migration has been responsible for global colonization, the spread of civilizations, the displacement of refugees and the advance of urbanization. Some part of these processes still continues in all cultural realms (Beaujeu-Garnier, 1966,

⁵ The 1981 Canadian census indicates that 45.1% of the 1976 population changed their place of residence on one or more occasions between 1976 and 1981 (Statistics Canada, 1983a). During this same period 20.3% of the population moved to a different municipality and 5.1% to a different province. In addition, the overall mobility rate of 45.1% was almost identical to that of the United States population (45.9%) between 1975 and 1980 (U.S. Census, 1982). The changing distribution of Canada's population is discussed in Kalbach and McVey (1979, pp.119-157) and Overbeek (1980, pp.107-112).

pp.167-211; Spengler, 1974, pp.8-10; Gosling, 1979). In numerical terms, however, intra-urban migration constitutes the most significant movement currently involving peoples of the Western industrialized nations (Short, 1978). The concept of intra-urban migration employed in this study refers to any household movement which originates and terminates within the city, and which involves a permanent change of address. This concept is analogous to the term movers, which the census uses to identify persons who relocate to a 'different dwelling' (Statistics Canada, 1972). The concept is distinct from the more restricted use of the term migrant, which is used to identify persons who relocate to a 'different municipality'.

Interest in intra-urban migration has a long tradition. Current migration theory is based on the pioneering work of the Chicago School (McKenzie, 1925; Burgess, 1925), and on the subsequent contributions of economists, sociologists, geographers and other urban specialists (e.g, Hoyt, 1939; Rossi, 1955; Alonso, 1960; Wolpert, 1965; Lee, 1966; Adams, 1969). Since World War II, the provision of census tract data for metropolitan areas,⁶ the introduction of the modern computer and the adoption of the behavioural approach have enabled increasingly more detailed analysis at the micro-scale. The experience of intra-urban migration in the United States has been generalized to other Western

⁶ Census tract data first became available for the United States in 1950 and for Canada in 1951.

industrialized countries, not least Canada.⁷ Consequently, intra-urban migration provides a basis for interdisciplinary research and international comparative study.

Intra-urban migration may be viewed from the standpoint of 'who moves?', 'why do they move?', and to 'where do they move?' (Simmons, 1968). Using this schematic, a brief indication of major theoretical constructs and empirical observations relevant to the present study may be given. This discussion is meant to illustrate rather than exhaust the major themes that intra-urban migration enquiry has addressed during geography's encounter with the behavioural revolution. Major findings with respect to who moves indicate that most moves are made by young households (Rossi, 1955; Short, 1978), and that tenants are more likely to move than homeowners (Rossi, 1955; Pickvance, 1973; Short, 1978). Similarly, individuals of low socio-economic status are more likely to move than higher status individuals (Brown and Holmes, 1971a; Roistacher, 1974). A considerable body of evidence suggests that most moves are precipitated by changes in life-cycle stage and associated changes in the size and type of housing required (Rossi, 1955; Simmons, 1968; Clark, 1970; Michelson 1977; Clark and Onaka, 1983). The prospect of migration increases when

⁷ Short (1978) and Kirby (1983) have cautioned that general theories, models and hypotheses based on the particular experience of migration in North America may be unsuited to countries in which free market mechanisms and private ownership patterns are less prevalent.

satisfaction derived from residence at a given location (place utility) is diminished by residential stress (Wolpert, 1965, 1966; Brown and Moore, 1970). The spatial dimensions of intra-urban migration are largely determined by an individual's awareness space and aspiration region (Brown and Moore, 1970; Horton and Reynolds, 1971).⁸ Resulting migration patterns exhibit distance, direction and sectoral biases with respect to the home location, the Central Business District (CBD) or place of work (Adams, 1969; Whitelaw and Robinson, 1972). These biases also reflect a tendency for migration to take place between areas of similar socio-economic status (Greer-Wootten and Gilmour, 1972; Clark, 1976).

In addition, numerous studies have paid particular attention to the effects that differences in socio-economic status may have on behaviour. Examples include: the examination of spatial bias in search and migration (Herbert, 1973; Humphreys, 1973); the evaluation of neighbourhood perception and preference (Hourihan, 1979a, 1979b); and, the identification of move determinants and

⁸ Awareness space is defined as "those locations within the total urban space about which the intended migrant household has knowledge (or knowledge above some threshold level) before search begins" (Brown and Moore, 1970, pp.7-8). Aspiration region refers to that part of the urban area bounded by "two n-element vectors which represent the lower and upper limits for the set of n dwelling criteria specified by the household at time t" (Brown and Moore, 1970, p.5). Criteria used in defining a household's aspiration region may include dwelling characteristics, location, neighbourhood social status, environmental quality and housing cost.

place attributes (Herbert, 1973; Short, 1977). Despite the 'ethnic revival' in North America and the extensive literature describing the expansion of the black ghetto and white flight to the suburbs (e.g., Lieberman 1963; Morrill 1965; Rose 1972; Varady, 1979; Ward and Sims, 1981), ethnic migration has rarely been made the subject of behavioural enquiry. Notable exceptions have included: the comparative study of Italian and Jewish residential search behaviour in Toronto (Gad et al., 1973); the appraisal of residential preference patterning in black and Mexican-American communities in Los Angeles, California (Clark and Cadwallader, 1973a); the evaluation of move determinants in the evolution of the Italian community in Bedford, England (King and King, 1977); and, an examination of spatial bias in the initial dispersal patterns of British and Southern European immigrants in Melbourne, Australia (Humphreys and Whitelaw, 1979). In many instances the effects of ethnic status on migration are alluded to, but corroborative evidence is not presented (Adams, 1969; Horton and Reynolds, 1971; Whitelaw and Robinson, 1972). This omission is intriguing in view of the obvious contribution that distinctly ethnic neighbourhoods have made to the ecology of Western industrialized cities, and, more particularly, to the ecology of Canadian cities.

Evidence of the continuing importance of ethnic status in the ecology of Canadian cities is provided by several

indicators. First, both social area analyses (Schwirian and Matre, 1974; Balakrishnan and Jarvis, 1979) and factorial ecologies (Murdie, 1969; Davies and Barrow, 1973) have assigned significant roles to ethnic variables in their descriptions of social space in Canadian cities. Second, after exhibiting a general tendency towards ecological assimilation between 1951-1961 (Balakrishnan, 1976), most Canadian cities have since exhibited increases in ethnic residential segregation (Hill, 1976a, 1976b; Balakrishnan, 1982). Third, Canada's largest cities remain major foci for immigrants, and have experienced consequential increases in their ethnic diversity (Hill, 1976a). Finally, federal and provincial government commitments to multicultural programmes are in part a recognition of the vitality of the ethnic factor in Canadian cities.

1.4 CONCEPTUAL ORGANIZATION OF THE STUDY AND STATEMENT OF OBJECTIVES

The central purpose of this study is to examine aspects of ethnic migration behaviour which contribute to ethnic ecological structure. More specifically, the enquiry focuses on the migration behaviour of ethnic groups residing in Winnipeg, Manitoba. Each resident occupies a location in the city's ecological structure. This location is the product of past migration within individual behavioural space (Figure 1). Past migration is comprised of spatial and determinate characteristics. Spatial characteristics

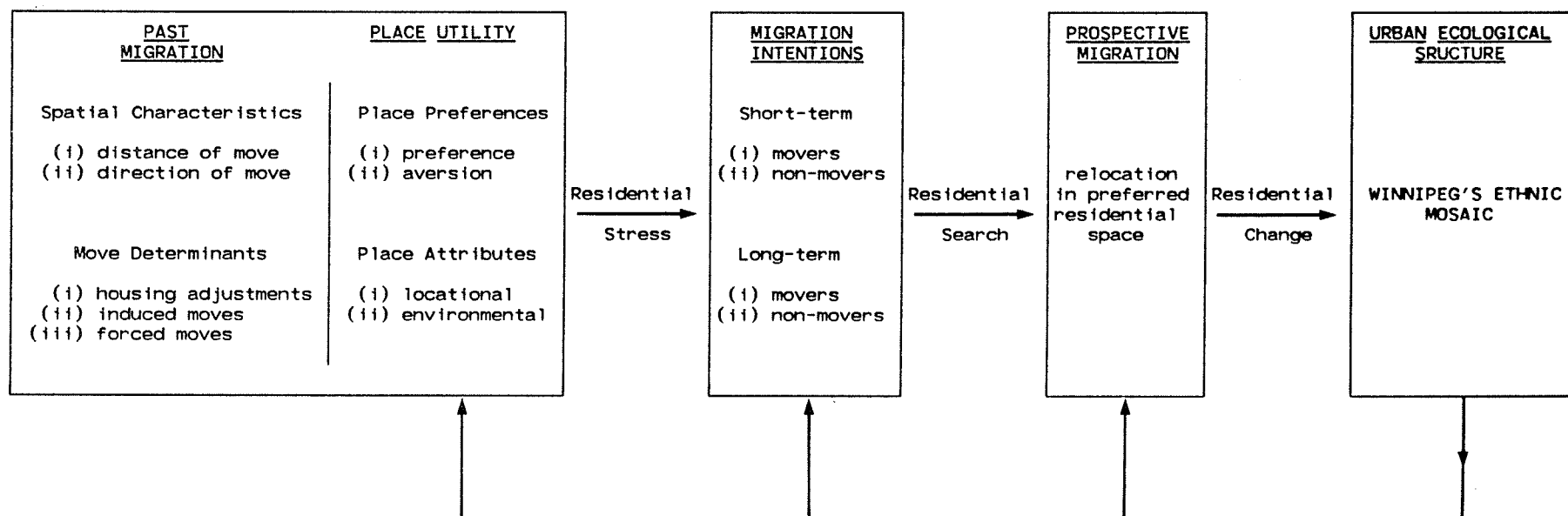


Figure 1: CONCEPTUAL RELATIONSHIP BETWEEN INTRA-URBAN MIGRATION AND URBAN ECOLOGICAL STRUCTURE

are influenced by such factors as the migrant's knowledge of the urban area, the availability and location of housing opportunities, and market constraints. Conventionally, the distance of migration is measured between the origin and destination points of the move. The direction of migration is measured with respect to a selected orientation node, usually the CBD. Because of the ethnic perspective adopted in this study, the central locations of Winnipeg's ethnic cores are selected as orientation nodes. The determinants of past migration are expressed by such factors as housing adjustments, induced moves (life-cycle changes) and forced moves.

Prospective migration activity is dependent on the level of satisfaction derived from residence at the current location. Satisfaction is expressed in terms of place utility. Place utility is based on the appraisal of place preferences and place attributes. Residential preference is normally associated with near and familiar locations. Conversely, distant and unfamiliar locations are usually identified as areas of residential aversion. Place attributes emphasize the accessibility and environmental features of location. Accessibility is concerned with proximity to social contacts and urban services. Environmental features stress qualitative aspects of urban location. Place utility is maximized at the current location when all alternative locations in the city are

perceived to offer less satisfaction, or when the additional utility to be gained at some alternative location is insufficient to overcome the inertial characteristics of the current location.

Residential environments are rarely perfect in all respects. Disutilities exist which are tolerated providing that overall utility remains high. Examples of disutilities include inadequate living space or excessive distance from the workplace. Disutilities are expressed in terms of residential stress and result in the formation of intentions to move. Short and long-term migration intentions can be identified. Migration intentions remain minimal as long as place utility derived from residence at the current location is high. Conversely, migration intentions tend to increase in proportion to experienced residential stress. On this basis a distinction can be made between potential movers and non-movers.

The decision to move leads to a search of residential opportunities. Under normal circumstances search takes place within an area defined by the individual's awareness space and aspiration region. The aspiration region approximates all localities which satisfy the place preference and place attribute requirements of the individual. Migration is the product of successful search. Relocation takes place within preferred residential space and causes a permanent change in the behavioural environment

of the individual. The sum of all such individual changes in environment produces change in the ecological structure of the city.

This study reviews Winnipeg's emergence as one of Canada's most ethnically diverse and segregated urban communities. A field survey is conducted to record the migration experience and expectations of persons belonging to ethnic groups which are representative of the city's ethnic mosaic. The specific objectives of the study are:

1. to establish whether spatial bias in ethnic migration patterning differs according to the segregation status of the ethnic group;
2. to establish whether the move determinants of migrants differ according to their ethnic group membership;
3. to establish whether spatial bias in place preference appraisal differs according to the segregation status of ethnic migrants;
4. to establish whether place attribute appraisals differ according to the economic status of ethnic migrants;
5. to establish whether migration intentions differ according to the urbanization status of ethnic migrants; and,
6. to establish whether the fulfillment of migration intentions in accordance with expressed place preferences will lead to change in the intensity of residential segregation.

Each of the above objectives is associated with one or more hypotheses. The hypotheses pertaining to migration patterning are:

- i) that distance bias in migration is greater for relatively segregated ethnic groups;
- and,
- ii) that ethnic core directionality in migration is greater for relatively segregated ethnic groups.

The hypothesis associated with move determinants is:

- iii) that move determinants differ between ethnic groups.

The hypotheses concerning residential place preferences are:

- iv) that home community residential preference bias is greater for relatively segregated ethnic groups;
- and,
- v) that distant community residential aversion bias is greater for relatively segregated ethnic groups.

The hypotheses concerning place attributes are:

- vi) that more importance is attached to accessibility attributes by lower economic status ethnic groups;
- and,
- vii) that less importance is attached to environmental attributes by lower economic status ethnic groups.

The hypothesis pertaining to intra-urban migration intentions is:

- viii) that the likelihood of moving is greater for more urbanized ethnic groups.

The hypothesis pertaining to residential segregation is:

- ix) that prospective ethnic migration will not change the the intensity of ethnic segregation.

These hypotheses are tested on data describing the experience and expectations of intra-urban migrants in Winnipeg, Manitoba. As far as possible, hypothesis testing

takes two forms: 1) a citywide analysis which focuses on the migration characteristics of the principal ethnic groups;⁹ and, 2) a district or area level analysis which compares the migration characteristics of the representative and combined non-representative groups¹⁰ in six areas of distinct ethnic concentration.

Discussion in Chapter II focuses on voluntary and involuntary processes affecting the ethnic ecological structure of Western industrialized cities. The behavioural aspects of intra-urban migration which contribute to ethnic ecology are then reviewed. The relevance of the present study to existing theory is discussed. Chapter III assesses recent change in the dimensions of Winnipeg's ethnic ecology. Recent trends in the city's housing market are described. Chapter IV refocuses on the specific objectives of the study and on the generation of hypotheses. The composition of the field questionnaire, respondent sampling frame and procedures undertaken during the field survey are outlined. Chapter V presents the test results for the hypotheses concerning past migration behaviour. Prospective

⁹ The term principal does not refer to the size of the groups being studied, but is used throughout the thesis in referring to the diversity of the city's ethnic structure as typified by the British, Chinese, French, German, Italian and Ukrainian ethnic groups.

¹⁰ The term representative refers to the ethnic group with the highest index of locational concentration. Non-representative status refers to persons belonging to ethnic groups other than that with the highest index of concentration. This index is described in Chapter IV.

migration behaviour is then examined in Chapter VI. Finally, Chapter VII provides a summary of the main conclusions of the study and draws attention to their implications for future ethnic migration research. Potential avenues for further enquiry and improvement of the research design are indicated.

1.5 SUMMARY

The primary objective of this thesis is to examine selected features of ethnic intra-urban migration. Analysis is to concentrate on: 1) the spatial biases and determinants of past migration; and, 2) the place preferences, place attribute appraisals and migration intentions of prospective migration. A secondary and related objective is to establish closer linkage between ecological (macro-statistical) and behavioural (micro-statistical) interpretations of the city's ethnic residential structure. Discussion in this chapter focuses on Canadian immigration history and the associated emergence of a multicultural urban society. Recognition is given to the role of social area analysis and factorial ecology in stressing ethnicity's contribution to urban ecological differentiation. A generalized explanation of intra-urban migration is presented. The virtual absence of ethnic considerations in micro-statistical/behavioural analyses of intra-urban migration is noted. Finally, the conceptual

framework and specific objectives of the study are presented. Research hypotheses are expressed for each objective.

Chapter II

LITERATURE REVIEW

This chapter focuses on the context of residential change in Western industrialized cities. Discussion is presented in two sections. In the first section, discussion focuses on factors which contribute to the persistence of ethnic segregation. The second section examines major themes in the behavioural literature concerning the patterning, determinants and expectations of intra-urban migration. Special attention is drawn to instances in which the migration behaviour of ethnic groups has been assessed. The place of the study within the literature is then stated.

2.1 ETHNIC SEGREGATION IN WESTERN INDUSTRIALIZED CITIES

In defending the ethnic revival in American cities, Kantrowitz (1981, pp.43,54) has criticized politicians and the academic community for suggesting that "ethnic segregation is non-existent or vestigial", or, that where present, it is necessarily "bad". More generally, the intensity and persistence of ethnic segregation in Western industrialized cities is related to the operation of choice and constraint factors in residential selection. Constraints on ethnic residence are indicated where

segregation is maintained by economic or social class factors, by discrimination in the housing market, and by the managerialist practices of housing institutions. Customarily, residential choice is expected to lead to ethnic integration. Less usually, ethnic groups may remain highly segregated through the exercise of self-imposed constraints. The individual and combined effect of these factors makes difficult the formation of an all embracing model of ecological change. Moreover, the stability of ethnic neighbourhoods has confounded the standard assumption that ethnic dispersal and integration will accompany increases in social status (Burgess, 1925).

2.1.1 Social Class Constraints and Marxist Theory

Segregation in ethnic residence has been attributed to economic and social class factors. For instance, Galvin (1974) has suggested that the dissimilar residential distribution of southern and northern Europeans in Newcastle, Australia may be explained in part by their contrasting cultural backgrounds, educational attainment and work skills. Typically, the northern Europeans have originated from urban communities, are highly skilled and seek suburban locations. In contrast, southern Europeans from predominantly rural communities have become 'urban villagers' working in mostly unskilled occupations. Drewe et al. (1975) have observed similar distinctions in the

distribution of foreign worker communities in Rotterdam, Holland.

The relationship between social class and ethnic segregation is expressed in studies which pursue a Marxist tradition (Harvey, 1973; Castells, 1977). Marxist theory argues that individuals are born into antagonistic classes and that societal development is dependent on class struggle. Class status is largely determined by the individual's status with respect to the means of production. Within the realm of urban housing the actions of government and financial institutions create a basis for class-monopoly power (Harvey, 1974). In turn, the operation of class-monopoly power creates 'consumption classes' and 'distributive groupings' which are broadly identical to the production classes of the labour market:

If the dynamic of urbanization is powered by financial and governmental institutions, mediated by speculator-developers and speculator-landlords in pursuit of class monopoly rent, and necessitated by the over-riding requirement to reproduce the capitalist order, then distinctive 'consumption classes', 'distributive groupings' or even 'housing classes' may be produced at the same time (Harvey, 1974, p.250).

In specific terms this means that the most desirable housing and greatest amenities are enjoyed by production classes which can afford to pay the highest monopoly rents (Harvey, 1973, pp.134-135). Typically, these rents are paid to speculator-developers for the purchase of suburban property. Conversely, the worst housing and fewest amenities are

experienced by the lowest production classes. By virtue of their lowly position, these classes reside in central city locations and pay class-monopoly rents to speculator-landlords.

Based on these relationships Marxists argue that ethnic segregation is the outcome of class struggle. For example, the highly segregated nature of the black ghetto in the United States is thought to reflect the position of blacks at the base of the class system (Harvey, 1973, pp.130-144; Castells, 1977, p.108). A similar perspective is presented by Shah (1979) to account for the segregation of Asians in London's East End. Consequently, segregation is viewed as the outcome of underlying social, economic and political relationships rather than the basis for social analysis:

the phenomenon of segregation does not constitute a problem 'to be explained', but is itself the 'explanation' or 'proof' of the interactions and determinations of the economic, political ideological structures (Shah, 1979, p.357).

The Marxist view of residential segregation is widely contested. Peach (1981), for example, argues that:

not all of worst class housing is occupied by Blacks; [and] not all Blacks are in the lowest position in society...Ethnic groups do not exist in any society independently of the class system or of the modes of production. However, this is not to say that their position in the class system or relative to the modes of production is the dominant factor in their ethnicity (Peach, 1981, p.31).

Much the same point is made by Jackson (1981) who notes that Puerto Ricans remain less segregated than blacks despite

their lower socio-economic status and more recent migration to urban areas. Similarly, Darroch and Marston (1971) have argued that the residential segregation of Toronto's ethnic groups is poorly explained by variations in their socio-economic status. Instead, they suggest that differences in residential patterning also require explanation in terms of variables which are more characteristically 'ethnic' in type. But in presenting this conclusion they add that:

There is inadequate information about the nature of these ethnic variables, and even less is known about the specific manner in which they are translated into the status rankings of ethnic populations and ultimately into the direct impact of voluntary and discriminatory processes of residential segregation (Darroch and Marston, 1971, p.509).

These studies form just part of an expanding body of literature which indicates that segregation in both black and white ethnic groups may persist despite increases in social status (Firey, 1945; Glazer and Moynihan, 1963; Kantrowitz, 1973, 1981; Bleda, 1978). Glazer and Moynihan (1963), for instance, have argued that the psychological need for reference groups contributes to the survival of ethnic neighbourhoods. Other studies note that institutional completeness is important in maintaining ethnic solidarity (Driedger and Church, 1974; Dahya, 1974; Phillips, 1981). In many instances, however, the persistence of segregation may simply reflect various aspects of discrimination in the housing market (Kain and Quigley, 1975, pp.56-91; Rex, 1981). Discrimination imposes

restrictions on the aspiration regions of ethnic groups and is reflected in reduced rates of dispersal and integration. Such restrictions are most evident where ethnic minorities are visibly different from the dominant or longer established groups (e.g., Morrill, 1965; Curson, 1975; Cater and Jones, 1979; Ward and Sims, 1981).

2.1.2 Managerial Constraints

Managerialist constraints on ethnic residence may be observed in the 'gatekeeping' practices of public housing authorities, mortgage agencies, real estate companies and municipal planning boards (Pahl, 1975). In Britain, for instance, public housing is allocated not only according to needs, but also on the basis of prior residence in public housing within the community. This regulation tends to discriminate against immigrant groups which are newly arrived in the community (Collison, 1967; Cullingworth, 1969; Smith and Whalley, 1975; Gray, 1976; Rex, 1981). In addition, local authority housing officers are in a position to determine who is eligible to move both into and between properties in the public sector. Part of the eligibility criteria is based on a subjective assessment of the intended migrant's suitability or status (Bird, 1976; Gray, 1976; Parker and Dugmore, 1977). The most suitable or highest status tenants are treated preferentially, and are more likely to be offered property in preferred residential

areas. Conversely, undesirable or low status tenants are refused permission to move, or are directed to the oldest and least desirable housing developments. Under such circumstances the actions of the public housing authority tend to:

accentuate the social and spatial contrasts between classes: the worst-off groups in the city are increasingly spatially segregated in the poorest council estates and the contracting private-renter sector, whilst the most privileged (and generally higher class) council tenants tend to be concentrated in the newer high-status estates elsewhere in the city (Gray, 1976, p.44).

In post-war Britain these practices have translated into an institutionalized discrimination against black immigrants from the New Commonwealth (Parker and Dugmore, 1977; Taper 1977). Denied equal access to public housing, immigrant groups with low or modest incomes seek out the least expensive accommodation in the owner occupier and private rental markets. This exposes them to the substandard housing of old and decaying inner city neighbourhoods. Owner occupied properties in these areas are often denied mortgage funds (i.e., redlined), or are granted funds with unfavourable repayment terms (Rex and Moore, 1967; Williams, 1976, 1978).¹¹ In an attempt to improve their market position members of the immigrant group may pool their

¹¹ The redlined areas of cities in the United States tend to be coextensive with major areas of black residence (Bradford and Rubinowitz, 1975). Redlining has been strictly illegal since the 1960s, but proof of discriminatory practices remains difficult to establish (Greenberg, 1975; Kantor and Nystuen, 1982).

housing resources. Evidence of this solution is observed in the relatively large number of extended family households among immigrant communities.¹² Whilst this solution may enable the group to purchase better quality housing, its net effect is to increase immigrant crowding and reduce personal amenity. When the practice is widespread, the immigrant group becomes increasingly segregated from members of the host society and from other immigrant groups.

Difficulties experienced in obtaining housing exposes ethnic minorities to the discriminatory practices of real estate agents. The most obvious example of discrimination occurs when households are steered towards or away from certain parts of the housing market. In certain instances steering may be well-intentioned, as when ethnic estate agents direct their clients to the conflict avoiding environments of ethnic neighbourhoods (Robinson, 1979; Cater 1981). At other times steering may be designed to protect the interests of the status quo. This is achieved by directing clients away from the high status neighbourhoods of the dominant group (Barresi, 1968; Helper, 1969; Hatch, 1971; Phillips, 1981; Rex, 1981). Regardless of which practice is dominant, the net result is much the same: the residential choices of the ethnic minority are severely restricted, and the processes of residential dispersal and

¹² Extended family households may also reflect the traditional living arrangement of the immigrant group (Dahya, 1974; Simmons, 1981).

integration are impeded.

A less obvious form of institutional discrimination affecting ethnic minorities is observed in the process of gentrification. Gentrification is usually initiated by individual property owners or speculative interests in the real estate industry (Black, 1975), but grants from public authorities and tax incentives may form important stimuli (Hamnett, 1973; Legg and Allen, 1984). To some, the process is symptomatic of the uneven development (investment and disinvestment) in the capitalist mode of production (Harvey and Chatterjee, 1974; Smith, 1982; Smith and LeFaivre, 1984). Typically, gentrification involves the renovation of old, though substantial, properties in inner city neighbourhoods. Before renovation these properties provide relatively inexpensive rental accommodation for low income residents, many of whom belong to ethnic minorities (Gale, 1979; Lang, 1982, pp.5-28; Smith and LeFaivre, 1984). Following renovation, tenants can no longer afford the higher rents and are forced to relocate within an inferior and shrinking stock of low income housing (Rosenberg, 1978; Reinhold, 1979). Persons moving into the renovated property are usually comprised of high income white households. Consequently, those who benefit from gentrification include: the real estate companies that make financial gains; the new property owners and tenants who occupy the renovated housing; and, the urban municipality that prospers from an

improved housing stock, higher real estate taxes and increased levels of consumption in the local economy. The losers in this process are the increasingly segregated minority populations and society at large, which must bear the costs of alienated minorities (Davis and Van Horne, 1975). In the United States, examples of gentrification involving the displacement of ethnic minorities are found in most large cities (e.g., Georgetown, Washington D.C. and Reservoir Hill, Baltimore). In Britain, examples involving ethnic displacement have been observed in Islington, London (Williams, 1976). Gentrification has also been observed in Canadian cities, but its appearance here is considered part of a continuous programme of redevelopment and reinvestment in the inner city, rather than an aspect of uneven development (Ley, 1984).

Constraints on ethnic residence may also be observed in the actions of municipal planning boards. Urban renewal and highway development projects have been major causes of household displacement in inner city ethnic neighbourhoods (Gans, 1966; Hartman, 1966, 1979; Hawley, 1981, pp.275-277). A more subtle, but equally important impact on ethnic residence stems from the widespread adoption of exclusionary zoning. The effect is best observed in the newly incorporated suburbs of American cities. Incorporated status provides suburbs with the legislative powers to control development and thereby preserve their social class

basis (Hughes, 1975; Danielson, 1976; Johnston, 1981). Control is achieved through the adoption of zoning standards which stress minimum lot sizes, maximum development densities and assorted regulations designed to prevent the construction of low cost housing. Consequently, the suburban housing opportunities of low income groups are greatly restricted. As many of the lower income groups in United States cities are identified with ethnic minorities (particularly blacks), the net effect of exclusionary zoning is to reinforce existing patterns of segregation. More specifically, exclusionary zoning restricts the ability of blacks to move to the suburbs and contributes to black ghettoization in older inner city areas (Harvey, 1973, p.136). Further, because the United States Supreme Court has found no grounds to over-rule municipal zoning policies, exclusionary zoning practices may be of lasting consequence to the ethnic structure of American cities (Johnston, 1981).

2.1.3 Self-Imposed Constraints as Choice

Self-imposed constraints on ethnic residence are illustrated in Jakle and Wheeler's (1969a; 1969b) study of Dutch immigrants in Kalamazoo, Michigan, and in King and King's (1977) review of Italian residents in Bedford, England. Both studies suggest that choice is instrumental in enabling the development of communities which are highly segregated despite their sophisticated social and economic

status. Perhaps the best example of this phenomenon is observed in the survival of Jewish enclaves in North American cities (Boal, 1976). Choice may also explain the segregation of ethnic groups which are visibly different from their host societies. For instance, the segregation of Asians in British cities has been attributed to self-imposed austerity measures, the ultimate purpose of which is to improve the immigrant's economic standing in the country of origin (Dahya, 1974; Robinson, 1979; Phillips, 1981).¹³ An austere lifestyle in Britain enables the immigrant to send remittance money to the homeland, and to save for his eventual return. Under such circumstances the Asian immigrant is interested in minimizing his investment in the housing market whilst maximizing his return on this investment. This is best achieved by purchasing the older and less expensive inner city housing which is suited to subletting. Hence, the 'overcrowding' observed in immigrant properties may reflect sound economic and cultural goals rather than competitive disadvantage in the housing market.

In certain instances the viability of ethnic communities is maintained by processes of chain migration¹⁴ from areas

¹³ Britain's Asian communities exhibit considerable internal cultural variation. This variation is reflected in separate patterns of residence for distinctive national origin and religious groups. The internal sorting of Asian communities is cited as further evidence of social choice in housing (Phillips, 1981; Simmons, 1981).

¹⁴ Chain migration is defined as "that movement in which prospective migrants learn of opportunities, are provided with transportation, and have initial accommodation and

of marked regional identity within the country of origin. Chain migration of this type has been observed in Auckland, New Zealand (Curson, 1970; 1975), Melbourne (Stimson, 1970; Burnley, 1976) and Sydney (Burnley, 1972), Australia and Detroit, Michigan (Carlson, 1977). In each of these cities, the classical model of ecological succession has been disrupted by chain migrants variously moving to live with kin in both inner city and suburban neighbourhoods.

2.2 SPATIAL BIAS IN INTRA-URBAN MIGRATION AND RESIDENTIAL PREFERENCE

2.2.1 Mental Maps, Search Space and the Patterning of Migration

One of the most intensively researched aspects of recent migration has concentrated on the manner in which personal knowledge of the environment influences the spatial components of migration behaviour. More specifically, Adams (1969) has argued that individual migration behaviour is associated with the development of sectorally confined mental maps of the city. These maps are formed by habitual travel patterns occurring between an individual's place of residence, the CBD and the urban fringe. According to Adams, restricted mental maps of this type are responsible for short-distance, sectorally-confined moves which are directed towards or away from the CBD.

employment arranged by means of primary social relationships with previous migrants" (Boal, 1976, p.48).

In related work, Brown and Moore (1970) have provided a conceptual framework to explain processes of spatial bias. They argue that an individual's search space (for housing) will be contained within an awareness space and will be governed by the environmental and locational satisficers of an aspiration region.¹⁵ Awareness space resembles Wolpert's (1965) notion of action space, this being:

that part of the limited environment with which the individual has contact such that the perceived state of the environment is the action space within which individuals select to remain or, on the other hand, from which to withdraw in exchange for a modified environment (Wolpert, 1965, p.163).

Qualified support for Adams' spatial bias hypothesis has been provided in numerous discussions of mental map imagery, search behaviour, and migration patterning (Horton and Reynolds, 1971; Johnston, 1971b; Brown and Holmes, 1971a; Donaldson and Johnston, 1973; Donaldson, 1973). Most of these studies have focused on behaviour under free market conditions, but spatial bias has also been observed in the migration intentions and constrained choices of persons residing in housing units administered by public (local government) authorities (Bird, 1976; Ford and Smith, 1981). Where criticism of Adams' hypothesis has arisen, it has tended to stress: 1) that spatial biases in urban imagery and related migration patterns are unequally possessed by different socio-economic groups; 2) that nodes other than

¹⁵ Awareness space and aspiration region are defined in footnote 8, page 14 (Chapter I, Section 4).

the CBD act as important influences in guiding migration behaviour; and, 3) that residential search is not always restricted to personal awareness space.

Several studies have indicated that residential search and potential destination environments are restricted by migrants' aspiration regions (Brown and Moore, 1970; Johnston, 1970; Herbert, 1973; Short, 1977). In essence, distance and directional bias in residential search are related to spatial variation in the price structure of the real estate market (Whitelaw and Gregson, 1972). Consequently, most intra-urban migration appears to take place between areas of identical (or similar) socio-economic status (Goldstein and Mayer, 1961; Whitelaw and Robinson, 1972; Moriarty, 1974; Clark, 1976; Short, 1977; O'Loughlin, 1980).

The influence of alternative orientation nodes¹⁶ is presented in Whitelaw and Robinson's (1972) study of residents in Melbourne, Australia. This study found that the commuter axis between the home and workplace location was a better indicator of directionality in migration than the CBD axis. Whitelaw and Robinson added, however, that as socio-economic status increased, the apparent influence on migration of both locations tended to diminish. Other evidence suggests that directional bias is relatively

¹⁶ Brown and Holmes (1971a, p.107) define the orientation node as "a location that is functionally important to the migration process".

unimportant in small cities where the entire housing market is well known to the migrant (Brown and Holmes, 1971a), or in instances where migration is confined to central parts of the city (Clark, 1971).

McCracken (1975) has argued that, because house purchase is such a critical form of expenditure, many residents may find it desirable or necessary to extend their residential search spaces and subsequent relocations to areas deemed beyond the limits of their awareness spaces. Similar modifications to search space may be required by newly arrived migrants who are unfamiliar with the local urban setting, and by persons who have been recently evicted or forced to move. Barrett's (1973) evaluation of migration in Toronto found that only 70% of searches were confined within personal awareness spaces. Despite this, Barrett indicated that most migrants exhibit a low intensity-highly clustered search pattern in which search is restricted to relatively few housing vacancies within a restricted area of the city. Moreover, intensification and clustering of the vacancy set is particularly evident in the search behaviour of ethnic minorities.

Whereas the segregated status and ecological succession of ethnic minority groups are described in an extensive body of literature (e.g., Cressey, 1938; Ford, 1950; Lieberman, 1963; Kantrowitz, 1973; Balakrishnan, 1982), direct discussion of the behavioural basis of spatial bias in

ethnic migration patterning is limited to a small number of studies (Ziegler and Richmond, 1972; Gad et al., 1973; Humphreys and Whitelaw, 1979; Waterman, 1981; Cronin, 1982).¹⁷ For instance, Waterman's (1981) study of Dublin's Jewish community found that their migration patterns were distance biased (80% of moves were under 3 km), sectorally-confined and directed away from the ethnic core location. Through time, however, these biases became less pronounced. Waterman attributed this change to two factors: 1) an increase in inter-suburban moves within an expanded awareness space; and, 2) decline in the community's religiosity and institutional completeness.

The study by Gad et al. (1973) is instructive insofar as it offers a comparison of the spatial biases attending the residential search of two ethnic groups, namely, the Italian and Jewish communities of Toronto. This study revealed quite different awareness and search spaces for the two groups, despite the fact their residences were located within the same sample area. For example, whilst the search spaces of both groups were directed away from the CBD, each search was confined to a different sector, and greater distance bias was associated with the Jewish search. Gad et al. argued that the greater spatial bias of the Jewish search space was related to the group's interest in

¹⁷ Numerous studies make passing reference to the spatial biases induced by ethnic/segregation status (e.g., Horton and Reynolds, 1971; Whitelaw and Robinson, 1972).

maintaining strong social, cultural and economic ties.¹⁸

A further comparison of ethnic migration bias is provided by Humphreys and Whitelaw's (1979) study of immigrant dispersal patterns in Melbourne, Australia. In this case, the distance, directional and sectoral biases of recent Southern European immigrants were observed to be greater than those of British immigrants. Tentative explanations for these biases included: 1) the drawing power of pre-existing ethnic neighbourhoods; 2) the slowing of environmental learning induced by the greater social distance and alienation of the Southern Europeans from the host community; and, 3) the concentration of preferred forms of housing in the inner city.

2.2.2 Residential Desirability and Place Preference Patterns

Discussion in the preceding section argued that intra-urban migration patterns are influenced by the biases existent in residents' mental maps/awareness spaces/action spaces. It was also noted that residential choice may be severely limited by the environmental and locational strictures of the aspiration region. Similar findings to these have also been produced in studies of residential desirability and place preference, though the emphasis of

¹⁸ This finding is consistent with studies which confirm the continuing vitality of the ethnic factor in urban residence (e.g., Firey, 1945; Glazer and Moynihan, 1963; Kantrowitz, 1981).

such studies has usually been directed at **prospective** rather than **past** migration.

Place preference studies such as these have been conducted at national (Gould, 1966, 1975; Gould and White, 1968, 1974; Johnston, 1970) and urban (Johnston, 1971b, 1972; Clark and Cadwallader, 1973a; Everitt, 1973; Cadwallader, 1978; Hourihan, 1979a, 1979b) scales. A finding common to many of these studies has been a distance decay function in which the home location (state, city or neighbourhood) and adjacent areas are preferred over more distant locations. In addition, all persons tend to regard certain locations as preferred areas (perceptual highs) irrespective of their distance. For example, localized preference domes based on "flows of information, immediate experiences and local affinities" have been identified in a nationwide study of residential choice patterns in Britain (Gould and White, 1968, p.168). These localized domes were superimposed upon a national preference surface in which the English South Coast (favoured) and English Midlands (disfavoured) were frequently placed at opposite ends of the residential preference spectrum. Preference surfaces with similar distance decay functions and localized preference domes have been reported for the United States, Sweden and Nigeria (Gould and White, 1974).

At the urban scale, Johnston (1971b) has examined the supposed causal relationship between mental maps and place

preference patterns. He demonstrated that the social status and desirability (preference) ratings of suburban communities were highly correlated. Biased mental maps were suggested by residuals (of greater than 0.5 standard error) which emphasized 'above status' ratings for home sector locations and 'below status' ratings for locations in other sectors. On this basis, Johnston (p.68) concluded that residents' perceptions are "spatially constrained by the sector of the city in which they live...[and that]...Adams' assumptions in generalizing on urban residential patterns may have been valid". Additional evidence supporting the existence of strong relationships between migrants' residential familiarity scores and sectoral migration bias is provided by Donaldson and Johnston (1973). More recently, Cadwallader (1979) has confirmed Johnston's (1973) claim that households evaluate residential neighbourhoods on the basis of their: 1) physical characteristics, 2) social characteristics, and, 3) location. Cadwallader adds, however, that each of these evaluative dimensions is stressed to varying degrees in assessing different neighbourhoods.

Houriha (1979a) has used multidimensional scaling (MDS) techniques in arguing that individuals identify residential neighbourhoods first and foremost in terms of their social status, and then in terms of their familiarity and housing

style.¹⁹ This form of perceptual bias was most associated with affluent young families and single adults, these being groups whose friendship networks tended to extend beyond their own neighbourhoods. Conversely, lower status residents had more restricted friendship networks and were more likely to perceive neighbourhoods in terms of familiarity rather than social status. Moreover, this distinction in perceptual images of the city was translated into the place preference assessments of the status groups (Hourihan 1979b). Thus, the place preferences of higher status residents were closely related to high status neighbourhoods, whilst those of lower status residents were linked to familiar neighbourhoods. This difference was particularly noticable when preferences were elicited under the assumption of constrained (income dependent) migration behaviour. The restrictions imposed on the place preferences of lower socio-economic status groups have also been noted by Whitelaw and Robinson (1972):

Perhaps the most important conclusion which could be drawn from such results was that, as in the contemporary moves, the stated preferences revealed significant differences between the status groups. Such results must be indicative of the care needed in any future studies not to treat all migrants as undifferentiated (Whitelaw and Robinson, 1972, p.191).

¹⁹ Social status in this instance was expressed in terms of housing price, environmental attractiveness, residential stability and suitability for raising children.

Clark and Cadwallader (1973a) have suggested that the mapping of residential preferences, rather than census tract measures of ecological variables, may provide a more appropriate basis for explaining intra-urban activity patterns. For instance, when Los Angeles, California, residents were asked to list their preferred living environments, they invariably assigned their first preferences to home neighbourhoods and their second preferences to familiar adjacent areas. Distinctive preference patterns were associated with different income and ethnic groups. In the latter case, both blacks and Mexican-Americans displayed high levels of correlation between their existing and preferred residential locations. This phenomenon was attributed more to the strength of ethnic ties and the prevalence of active discrimination, than to shortages of affordable property in more distant neighbourhoods.²⁰ This view is supported by Logan and Collver's (1983) MDS analysis of neighbourhood evaluation in Los Angeles. These results indicated that evaluation was based not only on socio-economic status, proximity, urban-rural and population aging dimensions, but also on the basis of racial composition. From this it may be inferred that, if intra-urban migration were to correspond to the residential preferences of the individual ethnic communities, the patterning and intensity of ecological

²⁰ Income differentials have been shown to account for only a minor part of ethnic segregation patterns (Lieberson, 1963; Taeuber, 1968; Darroch and Marston, 1971).

differentiation would be slow to diminish.

2.3 MOVE DETERMINANTS AND PLACE ATTRIBUTES IN INTRA-URBAN MIGRATION

In behavioural geography, a complex of terms exists to describe the processes whereby potential migrants evaluate their home environments and those of other locations, balance their migration needs against their abilities to migrate, and then translate these needs into actual migrations or continued residence in the home locations. As such, the determinants of intra-urban migration are explained in terms of place utility (Wolpert, 1965; Brown and Moore, 1970; Brummell, 1979), residential stress (Wolpert, 1966; Clark and Cadwallader, 1973b; Clark, 1975; Brummell, 1981), push-pull factors (Lee, 1966; Sabagh *et al.*, 1969; Michelson, 1977) and place attributes (Gustavus and Brown, 1977; Cadwallader, 1979).

To better appreciate the behavioural components of residential migration, Brown and Moore (1970) have provided a framework based on the concept of place utility. This concept was first introduced to geographic analysis of intra-urban migration by Wolpert (1965). Brown and Moore (1970) argue that the migration process is comprised of two phases: Phase 1, when potential migrants deliberate on whether a move is essential and possible; and, in the event

that these conditions are met,²¹ a Phase 2 in which search and evaluation of the environment takes place.²² In Phase 1, Brown and Moore consider that individuals derive a certain place utility from their residence at a given location. In Phase 2, a search of the environment takes place when the place utility experienced at the current location is deemed less than that which might be expected from locations elsewhere. Migration may or may not follow the search process. Where it does, it is most likely to take place in an upwardly mobile direction between areas of the same general socio-economic status (Brown and Longbrake, 1970). During the entire process, place utility is determined by the level of satisfaction derived from a set of environmental stressors such as housing condition, position in the life-cycle, and neighbourhood amenities. The role of various environmental stressors in inducing migration has been investigated by Wolpert (1966), Clark and Cadwallader (1973b), and Clark (1975).

²¹ Empirical evidence suggests that individuals living under particularly stressful environmental conditions and expressing high desires to move are invariably the same persons who, for economic reasons, are the least capable of changing their places of residence (Droettboom et al., 1971; Kasl and Harburg, 1972).

²² Moore and Harris (1979) have argued that, within the broader context of urban (housing) planning and public policy, the significance of residential mobility may be more usefully evaluated by adopting an exit-voice framework. This framework distinguishes between two major methods of resolving housing dissatisfaction: 1) by 'exiting' the local residential environment (movers); and, 2) by 'voicing' housing requirements through involvement in special interest groups and community organizations (stayers).

In further development of this behavioural framework Popp (1976) has argued that Brown and Moore's (1970) model is an elaboration of Lee's (1966) push-pull model, that is, a model in which the push factors take place in Phase 1 and the pull factors in Phase 2. Popp also notes that, in a minority of cases, migration may take place in the absence of either or both Phase 1 and Phase 2 conditions. For example, an evicted tenant (absence of Phase 1) may be forced to move, but, on the immediate offer of accommodation elsewhere, may be spared the need to search for a new residence (absence of Phase 2). More recently, Smith et al. (1979) have considered an expected utility theory of housing search. They develop a sequential search model in which the decision to search and the search itself are viewed as mutually reinforcing elements of the same process. Information gathered by migrants during search is used to revise beliefs about the market, and thereby influence the expected utility of future search. During the entire process the individual attempts to maximize utility subject to the constraints imposed by income and limited information concerning the availability of market opportunities. Search is conducted under conditions of uncertainty caused by the prospect of losing a previously considered dwelling, or of finding one with higher utility. Search is expected to take place in the area of highest (positive) stress, with the probability of search increasing in response to increased stress (experienced disutility). Based on these theoretical

relationships, Smith et al. provide a series of operational hypotheses in which the probability of search is related to personal and market factors affecting stress.

In addition, Brummell (1979) has outlined a general optimizing model of mobility behaviour in which the concepts of experienced place utility, aspiration utility, needs and residential stress are interrelated within the framework of consumer choice theory. In formulating the model, Brummell recognizes that place utility is dependent on the evaluation of other goods in addition to housing (e.g., clothing and food). Furthermore, place utility appraisals are expected to change over time in response to household income, life-cycle stage, housing market condition and personal preference and constraint.

2.3.1 Move Determinants and Intra-Urban Migration

Since publication of Rossi's (1955) major statement on the reasons Why Families Move, numerous researchers have produced evidence to support his proposition that intra-urban migration occurs principally as a response to housing needs generated by life-cycle changes (e.g., Butler et al., 1963; Simmons, 1968; Sabagh et al., 1969; Clark, 1970; Michelson, 1977). For example, in Clark's (1970) study of migrants in Christchurch, New Zealand, 33% of respondents attributed their relocations primarily to life-cycle factors. In the same study, neighbourhood and environmental

factors accounted for 17% of reasons, and accessibility factors for a further 9%. Similarly, Michelson's (1977) study of the Toronto housing market confirmed that family composition (15.8%) and related space requirements (13.5%) were principally responsible for the push and pull factors of residential choice. Most recently, Clark and Onaka (1983) have distinguished between adjustment (i.e., due to housing, neighbourhood and accessibility factors), induced (i.e., life-cycle changes) and forced (i.e., eviction and property destruction) moves. After applying this typology to eighteen previous studies, they argue that housing unit adjustment is the most frequently cited reason for moving, and that life-cycle and neighbourhood considerations are of secondary significance.

Despite the general validity of Rossi's thesis, several studies point to the importance of factors other than housing needs generated by life-cycle changes. These alternative explanations tend to emphasize the effects of social group status and housing market mechanisms. For example, when move determinants are disaggregated on the basis of migrant social status, results indicate that the moves of lower status individuals are largely dictated by cost factors, eviction, and workplace accessibility considerations (Short, 1977). Clark (1970), however, maintains that no systematic relationship exists between move determinants and socio-economic status. Elsewhere,

both Speare et al. (1975) and McCarthy (1976) have demonstrated that the reasons for moving tend to change with age or stage in the life-cycle. For instance, adjustments in tenurial status tend to be important determinants for persons in early middle age, accessibility considerations are important during middle age, and forced moves are most significant for elderly individuals. In addition, Wiseman and Roseman (1979) have confirmed that life-cycle considerations are relatively unimportant to elderly migrants.

The fragmentary evidence from studies of ethnic migration is generally supportive of Rossi's proposition. Simmons (1968), for instance, has claimed that:

Members of ethnic groups move for the usual reasons - for example the need for better housing - and communities expand gradually. The ethnic factor acts as a constraint only on the number of possible alternatives, explaining 'where' people move rather than 'why' they move (Simmons, 1968, p.633).

More specific support for the proposition is provided in studies which identify housing adjustment motives. For example, Ziegler and Richmond (1972) found that Toronto's Italian migrants stressed home ownership (36%), family life cycle (13%) and dwelling space (8%) motives. Similarly, home ownership objectives (30%) have been established as the primary concern of Italian migrants in Bedford, England (King and King, 1977). However, the pre-eminence of home ownership motives in these case studies contrasts with the

primacy of housing space adjustment objectives identified in the generalized migration model. For this reason, the experiences of the Italian communities suggest that important inter-ethnic differences may exist in migration experience. Finally, King and King's study also indicated that the move determinants of a minority group may change through time. Thus, as Bedford's Italian community became increasingly acculturated, its migration behaviour was less influenced by kinship and community factors, but increasingly related to place of work considerations. The same concern for proximity to place of work has been recorded in the migration behaviour of immigrant groups in Melbourne, Australia (Whitelaw and Gregson, 1972).

2.3.2 Place Attribute Appraisals and Intra-Urban Migration

Except in instances of forced migration, a decision to move is usually linked to the expectation of improving experienced place utility. This is equivalent to the expectation of increasing the level of residential statisfaction derived from the attributes of a given site or location. In this manner, the attributes sought at the point of destination are intimately related to the determinants which have initiated the migration process (Brown and Moore, 1970). Gustavus and Brown's (1977) contention that place attributes are the pull and push-pull facets of place utility is particularly useful in

understanding this relationship. Also, in addition to a primary objective sought in migration, each household may seek or be attracted by secondary attributes in the destination environment. For example, when a household seeks more living space, its search behaviour and ultimate choice of location may be swayed by the comparative ease with which important urban services may be obtained at the potential destination.

The reasons for selecting a particular residence have been examined in several studies (e.g., Rossi, 1955; Butler et al., 1969; Barrett, 1973; Speare et al., 1975; Michelson, 1977). In commenting on these studies Clark and Onaka (1983) have concluded that adjustment rather than induced or forced moves have tended to predominate, and that site (housing) characteristics have been at least twice as important as locational (neighbourhood) characteristics in determining dwelling unit choice. Evidence supporting the latter argument is found in Barrett's (1973) analysis of residential search in Toronto. This shows that housing characteristics (67.3%) were of considerably more importance than neighbourhood characteristics (20.2%) in the dwelling selection process. Corresponding figures from an investigation of the Rhode Island housing market were 34.9% and 15.9% respectively (Speare et al., 1975). In the absence of the constrained decision-making environment of forced moves, the predominance of site characteristics is to

be expected of intendedly rational migrants. In short, selection on the basis of housing size and design criteria (pull factors) is precipitated by the need to resolve housing adjustment (push factors). Finally, Clark and Onaka (1983) indicate that accessibility considerations are relatively more important in residence selection than in move initiation.

Despite this general consensus, several studies indicate that the importance of site and locational variables varies with social group status and distance moved. Herbert (1973), for instance, has found both points of agreement and disparity in the place attribute appraisals of persons residing in high and low cost neighbourhoods. Dwelling size was established as the most highly valued attribute for residents in both areas. Dwelling design and neighbourhood condition were of secondary importance to residents in the high cost area, but of only tertiary importance to persons in the low cost area. This ordering was reversed when access to shops and place of work was considered, a reflection perhaps of the greater dependence on urban services that less mobile low income residents experience. Nearness to friends and family were of equal and least importance to residents in both areas. In the case of distance moved, accessibility factors appear to take precedence over life-cycle and housing characteristics when centripetal or lengthy inner city moves are compared to

short-distance moves within the inner city (Ross, 1962). Similarly, in the case of desired moves to suburban environs, 'class and style' considerations have been found to overshadow family status and housing conditions.

Major empirical analyses of ethnic place attribute appraisals appear to be absent from the literature on intra-urban migration. Because of this, Gustavus and Brown's (1977) comments on place attributes in inter-urban migration are particularly interesting. In an examination of recent migrants to Columbus, Ohio, they found that all migrants made satisficer decisions on the basis of a sub-set of place attributes. In addition, the importance attached to a given set of place attributes exhibited little variation between persons of different socio-economic status or race.

2.4 MIGRATION INTENTIONS

It is generally agreed that on average urban residents change their places of residence once every five years (Rossi, 1955), yet the move propensities of certain social groups are widely divergent from this mean value. Thus, among differentiated populations, certain groups are considered more likely to move than others. These groups include single or recently married young adults (Rossi, 1955; Simmons, 1968; Speare, 1970; Roistacher, 1974), households with a history of recent or habitual migration (Morrison, 1967; Land, 1969; Adams et al., 1973; Roseman and

Knight, 1975; Clark and Huff, 1977), and renters (Rossi, 1955; Butler et al., 1969; Speare, 1970; Brown and Holmes, 1971a; Speare et al., 1975; Pickvance, 1973; Roistacher, 1974; Short, 1978). Conversely, lowest move expectations are associated with nucleated families which have school age children and histories of extended residence in the same owner occupied dwellings.

The effects of tenurial and family status on mobility rates are of particular interest in the present study. These effects may be illustrated by reference to the empirical findings of Speare (1970) and the causal model of mobility provided by Pickvance (1973). Speare found that on average renters were four to five times more likely to move than home owners. In addition, this relationship was maintained for married adults in all age groups, and was only slightly diminished by the existence of greater cumulative inertia effects in the occupancy histories of renters. The same study also indicated that mobility rates were generally highest among young married and just married households, and lowest among older married households and married households with school age children. The low mobility rate of the latter group was attributed to increases in neighbourhood ties brought about by the desirability of providing stable schooling environments for children.

Pickvance's (1973) causal model of residential mobility examines the relationships between mobility on the one hand, and life-cycle stage, age, income and housing tenure on the other. From among these relationships, he suggests that the most widely reported and consistent finding refers to the higher mobility rates of renters (when compared to owners).²³ Pickvance also comments on regularities observed in the relationship between life-cycle position and mobility. These regularities point to a high incidence of mobility in the first year of marriage, and to generally declining rates of mobility as the household passes through subsequent life-cycle stages. Moreover, these declining rates are observed in 'desired' and 'planned' (i.e., prospective) mobility as well as 'actual' (i.e., past) mobility.

Evidence concerning the mobility of different ethnic groups indicates that blacks are more mobile than whites (Speare, et al., 1975), but have lower expectations of moving (Roistacher, 1974). Speare, et al. (1975) have also established that Italians are less mobile than other ethnic groups of European origin. Most importantly, these studies recognize that ethnic migration rates are largely dependent on the tenurial and life-cycle characteristics of the household.

²³ Pickvance acknowledges that this relationship is not independent of others involving life-cycle position, age and income. Thus, these and other variables should be controlled for if the direct causal effect of tenure on mobility is desired.

2.5 SUMMARY AND PLACE OF THE STUDY IN RELATION TO THE LITERATURE

Processes of housing allocation and population redistribution may be studied within the context of supply-based or demand-based explanations of urban residence (Bourne, 1981; Kirby, 1983). Supply-based explanations emphasize constraints and may be divided into Marxist and managerialist approaches. Of these, the Marxist approach explains housing allocation in terms of social conflict and the role of the city in the capitalist mode of production (Harvey, 1973; Castells, 1977). In contrast, the managerialist approach focuses on the allocation practices of various urban managers such as real estate agents, financial institutions and local government authorities (e.g, Pahl, 1975; Gray, 1976; Williams, 1978; Johnston 1981). Marxist and managerial explanations of housing consumption provide a counter-balance to the consumer sovereignty theme of demand-based ecological and behavioural explanations (Clark, 1976; Johnston and Herbert, 1976, Short, 1977; Kirby, 1983). Both approaches provide useful insight into the persistence of ethnic segregation in Western industrialized cities.

Demand-based explanations of urban residence emphasize social choice, and may be divided into neo-classical economic, ecological and behavioural approaches. Ecological and behavioural approaches are stressed in this study. Of

these, the ecological approach adopts the biological concepts of invasion and succession to interpret changing patterns of cultural and economic dominance in the housing market (Chapter I, Section 1.2). The behavioural approach focuses on the nature of individual decision-making in residential choice (Rossi, 1955; Adams, 1969; Brown and Moore, 1970). On the basis of these and related studies, a generalized explanation of migration has been formulated for undifferentiated populations. This explanation recognizes that most intra-urban migrants exhibit short-distance, sectorally-confined moves which are strongly influenced by personal awareness space and the strictures imposed by the aspiration region. Areas of residential preference are guided by such spaces, with distant and unfamiliar areas being least preferred. Migration may occur when place utility experienced at the current location is less than that expected at an alternative location. Place utility is equated with the level of satisfaction derived from a set of environmental stressors or push-pull factors, the most important of which is the need for housing adjustment generated by change in life cycle stage. Important differences within this generalized explanation have been observed for groups differentiated on the basis of socio-economic status. However, little is known of the extent to which patterns of ethnic segregation reflect differences in the behavioural attributes of ethnic migration.

Recently the behavioural approach has been criticized for stressing the sovereignty of social choice, whilst tending to neglect the constraints imposed by urban managers and housing policy (Gray, 1975).²⁴ In addition, Bunting and Guelke (1979) have questioned whether behavioural responses to the environment are related to the formation of discrete and measurable images of that environment. In consequence, there has been a movement away from behavioural lines of enquiry, despite the fact that potentially useful areas of investigation at the scale of the individual decision-maker still remain. Thus, pertinent enquiry is still possible in instances where description is based on objective measures of past behaviour, or on limited and reasoned assumptions concerning the nature of prospective behaviour.

Within the broad context of human geography the behavioural approach has been seen "as a developing criticism...starting within theories based on the concept of 'economic man'" (Holt-Jensen, 1980, p.71). As such behavioural geography has presented an interpretation of man-environment relationships in which man is seen as a decision-maker seeking 'satisficer' solutions (Simon, 1957, pp.241-273; Pred, 1967, 1969). In practical situations

²⁴ In part, the increasing emphasis placed on the managerial/institutional approach is based on the recognition that the social choice/behavioural model is based largely on the experience of North American housing markets. Consequently, this model is less applicable in instances where direct public sector involvement in the housing market is significant (e.g., Britain and the Netherlands).

these solutions are based on man's personal needs, motivation, cognitive skills, socio-economic status and prior environmental knowledge (e.g., Wolpert, 1964; White, 1973). Similarly, man's socio-psychological makeup and environmental experience are thought to influence his ability to acquire, organize and utilize information in the intra-urban migration decision-making process (Wolpert, 1965; Brown and Moore, 1970).

The present study views that ethnic status and segregation form an important part of man's socio-psychological makeup and environmental experience. Despite this, the behavioural attributes of ethnic migration are generally unknown. Consequently, this study is directed at placing ethnicity within the generalized explanation of intra-urban migration. More specifically, the relationship between ethnic status and the patterning, determinants and expectations of migration is investigated. The examination of both spatial and non-spatial aspects of migration recognizes that studies with an exclusively geometric interest have "yielded precious little in terms of understanding underlying processes" (Cadwallader, 1979, p.393) in residential mobility. In addition, the study provides an opportunity to examine the relationship between individual migration behaviour and change in ecological structure. The necessity to strengthen the links between these micro and macro-statistical interpretations of spatial

processes forms a recurrent theme in geographic literature (Stea and Downs, 1970; Herbert, 1973; Short, 1978). The theoretical nature of this type of relationship has been explored by Schelling (1971; 1978), who argues that when individuals translate goals into actions, these actions immediately change the behavioural environment of all other individuals in the system. Within the specific context of residential segregation, Schelling suggests that, whereas individuals may wish to live in less segregated neighbourhoods, they may lack an effective means of conveying this information to each other. Using a simulation game in which individuals share a similar view of integration, Schelling (1971, p.88) demonstrates that "a moderate urge to avoid small-minority status may cause a nearly integrated pattern to unravel and highly segregated neighborhoods to form". This situation is complicated still further when individuals hold very different views as to what constitutes an integrated neighbourhood. Under such circumstances segregated residence may become the only possible arrangement, and it may be impossible to infer individual motives from observing the aggregate pattern of residence.

Chapter III

ETHNIC RESIDENCE AND MIGRATION IN WINNIPEG

This chapter is presented in three sections. The first section focuses on the history and dimensions of Winnipeg's ethno-geography. The discussion outlines the early establishment and continuing presence of major ethnic enclaves in the city. Inter-censal changes in the intensity of residential segregation are noted. The second section describes the procedure used in selecting the ethnic groups which are included in the field survey and in the subsequent hypothesis testing. The third section provides a brief outline of the conditions prevailing in Winnipeg's housing market during the 1970s.

3.1 WINNIPEG'S ETHNIC MOSAIC

Unlike the many unicultural (Halifax, St. John's, Chicoutimi-Jonquiere, Quebec) or bicultural CMAs²⁵ (Montreal, Ottawa-Hull, Kitchener-Waterloo, Sudbury) of eastern Canada, Winnipeg belongs to a group of prairie cities in which high indices of ethnic diversity (D^*)²⁶ are

²⁵ CMAs (Census Metropolitan Areas) refer to the main labour market areas of urbanized cores, each of which has a population of 100,000 or more.

²⁶ The indices of ethnic diversity presented in Table 1 measure "the potential for day-to-day contact of people

TABLE 1

ETHNIC COMPOSITION OF CANADA'S METROPOLITAN AREAS, 1971

	A	B	F	G	I	J	N	P	R	S	U	O	ID	D*
ATLANTIC														
Halifax	1	78	8	5	1	1	2	-	-	1	-	3	.208	.384
St. John	1	80	13	1	-	-	1	-	-	1	-	2	.184	.339
St. John's	1	96	1	1	-	-	-	-	-	-	-	1	.266	.082
QUEBEC														
Chicoutimi-Jonquiere	-	4	95	-	-	-	-	-	-	-	-	1	n.a.	.116
Montreal	1	16	64	1	6	4	-	1	-	-	1	5	.520	.554
Quebec	-	4	93	-	-	-	-	-	-	-	-	1	.292	.127
ONTARIO														
Hamilton	1	62	4	5	8	1	4	3	-	1	3	8	.282	.599
Kitchener	1	51	4	26	1	1	2	3	-	1	1	8	.241	.655
London	1	73	3	6	2	1	4	2	-	1	1	6	.227	.461
Ottawa-Hull	2	45	40	3	3	1	1	1	-	1	1	3	.389	.638
St. Caths.	1	54	9	9	10	-	3	3	-	1	4	7	.254	.676
Sudbury	1	37	37	3	7	-	1	2	-	1	4	8	.261	.713
Thunder Bay	1	44	6	4	9	-	2	4	-	4	10	15	.200	.755
Toronto	3	57	4	4	10	4	2	2	-	1	2	11	.358	.646
Windsor	2	48	20	5	8	1	1	2	-	-	3	9	.251	.708
PRAIRIES														
Calgary	2	56	4	13	2	1	3	2	1	5	4	7	.213	.657
Edmonton	2	45	7	13	2	1	3	3	-	5	13	7	.258	.754
Regina	2	46	4	22	1	1	2	3	1	4	6	10	.234	.719
Saskatoon	1	46	5	17	1	-	3	3	2	6	11	5	.208	.735
WINNIPEG	1	43	9	11	2	4	3	5	-	3	12	7	.332	.770
BRIT COLUMBIA														
Vancouver	5	59	4	8	3	1	3	1	1	5	3	7	.260	.635
Victoria	3	75	3	5	1	-	2	1	-	4	1	5	.206	.431
N.B. all percentages are rounded to the nearest whole number and values of less than 0.5% are indicated by '-'														
A : ASIAN B : BRITISH F : FRENCH G : GERMAN														
I : ITALIAN J : JEWISH N : NETHERLANDS P : POLISH														
R : RUSSIAN S : SCANDINAVIAN U : UKRAINIAN O : OTHER														
ID : INDEX OF DISSIMILARITY [average 10 groups excluding Jewish and Other - theoretical range of .000 (total integration) to 1.000 (total segregation)]														
D* : INDEX OF ETHNIC DIVERSITY [12 groups - theoretical range of <.001 (virtual assimilation to one group) to .913 (all 12 groups are identical in size)]														

Sources: Statistics Canada (1974a) and Hill (1976a, 1976b)

recorded (Table 1). Explanation of Winnipeg's high index of

of different ethnic origins" (Hill, 1976a, p.258). The index is defined as $1 - \sum P_i^2$ where: P_i is the proportion of an urban area's population in the i^{th} ethnic group. Summation is for all ethnic groups. A further example of the use of this index may be found in Balakrishnan and Jarvis (1979).

ethnic diversity ($D^* = .770$) is provided by the city's comparatively small British (43.0%) ethnic origin population and its significant populations of Germanic (11.5%) and Slavic (Ukrainian 11.9%; Polish 4.8%) peoples. The city also boasts the largest concentration of French Canadians (8.6%) in western Canada, and, in recent years, has shared in Canada's intake of immigrant groups from non-traditional source areas such as southern Europe, the West Indies and south-east Asia (Hill, 1976b). After comparing Canada's 137 urban areas, Hill (1976a, p.258) summarizes the extent of this cultural melange by proclaiming Winnipeg "Canada's most ethnically diverse city".

Whilst this cosmopolitan structure belies Winnipeg's moderate metropolitan status (1981 population: 584,842), other evidence also attests to the importance of the 'ethnic' factor in the city's cultural geography. For example, Driedger et al. (1982) have confirmed that within Canada there are distinct regional differences in the use of ethnic labelling for purposes of self-identification and kin recognition. Seemingly, 'ethnic' as opposed to 'ethnic-Canadian' or 'Canadian' identifications are most pronounced in the multicultural West. Within this region, such designations are more prevalent in Winnipeg than in the less segregated and faster growing cities of Calgary and Edmonton.

Winnipeg's multicultural identity may be traced to its historic function as the gateway city through which much of western Canadian settlement was filtered in the period before 1916. At the time of its incorporation in 1874 Winnipeg's population was comprised almost entirely of persons of British and French²⁷ ethnic origins. But in the period from 1881 to 1916 the city became a major beneficiary of immigration from non-traditional sources. So exceptional was the effect of this influx on the city's social geography at the turn of the century that McKenna (1969) has claimed that among Canadian cities:

Only on the streets of Winnipeg ... could be heard anything resembling the babel of tongues spoken in eastern American cities like New York (McKenna, 1969, p.438).

Unfortunately, the substantial immigration from northern and central Europe was accompanied by the creation of a distinct social hierarchy in which the 'less acceptable' Jews and Slavic groups were relegated to the city's 'North End.'²⁸ In contrast, larger proportions of German and Scandinavian immigrants were able to reside in closer proximity to the dominant British group. Artibise (1975) points to undesirable long-term effects produced by this early

²⁷ In a strictly administrative sense the predominantly French community of St.Boniface (Figure 2) was considered a separate urban entity until the establishment of Metropolitan Winnipeg in 1960. However, to ignore the long-standing ties between the old City of Winnipeg and its adjacent urban communities would misrepresent the historical basis of the city's cultural geography.

²⁸ This is an area immediately to the north of the present downtown.

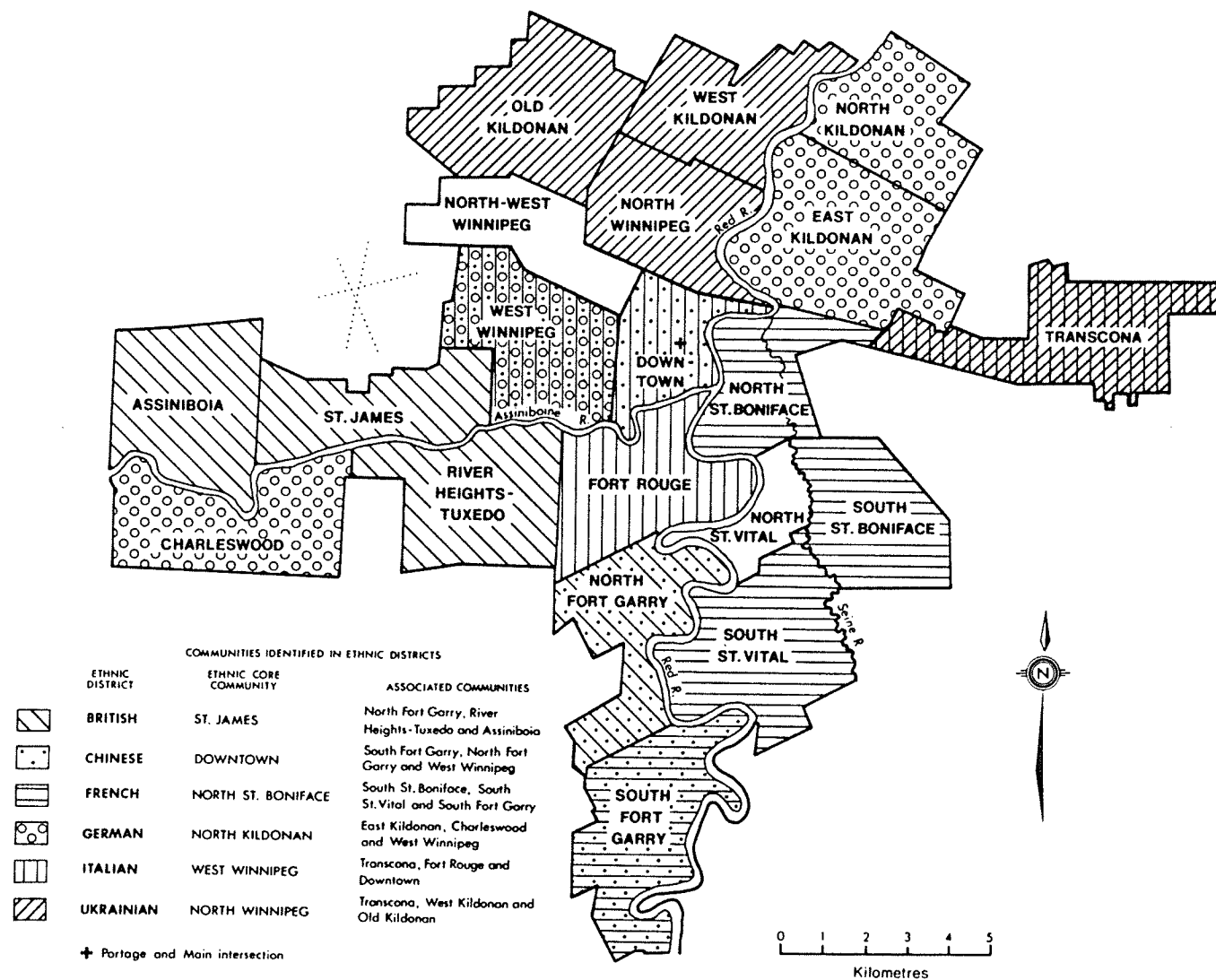


Figure 2: WINNIPEG: CONFIGURATION OF COMMUNITIES STUDIED

segregation of Winnipeg's ethnic groups:

Isolation was not conducive to the assimilation process and Winnipeg in 1914 was a severely divided city, both geographically and socially ...[and]... With the development of South and West Winnipeg as the domain of Winnipeg's largely British upper and middle class, the city's spatial and social patterns were firmly established. In 1914 there was a distinct north-south dichotomy in Winnipeg, which, despite the passage of more than fifty years, has changed but little. Indeed, the ethnic and class segregation of Winnipeg has survived almost intact into the 1970s (Artibise, 1975, pp.160,168-169).

The presence of persistently high levels of ethnic segregation is supported by Fromson's (1965) analysis of the residential patterning of Winnipeg's ethnic groups in the period 1951-1961. In comparing indices of isolation (I^*)²⁹ for these dates Fromson argues that:

the existence of varying degrees of residential segregation [isolation] displayed by each of the five groups in 1961, and the fact of a relatively minor decrease in the degree of segregation since 1951, lends considerable weight to the conclusion that, with respect to this variable on the assimilation process, very little progress has been made toward further assimilation during this period (Fromson, 1965, p.148).

And, largely on this basis, Fromson concludes that:

²⁹ Fromson adopted Shevky and William's (1949, p.52) index of isolation, this being "the extent of residential association of persons within the same group." The index is defined as $[\sum (P_1 N) / T] / P_2$ where: P_1 is a group's percentage in the population of each census tract; N is the number of the group in each census tract; T is the total number of the group in the urban area; and, P_2 is the group's percentage in the population of the urban area. One of the virtues of this index is that in determining the segregation level it specifically takes into account the different sizes of the ethnic groups concerned. This index is used in Chapter V and VI in the testing of Hypotheses I, II, IV and V.

while '**acculturation**' of the ethnic groups may have taken place the '**assimilation**' of all ethnic groups can be shown to have not progressed to a similar position (Fromson, 1965, p.149).

Insight into the weakness of these assimilative forces is provided by Matwijiw (1979), who claims that change in Winnipeg's ethnic patterning has occurred in the absence of significant processes of ecological succession. Instead, the city's ethnic groups have tended to disperse from individual ethnic enclaves:

the areal extent of the territorial bases for each ethnic group has expanded but the focal point of concentration has remained static...and contrary to 'classical' ecological theory, a single, ever-changing enclave close to the city does not exist in Winnipeg. There are at least as many enclaves as there are types of immigrant ethnic groups, and there is no identifiable process of sequential occupancy, or take-over, among enclaves of different ethnic groups (Matwijiw, 1979, p.51).

Final testimony to the strength of ethnic segregation in Winnipeg is provided in the assigning of natural area³⁰ status to the communities of St.Boniface and the 'North End' (Driedger and Church, 1974; Driedger, 1978). Within these areas, large segments of the city's French, Ukrainian and Jewish populations have maintained group solidarity by supporting a wide array of social, educational and religious institutions, by upholding traditional cultural practices, and through engaging in substantial intra-area migration. Community solidarity in St.Boniface (French) and the 'North End' (Ukrainian) has been reinforced as each community has

³⁰ The concept of natural areas is discussed in Chapter I (Section 1.2).

acted as a cultural focus for its rural hinterland in southern Manitoba. In addition, the territorial integrity of these communities has been assisted by their proximity to the communications barriers posed by extensive railway freight yards, industrial land and the Red and Assiniboine Rivers (Figure 2).³¹ Similar arguments might be presented to highlight the existence of Chinese and Italian natural areas in parts of Winnipeg's inner city. In contrast, the greater dispersal and integration of the British and German groups precludes their organization into well-defined natural areas.

3.1.1 Towards a Melting Pot

Despite the apparent stability of Winnipeg's natural areas, both Fromson (1965) and Driedger and Church (1974) have pointed to a post World War II decline in the segregation of the city's non-British ethnic groups. Thus, if Fromson's (1965) indices of isolation are compared by means of a Wilcoxon test,³² support is established for the hypothesis that 'the 1961 indices of isolation are lower than those of 1951' (Table 2). Furthermore, a test conducted on broadly similar data for the period 1951-1971 confirms that the desegregating trend has been maintained,

³¹ These barriers form integral parts of the city's land-use and zoning patterns (Winnipeg, 1968, 1979).

³² This non-parametric test for comparing matched-pairs of signed-ranks has a power efficiency of 95% when compared with the parametric t-test (Siegel, 1956).

even though the additional decrease between 1961-1971 was not significant.

TABLE 2
ETHNIC VARIATION IN INDICES OF RESIDENTIAL ISOLATION (I*)

ETHNIC GROUPS	(1) 1951	(2) 1961	(3) 1971	(4) 1951	(5) 1961
ASIAN ¹	2.14	1.80	1.55	4.12	3.97
BRITISH	1.15	1.12	1.09	1.14	1.11
CHINESE	n.a.	n.a.	2.14	n.a.	n.a.
FRENCH	2.76	2.47	2.32	3.16	2.65
GERMAN	1.32	1.26	1.20	1.53	1.28
GREEK	n.a.	n.a.	2.47	n.a.	n.a.
ITALIAN	1.48	1.46	1.61	1.75	1.90
NETHERLANDS	1.45	1.26	1.20	1.40	1.16
POLISH	1.48	1.39	1.35	1.65	1.42
PORTUGUESE	n.a.	n.a.	4.45	n.a.	n.a.
RUSSIAN	1.12	1.08	1.12	1.37	1.37
SCANDINAVIAN	1.22	1.09	1.08	1.27	1.08
UKRAINIAN	1.78	1.60	1.39	2.16	1.68
YUGOSLAVIAN	n.a.	n.a.	1.92	n.a.	n.a.
Results of Wilcoxon tests for matched-pairs of signed-ranks (Siegel, 1956)	column 1 with col. 2 N=10 T= 0.0* column 1 with col. 3 N= 9 T= 3.5* column 2 with col. 3 N=10 T=11.0 column 4 with col. 5 N= 9 T= 2.5*				
¹ includes Chinese	* significant at 0.05				

Sources: Computation of columns 1-3 based on Dominion Bureau of Statistics (1953, 1963) and Statistics Canada (1974b); Columns 4 and 5 after Fromson (1965).

Decrease in the intensity of ethnic segregation is also indicated by change in indices of dissimilarity (ID)³³

³³ The index of dissimilarity is defined as $\frac{1}{2} \sum |X_i - Y_i|$ where: $|X_i - Y_i|$ is the absolute difference between the percentage of group X and of group Y living in the i_{th} tract. Summation is over all census tracts. Computation of the index is discussed by Duncan and Duncan (1955). Examples of its use may be found in Taeuber and Taeuber

(Table 3). Indices ranging from 0 to 100 indicate the percentage of one ethnic population that would need to relocate to achieve a distributional pattern similar to that of another ethnic group. For example, in 1971 8% of the British population would have needed to move to acquire the same residential distribution as the Scandinavian population. Alternatively, a similar movement by the Scandinavian group would have achieved an identical result. This proportion had decreased from a total of 10% in 1961 and from 13% in 1951. Conversely, dissimilarity between the British and the Italian populations increased from 19% to 36% between 1951 and 1971. In this instance, a Wilcoxon test for the 1951 and 1961 indices supports the hypothesis 'that the 1951 indices are greater than those of 1961.' Again, whilst testing of the 1961 and 1971 indices fails to confirm a continued reduction in residential dissimilarity, there is a directionally significant difference between the 1951 and 1971 indices.³⁴ The observed decline in the rate of ethnic residential integration seems largely attributable to increases in indices of dissimilarity associated with the relatively recent immigration of the Italian ethnic group (Table 4).

(1964, 1965), Lieberman (1963), Darroch and Marston (1971), O'Loughlin (1980) and Balakrishnan (1982).

³⁴ The unavailability of 1951 and 1961 data for the Chinese, Greek, Portuguese and Yugoslavian ethnic groups prevented their inclusion in these statistical tests.

TABLE 3

ETHNIC VARIATION IN INDICES OF RESIDENTIAL DISSIMILARITY
(ID)

		S	N	G	R	P	C	F	U	I	Y	GK	PG
BRITISH	1971	8	19	21	23	32	34	36	36	36	42	42	68
(B)	1961	10	22	28	18	35	na	40	42	32	na	na	na
	1951	13	21	31	28	39	na	45	47	19	na	na	na
SCANDINAVIAN	1971		18	16	20	30	29	37	34	34	41	42	64
(S)	1961		19	20	18	32	na	38	39	27	na	na	na
	1951		21	31	30	39	na	44	48	20	na	na	na
NETHERLANDS	1971			14	25	30	38	34	29	40	47	56	73
(N)	1961			20	21	30	na	36	34	36	na	na	na
	1951			21	30	36	na	37	44	28	na	na	na
GERMAN	1971				20	24	35	39	25	36	39	51	67
(G)	1961				18	23	na	43	28	30	na	na	na
	1951				16	23	na	48	29	35	na	na	na
RUSSIAN	1971					17	31	40	20	32	26	51	64
(R)	1961					21	na	42	27	32	na	na	na
	1951					20	na	51	48	38	na	na	na
POLISH	1971						42	42	5	38	20	59	69
(P)	1961						na	46	8	38	na	na	na
	1951						na	49	10	40	na	na	na
CHINESE	1971							46	46	31	41	28	39
(C)	1961							na	na	na	na	na	na
	1951							na	na	na	na	na	na
FRENCH	1971								43	46	51	59	71
(F)	1961								50	42	na	na	na
	1951								56	43	na	na	na
UKRAINIAN	1971									40	23	61	70
(U)	1961									44	na	na	na
	1951									48	na	na	na
ITALIAN	1971										35	38	47
(I)	1961										na	na	na
	1951										na	na	na
YUGOSLAVIAN	1971											56	62
(Y)	1961											na	na
	1951											na	na
GREEK	1971												38
(GK)	1961												na
	1951												na
(PG : PORTUGUESE)													
Results of Wilcoxon tests													
for matched-pairs of				1951 with 1961				N=35		Z=3.57*			
signed-ranks (Siegel, 1956)				1951 with 1971				N=36		Z=3.43*			
				1961 with 1971				N=33		Z=1.86			
* significant at 0.05													

Sources: Computation based on Dominion Bureau of Statistics (1953, 1963) and Statistics Canada (1974a, 1979a).

TABLE 4

PLACE OF BIRTH OF ETHNIC ORIGIN GROUPS, WINNIPEG 1971

ETHNIC GROUPS	PERCENT CANADIAN BORN	PERCENT BORN IN ETHNIC ORIGIN AREA	PERCENT BORN ELSEWHERE
BRITISH	85.2	12.4	2.4
CHINESE	39.3	41.2	19.5
FRENCH	96.3	1.4	2.3
GERMAN	71.9	11.6	16.5
GREEK	38.4	57.8	3.8
ITALIAN	46.0	51.2	2.8
NETHERLANDS	73.0	21.6	5.4
POLISH	73.5	22.0	4.5
PORTUGUESE	18.2	81.7	0.1
RUSSIAN	70.3	21.6	8.1
SCANDINAVIAN	83.3	11.3	5.4
UKRAINIAN	83.4	9.3	7.3
YUGOSLAVIAN	34.5	57.7	7.8

Source: Computation based on Statistics Canada (1979a).

Calculation of dissimilarity indices also demonstrates the existence of a distinct ranking among the city's ethnic groups, the extent of dissimilarity tending to be lowest for relationships between western European groups and highest between southern European groups. Indices measuring the extent of dissimilarity between these regional associations tend to be higher than those measuring intra-regional differences. These findings are consistent with observations made in other Canadian (Darroch and Marston, 1971; Balakrishnan, 1976) and United States (Duncan and Lieberman, 1975) cities. Regional associations of this type are used as a basis for selecting the principal ethnic groups of the present study (Chapter III, Section 3.2).

Other evidence of the role of ethnicity in Winnipeg's ecological structure has been provided by Nicholson and Yeates (1969) and Hunter and Latif (1972). Both studies indicate that ethnic or immigrant status factors have been of tertiary significance in explaining ecological variation.³⁵ More importantly in the present context, Hunter and Latif indicate that the explanatory power of the immigrant status factor has decreased in recent decades. In offering a tentative explanation for this decrease they compare Winnipeg's experience to that of Chicago where foreign born and black populations have become increasingly segregated:

By contrast, Winnipeg has no population comparable in size and structural position to that of blacks in Chicago. Correspondingly, there has been no comparable 'white' flight to the suburbs, and no development of comparable racial or ethnic 'ghettos' in the central city. In addition, the decrease in the factor loading for percentage speaking neither English nor French suggests that, in Winnipeg, segregation of the foreign-born has decreased over time, rather than increased (Hunter and Latif, 1972, p.328).

Despite these 'positive' trends, Winnipeg's mean index of dissimilarity (Table 1 : ID = .332) indicates that the city remains one of Canada's most segregated urban communities. This factor, in combination with the city's unrivalled ethnic diversity, justifies its selection as an appropriate setting in which to examine ethnic variation in migration behaviour.

³⁵ Social status and urbanization factors have been of greater significance.

3.2 THE PRINCIPAL ETHNIC GROUPS

As the intent of this study is to evaluate ethnic variation in past and prospective migration behaviour, it is appropriate to first identify those ethnic groups which best represent the city's ethnic diversity. Six ethnic groups are selected.

Selection of the British group is based on its long establishment in the city, numerical superiority (43.0% of the city's population), traditional role as a reference group, and its low indices of isolation and dissimilarity (Tables 2 and 3). These indices identify the group as a highly dispersed (Figure 3)³⁶ and **'majority dominator'** community (Driedger and Church, 1974; Driedger, 1978). The French group (8.6%) is chosen on the basis of its charter

³⁶ The ethnic distributions displayed in Figure 3 are based on the index of locational concentration. The index is defined by $(n_i / p_i) / (N / P)$ where: n_i is the ethnic group's number in the i th community; p_i is the total population of the i th community; N is the ethnic group's number in the urban area; and, P is the population of the urban area. This index expresses in ratio form the relationship between a group's actual and expected population within a given community. Expected population is equal in proportion to the group's share of population in the metropolitan area. Over-concentration of an ethnic group is represented by indices in excess of 1.0, and under-representation by indices of less than 1.0. The index has a theoretical maximum value when a group forms 100% of an area's population. Theoretical maxima for groups in Winnipeg are: 2.33 (British), 208.33 (Chinese), 11.63 (French), 8.73 (German), 57.47 (Italian), and 8.45 (Ukrainian). Analyses which use the index may be found in Stimson (1970), Teo (1971) and O'Loughlin (1980). Index values are depicted for the twenty communities identified in Figure 2. A SYMAP mapping routine is used to depict the distributions (Dougenik and Sheehan, 1975).

BRITISH

EXTREME VALUES

MINIMUM - 0.52
NORTH WINNIPEG
MAXIMUM - 1.65
ST. JAMES



CHINESE

EXTREME VALUES

MINIMUM - 0.09
CHARLESWOOD
MAXIMUM - 4.88
DOWNTOWN



FRENCH

EXTREME VALUES

MINIMUM - 0.24
WEST KILDONAN
MAXIMUM - 5.78
NORTH ST. BONIFACE



GERMAN

EXTREME VALUES

MINIMUM - 0.38
NORTH ST. BONIFACE
MAXIMUM - 2.85
NORTH KILDONAN



ITALIAN

EXTREME VALUES

MINIMUM - 0.27
NORTH ST. VITAL
MAXIMUM - 2.80
WEST WINNIPEG



UKRAINIAN

EXTREME VALUES

MINIMUM - 0.35
RIVER HEIGHTS-
TUXEDO
MAXIMUM - 2.38
NORTH WINNIPEG



Figure 3: ETHNIC VARIATION IN LOCATIONAL CONCENTRATION, 1971

group status and its long established and highly visible presence in the community of North St. Boniface (Figures 2 and 3).³⁷ In addition, high indices of isolation and dissimilarity are testament to the French group's '**community maintainer**' status (Driedger and Church, 1974; Driedger, 1978).

Inclusion of the German group is deemed appropriate because of its association with the substantial immigration of 1881-1916,³⁸ its large size (11.5%), and the similarity of its relatively low indices of isolation and dissimilarity to those of other groups from western Europe. These indices and the general dispersal of the group (Figure 3) identify it as an '**ecological assimilator**' (Driedger and Church, 1974; Driedger, 1978). Consideration of the Ukrainian group is merited because of its association with the large-scale immigration of 1881-1916³⁹ and its subsequent formation of a highly segregated community in Winnipeg's 'North End' (Figures 2 and 3). In addition, the Ukrainian group (11.8%)

³⁷ Comment on the contribution of the French and British ethnic groups to the initial pattern of segregation in Winnipeg may be found in Carlyle (1974).

³⁸ It was during this period that Winnipeg acted as the 'Gateway to the West' and achieved the status of a major city (Artibise, 1975). British, German and Ukrainian immigration was substantial, but, unlike the British and Ukrainian communities, the German has also experienced substantial growth as a consequence of relatively high levels of immigration in the post World War II period.

³⁹ Ukrainian immigrants first settled in Winnipeg between 1891-1893. A social history of Winnipeg's Ukrainian population may be found in Yuzyk (1953).

is currently second in size to the dominant British group. Moreover, its indices of isolation and dissimilarity resemble those of other central and eastern European groups. After long entrenchment in the city's 'North End', the group is now identified as a '**suburban invader**' (Driedger and Church, 1974; Driedger, 1978).

Of the city's smaller ethnic groups, the Italian (1.7%) is included because of its comparatively recent arrival in Winnipeg (Table 4)⁴⁰ and its high and increasing indices of isolation and dissimilarity. These indices are suggestive of the group's '**community maintainer**' status (Driedger and Church, 1974; Driedger, 1978). The group is also included because of its possible usefulness as an indicator of the migration activity to be expected from other southern European groups (Stimson, 1970; Galvin, 1974). The concentration of Italians in parts of West Winnipeg and Fort Rouge (Figures 2 and 3) is such that these areas are popularly referred to as 'Little Italies.'

Finally, the Chinese group (0.5%) is selected on the basis of its small size and high indices of isolation and dissimilarity. These indices are largely explained by the group's traditional concentration in 'Chinatown', an area comprising approximately four city blocks to the north of Winnipeg's CBD (Figures 2 and 3). Concentration in

⁴⁰ A general discussion of the residential distribution and social structure of Winnipeg's earliest Italian immigrants is provided by Spada (1969).

'Chinatown' is associated with the immigration of Cantonese speaking Chinese in the period 1881 to 1923 (Baureiss and Kwong, 1979).⁴¹ Since 1947, Chinese immigrants have settled in both inner city and suburban locations. Because of its complex patterning the Chinese group corresponds with elements of both the '**community maintainer**' and '**suburban invader**' models (Driedger and Church, 1974; Driedger, 1978). Inclusion of the Chinese group represents the first attempt to evaluate the migration behaviour of one of Winnipeg's visible ethnic communities.

In addition to hypothesis testing based on the principal ethnic groups, tests are also conducted for representative and non-representative groups occupying districts of marked ethnic concentration.⁴² These ethnic districts are identified on the basis of the indices of locational concentration (C^*) for each ethnic group. More specifically, they are defined to include a core community, where C^* has its maximum value, and three associated communities in which the next highest C^* values are recorded. For example, North St.Boniface ($C^* = 5.75$) is defined as the core community of the French district. Similarly, South St.Boniface ($C^* = 2.34$), South St.Vital (C^*

⁴¹ In 1923 the Chinese Immigration Act virtually halted all Chinese immigration to Canada until its repeal in 1947. After 1947 a more diversified Chinese immigrant group included a greater number of persons speaking Mandarin dialects.

⁴² The membership of representative and non-representative groups is defined in footnote 10, page 22.

= 1.73) and South Fort Garry ($C^* = 1.71$) are defined as the associated communities of the French district. Constituent communities of each ethnic district are indicated in Figure 1.⁴³ Table 5 presents a temporal survey of C^* values for the representative and non-representative ethnic groups residing in each of the ethnic districts. Movements towards unity (1.00) or unchanging C^* values are indicated by twenty-one of the thirty indices for which time series data are available. Increasing C^* values are particularly associated with the Italian ethnic group.

Analysis of individual ethnic districts reveals that all districts have become more ethnically diverse. Despite this, the C^* value of the representative group in each district has not always declined. For instance, increased C^* values have been registered by the German (1.30 to 1.58) and Italian (1.61 to 2.15) groups. In contrast, steadily declining concentrations have been associated with the French (4.69 to 3.17) and Ukrainian (2.41 to 2.03) groups. C^* values for the British group have fluctuated whilst remaining comparatively low (less than 1.50). Finally, whilst the Chinese are highly concentrated in their district (2.63), the absence of data for 1951 and 1961 precludes comment on the direction of change in this concentration.

⁴³ The ethnic districts displayed in Figure 2 are not entirely exclusive of each other. Most notably, the inner city community of West Winnipeg forms the core of the Italian district, but also forms an associated community of both the Chinese and German districts.

TABLE 5

INDICES OF ETHNIC LOCATIONAL CONCENTRATION (C*), 1951-1971

ETHNIC DISTRICTS	1951	1961	1971
BRITISH DISTRICT			
British ¹	1.42	1.47	1.39
Chinese	n.a.	n.a.	0.69
French	0.57	0.57	0.53
German	0.56	0.57	0.83
Italian	0.57	0.42	0.43
Ukrainian	0.19	0.28	0.49
CHINESE DISTRICT			
British	1.15	1.07	1.03
Chinese ¹	n.a.	n.a.	2.63
French	0.90	0.87	0.81
German	0.95	1.21	1.05
Italian	1.47	1.68	1.98
Ukrainian	0.62	0.69	0.71
FRENCH DISTRICT			
British	0.73	0.81	0.89
Chinese	n.a.	n.a.	0.88
French ¹	4.69	3.89	3.17
German	0.52	0.63	0.76
Italian	0.75	0.65	0.52
Ukrainian	0.41	0.47	0.57
GERMAN DISTRICT			
British	1.20	1.02	0.94
Chinese	n.a.	n.a.	0.88
French	0.37	0.45	0.52
German ¹	1.30	1.64	1.58
Italian	1.13	0.99	1.32
Ukrainian	0.68	0.95	1.08
ITALIAN DISTRICT			
British	1.20	1.11	1.06
Chinese	n.a.	n.a.	1.91
French	0.75	0.75	0.72
German	0.85	1.07	0.96
Italian ¹	1.61	1.89	2.15
Ukrainian	0.66	0.75	0.82
UKRAINIAN DISTRICT			
British	0.48	0.56	0.65
Chinese	n.a.	n.a.	0.51
French	0.41	0.55	0.60
German	1.20	0.98	0.89
Italian	0.77	0.79	0.91
Ukrainian ¹	2.41	2.22	2.03

Source: Computation based on Statistics Canada (1974b).

¹ Denotes representative group in each ethnic district.

3.3 THE WINNIPEG HOUSING MARKET

The objective of this section is to provide a general commentary on the constraints which operated in the Winnipeg housing market during the 1970s. These constraints are identified in terms of: 1) the spatial arrangement of the city's residential areas; 2) the type and quality of housing units within these areas; and, 3) the operation of the property market itself.

3.3.1 Winnipeg's Residential Morphology

One of the most striking characteristics of Winnipeg's residential areas is their linear arrangement on either side of the Red and Assiniboine Rivers (Figure 2). This arrangement can be explained in terms of the human response to local environmental conditions. First, initial settlement was located at the junction of the Red and Assiniboine Rivers. Early dependence on the rivers for trade and communication favoured the development of additional sites along their courses (Bodie, 1959). Second, the rivers provide the only significant topographic breaks and treed environments in an otherwise 'featureless' prairie plain. Consequently, the scenic advantages of river bank locations have been sought by development interests. Third, the evolution of a more concentric urban morphology has been inhibited by the costs of providing land drainage to sites at distance from the rivers (McLaren, 1978a; 1978b).

Despite these restrictions, planning practice in recent decades has attempted to achieve a compact growth form. Linear growth beyond the western suburbs has been particularly discouraged. New housing construction has been assigned to infill tracts throughout the city, or to areas which are strictly contiguous to existing development (Winnipeg, 1968; 1979). In addition, the urban area depicted in Figure 2 excludes large tracts of industrial and commercial land in the suburban communities.⁴⁴ Exclusion of these tracts tends to exaggerate the true extent of linearity in the city's morphology. Inclusion of the tracts would give the city a more normative morphology of alternating residential and industrial sectors. In view of these considerations, the constraints imposed by Winnipeg's morphology may be no greater than those experienced in many cities where development interests and zoning regulations have combined to produce distinctive morphologies.

Several conclusions may be drawn concerning the net effect of the city's morphology on the potential migration field of ethnic migrants. Geometrical considerations alone dictate that the maximum theoretical move distances of ethnic groups in inner city locations will be less than those of suburban residents. More critically, the city's

⁴⁴ Residential expansion is contained by Winnipeg International Airport in the northwest, by designated industrial lands in the southwest, and, by the CN and CP railway yards on either side of the Transcona 'panhandle'.

linear form may restrict the range of movement available to suburban residents. Specifically, the opportunity to complete lengthy cross-sector moves may be diminished, whilst the prospect of directionally biased moves with respect to the CBD may be increased. In addition, because the city's ethnic groups are unequally distributed, the restrictions imposed by the city's morphology will have a different effect on the potential migration field of each group. Moreover, the precise nature of the effect may be difficult to determine in instances where measurement of spatial bias is made with respect to group-specific orientation nodes (i.e., multiple ethnic core locations).

3.3.2 Winnipeg's Housing Stock

A basic assessment of Winnipeg's housing stock may be obtained by dividing the city into three approximately concentric zones. These zones are identified as: 1) the central area; 2) the mature suburbs; and, 3) the new suburbs and urban fringe (Mitchell and Bond, 1980). The central area is coextensive with the community of Downtown (Figure 2). In 1976, Downtown's housing stock was comprised almost entirely of rental units (Table 6). These units varied considerably in age, quality and rental value, and provided accommodation for a declining and aging population. Old and decaying low rise apartment buildings were contrasted with modern tower block structures. The former provided standard

accommodation for many of Winnipeg's poorest citizens. The latter offered stylish accommodation for young executives, or more modest accommodation for a portion of the city's senior citizens.

TABLE 6
GENERAL HOUSING AND DEMOGRAPHIC CHARACTERISTICS, WINNIPEG
1976

POPULATION AGE BY ZONE %	<-----TOTAL POPULATION----->			<-----AGE GROUP----->				PERSONS PER HOUSEHOLD
	N	%	% Change 1961-1976	0-14yrs	15-34yrs	35-64yrs	≥65yrs	
Central Area	27,400	(4.7)	-28.1	11.5	38.5	30.2	19.8	1.9
Mature Suburbs	205,700	(35.6)	-18.5	20.2	35.1	30.5	14.2	2.6
New Suburbs	345,200	(59.7)	86.3	26.5	35.7	30.9	6.9	3.1
Total CMA	578,300	(100.0)	21.6	23.5	35.7	30.7	10.1	2.9

HOUSING TYPE BY ZONE %	<-----TOTAL DWELLINGS----->			<-----TENURE----->		<-----HOUSING FORM----->		
	N	%	% Change 1961-1976	Owned	Rented	Detached	Apartments	Other
Central Area	13,480	(6.8)	11.2	10.9	89.1	10.9	87.1	2.2
Mature Suburbs	76,235	(38.6)	9.7	54.9	45.2	56.4	40.1	3.5
New Suburbs	107,600	(54.5)	130.1	67.8	32.1	65.9	24.5	9.5
Total CMA	197,315	(100.0)	53.7	58.9	41.1	58.5	34.8	6.7

HOUSING QUALITY BY ZONE %	<-----DATE OF CONSTRUCTION ¹ ----->			<-----PROPERTY VALUES ¹ ----->		PERSONS PER SQUARE KM.
	Pre 1946	1946-1970	1971-1981	Avg. Value of Owner Occupied Dwelling	Avg. Gross Monthly Rent	
Central Area	41.3	29.1	29.6	\$44,515	\$258	4,018
Mature Suburbs	51.7	38.5	9.8	\$45,063	\$295	4,099
New Suburbs	9.6	52.0	38.4	\$65,214	\$351	558 ²
Total CMA	25.0	46.3	28.7	\$58,866	\$320	593 ²

¹ Values based on 1981 census.
² Excludes four census tracts with predominantly non-urban land uses.

Source Mitchell and Bond (1980); Statistics Canada (1978; 1982b; 1983a).

Unlike Downtown, the mature suburbs⁴⁵ provided a more evenly balanced stock of owner occupier and rental properties, much of which had been built prior to 1945. The increasing age of these suburbs was reflected in their mature population profiles, and several (including West

⁴⁵ These are comprised of East Kildonan, North St. Boniface, North St. Vital, Fort Rouge, West Winnipeg, North Winnipeg and Northwest Winnipeg. Older parts of St. James, West Kildonan, Transcona and River Heights-Tuxedo are also included in this zone.

Winnipeg, North St.Boniface and North Winnipeg) had experienced absolute population losses in the last two decades. Part of these losses were accounted for by dispersal to the new suburbs (Winnipeg, 1978a).⁴⁶ Virtually the entire housing stock of these suburbs had been built since the early 1960s. Construction had favoured single-family owner-occupied dwellings. This housing stock reflected the youthful age profiles and fast growing populations of the new suburbs.

In terms of these general characteristics, Winnipeg's housing sector in the 1970s was not exceptional among Canadian cities. The majority of the housing stock and population were dispersed at relatively low densities in the new suburbs. A somewhat smaller population was housed at higher densities in the central city and mature suburbs. These factors combined to produce population and housing density gradients which declined outward from a point near the city centre. Within this framework the central city and mature suburbs contained the ethnic cores of the Chinese, French, Italian and Ukrainian groups. In contrast, the ethnic cores of the British and German groups were located in the new suburbs. Other than their cultural significance, these locations reflected the logical allocation of housing

⁴⁶ The new suburbs are comprised of North Kildonan, South St.Boniface, South St.Vital, South Fort Garry, North Fort Garry, Charleswood, Assiniboia and Old Kildonan. In addition, major parts of Transcona, River Heights-Tuxedo, St.James and West Kildonan are included in this zone.

resources in accordance with between-group differences in income⁴⁷ and tenurial⁴⁸ preference. For example, the relatively inexpensive rental market of Downtown provided housing for low income tenants of the Chinese population. Similarly, low income owner occupiers in the Italian population were able to maximize their housing utility in the older mixed housing markets of West Winnipeg and Fort Rouge. In contrast to these groups, the relative prosperity of the German and British populations was reflected in their greater dispersal throughout the new suburbs.

3.3.3 Winnipeg's Housing Market in the 1970s

Recent data indicate that a predominantly private housing market operated in Winnipeg during the 1970s. Thus, by 1981 only 3.7% (8,045) of the city's housing units had been developed and/or were owned by the public sector (M.H.R.C.,

⁴⁷ In 1971, the mean income of Winnipeg households was approximately \$17,500. The proportions of ethnic households with incomes below this level were: Italian 60.6%, Ukrainian 55.8%, French 54.3%, Chinese 51.0%, British 46.3%, and German 46.1%. Corresponding proportions for ethnic households residing within their respective ethnic districts were: Italian 70.9%, Chinese 60.9%, Ukrainian 55.8%, German 51.4%, French 49.8% and British 27.3% (Statistics Canada, 1980a).

⁴⁸ In 1971, 59.1% of Winnipeg's households resided in owner occupied properties. The proportions of ethnic households residing in owner occupied properties were: Italian 78.5%, Ukrainian 70.4%, German 63.8%, British 56.8%, French 47.4% and Chinese 42.6%. Corresponding values for ethnic households within their respective districts were: Italian 76.7%, Ukrainian 76.1%, British 72.9%, German 69.1%, French 56.1% and Chinese 33.3% (Statistics Canada, 1982a).

1981; Statistics Canada, 1983a).⁴⁹ Most of these units were concentrated in Downtown where they provided accommodation for portions of the city's senior citizen and low income populations. Several public housing projects tended to cater to specific ethnic groups, but a deliberate segregationist housing policy was not in effect.⁵⁰ In view of the relatively small size of the public housing sector, the major effect of public institutions in Winnipeg's housing market has been through indirect rather than direct intervention. Indirect intervention has been observed in the setting of mortgage rates, the provision of property investment incentives,⁵¹ and in the implementation of rent controls, housing bylaws and subdivision development controls.

⁴⁹ This observation is in keeping with the dominance of the private market in most North American jurisdictions, and contrasts with the experience of urban communities in countries such as Britain and the Netherlands where public authorities perform a management and allocation function in a significant proportion of the housing market.

⁵⁰ Typically such housing projects were sponsored by an ethnic benevolent society and were located in ethnic neighbourhoods, although entry was not restricted on the basis of ethnic group membership. Examples of such projects in Downtown included the Sek On Toi (Chinese) and Villa Heidelberg (German) apartments, and the Main Street Senior Citizen Centre (Ukrainian).

⁵¹ Examples include tax shelter opportunities, the Assisted Home Ownership Program (A.H.O.P.) and Registered Home Ownership Savings Program (R.H.O.S.P.).

During much of the 1970s Winnipeg's housing market was subjected to a more or less continuous crisis in housing supply. For instance, the introduction of rent control legislation protected tenants from exorbitant rent increases (Smith, 1978). Unfortunately, controls discouraged investment in apartment construction, and a number of large apartment structures were converted for sale or lease as condominium units (C.M.H.C., 1982). Low construction volumes were made worse by the closure of old units which failed to comply with upgrading and maintenance bylaws, and by losses from fires and demolitions (Winnipeg, 1978b; 1978c). The net result was that low vacancy rates prevailed over extended periods for most types of rental accommodation (Table 7).

The 1970s also witnessed a rapid increase in the price of owner occupied housing, and a still greater increase in the price for new housing units (Table 7). The escalation in prices was exacerbated by generally advancing costs of home financing. As in other Canadian cities, Winnipeg's house builders and land development companies were accused of using their oligopolistic positions to perpetuate artificially high market prices (Spurr, 1976; Templeton, 1977). In turn, the housing sector attributed high prices to the strictures placed on development by the subdivision approval process, and to the normal operation of market forces (Bloxom, 1977; HUDAM, 1977). Eventually the crisis

TABLE 7

CONSUMER PRICE INDICES FOR THE WINNIPEG HOUSING MARKET,
1971-1979

CONSUMER PRICE INDICES AND RELATED HOUSING CHARACTERISTICS	1971	1974	1976	1979
C.P.I. ALL ITEMS				
Canada	100.0	125.0	148.9	191.2
Winnipeg	100.0	123.4	150.6	192.7
C.P.I. HOUSING				
Canada	100.0	121.2	148.0	186.2
Winnipeg	100.0	120.6	155.7	198.8
C.P.I. NEW HOUSING				
Canada	100.0	139.7	184.3	233.3
Winnipeg	100.0	168.5	237.0	270.2
MEAN MONTHLY MORTGAGE RATE CONVENTIONAL LOANS				
Canada	9.43%	11.24%	11.78%	11.98%
APARTMENT RENT				
Canada	100.0	105.5	118.9	138.9
Winnipeg	100.0	106.2	120.0	140.6
VACANCY RATE FOR PRIVATE APARTMENTS				
Avg. all CMAs	5.0%	2.5%	1.3%	2.9%
Winnipeg	3.5%	2.9%	1.4%	5.0%

Sources: C.M.H.C. (1980), Statistics Canada (1980b).

and its associated counter accusations became the subject of a provincial royal commission (Bellan, 1977).

Hindsight suggests that many of the market difficulties of the 1970s stemmed from a general failure to anticipate the type and intensity of demand generated by the first time entry into the market of the babyboom population.

Nevertheless, it seems that Winnipeg residents fared no worse than residents in other large Canadian cities. Indeed, Winnipeg's apartment vacancy rate was higher than the average rate for all CMAs in all but two of the years between 1971-1979. The near doubling of Winnipeg's housing price index was paralleled by similar increases in Calgary, Edmonton, Toronto and Vancouver, and in each of these cities the base price of the index was higher. In addition, the rate of increase in city housing prices barely exceeded the rate of increase in the price of all goods and services. Only in the price of new housing did Winnipeg compare unfavourably with most CMAs.

In the absence of data on ethnic housing expenditure, it must be assumed that market constraints impinged equally on each ethnic group during the 1970s. Despite this, several points are worth noting. First, the greatest impact of constraints was likely experienced by individuals who sought to change their tenurial preference. More specifically, the combined effect of low apartment vacancy rates and high housing prices may have contributed to deferred migration (Clark and Heskin, 1981). Second, the greatest losses in apartment units were from the low income housing market of the central area and parts of the mature suburbs. Relatively large numbers of Winnipeg's most segregated ethnic groups resided in these communities. Third, assuming that each ethnic group was equally predisposed to moving,

differences in ethnic mobility rates may reflect varying success in coping with market constraints.

Finally, there is no evidence to indicate that any of Winnipeg's real estate companies deliberately catered to (or discriminated against) specific ethnic groups.⁵² However, it is safe to assume that individual company agents possessed specialized information about certain parts of the city, and may have over-recommended properties in these areas (Palm, 1976). In practice this means that recommended properties are likely to have been localized around sales offices. Thus, an agent located in St. Boniface (French) is likely to have recommended properties in the eastern suburbs, whilst an agent in Assiniboia (British) may have recommended properties in the western suburbs (Figure 2). Because the local clientele in these areas had distinctive ethnic backgrounds, the actions of real estate agents may have perpetuated existing patterns of ethnic segregation.

⁵² This opinion is based on personal observation and on conversations held with officers of The Winnipeg Real Estate Board. Unfortunately, information concerning the number and particulars of sales made by member companies of the Board is unavailable for public release. Further substantiation might be provided in the detailed property records of The Manitoba Land Titles Office. A search of these records would constitute a major task in archival research.

3.4 SUMMARY

The preceding discussion is presented in three sections. The first notes that distinct ethnic enclaves have remained a conspicuous feature of Winnipeg's residential fabric since the early decades of the city's history. Consequently, Winnipeg is still one of Canada's most ethnically diverse and segregated cities. The second section identifies the city's principal ethnic groups and ethnic districts. Identification of the principal groups is based on their length of residence in Winnipeg, their contrasting segregation status and their assumed relatedness to ethnic groups from adjacent cultural origin areas. Each of the principal groups is associated with an ethnic district comprised of four city communities. These communities are identified on the basis of their high indices of locational concentration. Discussion in the third section focuses on the constraints which operated in the Winnipeg housing market during the 1970s. These constraints are identified in terms of the spatial arrangement of the city's residential areas, the type and quality of housing within these areas, and, the operation of the property market itself. The location of the principal ethnic groups in terms of the housing market is stressed.

Chapter IV

THE HYPOTHESES AND MIGRATION QUESTIONNAIRE

In this chapter the hypotheses of the study are derived and presented. These hypotheses refer to the patterning, determinants and expectations of ethnic intra-urban migration. The questionnaire used to collect data concerning these aspects of migration is presented. The composition of the respondent sampling frame and the procedures undertaken during the field survey are reviewed.

4.1 HYPOTHESES CONCERNING MIGRATION PATTERNING

The objective is to determine whether spatial bias in ethnic migration differs according to the segregation status of the ethnic group.

Previous discussion has noted that the migration activity of intra-urban migrants is influenced by their possession of wedge-shaped mental maps of the city. These maps are formed by habitual travel patterns between places of residence and important orientation nodes such as the CBD (Adams, 1969; Horton and Reynolds, 1971; Donaldson and Johnston, 1973). Possession of these mental images is conducive to distance biased, sectorally-confined migration which is focused towards or away from the CBD. Modifications to this

generalized model emphasize the effects of alternative orientation nodes such as workplaces (Whitelaw and Robinson, 1972; Whitelaw and Gregson, 1972) and differences in the socio-economic status of migrants (Goldstein and Mayer, 1961; Herbert, 1973; Moriarty, 1974; Short, 1977). A limited number of studies have described the biased mental maps, residential search and migration of ethnic groups (Barrett, 1973; Gad et al., 1973; Humphreys and Whitelaw, 1979; Waterman, 1981; Cronin, 1982). In Winnipeg the relationship between ethnic status and spatial bias in migration has been studied at the macro-statistical level (Driedger and Church, 1974; Driedger, 1978). Distinction can be made between: highly segregated '**community maintainer**' groups; relatively integrated '**suburban invader**' and '**ecological assimilator**' groups; and, an integrated '**majority dominator**' group.

Because most migration takes place within individual awareness space, it is argued that ethnic migration will take place within ethnic awareness space. Thus, highly segregated groups might be expected to relocate within areas of the city which are close to points of cultural significance, i.e., the ethnic core locations. Conversely, the migration of dispersed and relatively integrated groups may be expected to be less spatially constrained and less sensitive with with respect to ethnic core locations. Geometrical considerations alone dictate that the maximum

theoretical move distances of Winnipeg's inner city residents will be less than those of suburban residents. This constraint most seriously affects the potential migration field of the city's more segregated ethnic groups. In addition, the tenurial preferences and lower incomes of these groups suggests that they are more likely to relocate within the mixed and relatively inexpensive housing markets of the inner city (see Chapter III, Section 3.3.2). In view of these considerations, it is proposed that ethnic migration patterns will vary with respect to the intensity of segregation. To test this proposition Hypotheses I and II are proposed:

- I that distance bias in migration is greater for relatively segregated ethnic groups;

and,

- II that ethnic core directionality in migration is greater for relatively segregated ethnic groups.

4.2 HYPOTHESIS CONCERNING MOVE DETERMINANTS

The objective is to determine whether the move determinants of recent migrants differ according to their ethnic group membership.

In the case of undifferentiated populations it is generally agreed that housing needs generated by life-cycle changes constitute the single most important reason for intra-urban migration (Rossi, 1955; Sabagh et al., 1969;

Clark, 1970; Clark and Onaka, 1983). Nevertheless, initial residential location and the specific requirements of certain socio-economic groups may emphasize the importance of other move determinants. For instance, life-cycle and housing characteristics are important in short-distance inner city moves; accessibility factors are stressed in long-distance (and centripetal) moves; and, life-style and class considerations are reflected in moves to suburban areas (Ross, 1962). Economic factors, forced moves and access to workplace considerations explain a relatively high proportion of moves made by lower status individuals (Short, 1977). Simmons (1968) has argued that ethnic groups move for essentially the same reasons as residents in undifferentiated populations. However, it is possible that the move determinants of individual ethnic groups may differ. This proposition is based on the realization that the capabilities and interests of certain groups may be influenced by constraints on ethnic residence (see Chapter II, Section 2.1). More specifically, in the case of Winnipeg, this proposition is based on the widely differing levels of integration and social attainment achieved by each ethnic group (Chapter III, Sections 3.1 and 3.2). In view of these arguments, Hypothesis III is proposed:

III that move determinants differ between ethnic groups.

4.3 HYPOTHESES CONCERNING PLACE PREFERENCES

The objective is to determine whether spatial bias in place preference appraisal differs according to the segregation status of ethnic migrants.

The links between awareness space, search behaviour and residential preference patterning are closely associated (Brown and Moore, 1970). Local residents tend to migrate within or towards familiar neighbourhoods, whilst lesser preferences are exhibited for more distant and less familiar areas (Johnston, 1971b; Silk, 1971). Distinctive residential preference patterns have been observed for individual ethnic groups (Clark and Cadwallader, 1973a; Gad *et al.*, 1973). Such preference patterns may be accentuated by externally enforced and self-imposed constraints on ethnic residence (e.g., Gray, 1976; Williams, 1978; Rex, 1981; Dahya, 1974; Phillips, 1981). Given that Winnipeg's principal ethnic groups are highly concentrated in very different parts of the city, it is expected that their residential preference and aversion patterns will be quite dissimilar. Thus, communities of greatest preference are likely to be biased towards the respective ethnic cores and communities of high ethnic concentration. In contrast, communities of least preference (aversion) may exhibit biases which are directed away from the ethnic core locations. More importantly, it is argued that externally-imposed and self-limiting constraints on ethnic residence

will place differential restrictions on ethnic place preferences (Fromson, 1974; Driedger and Church, 1974; Artibise, 1975; Baureiss and Kwong, 1979). On this basis it is anticipated that place preference and aversion biases will be greatest for the more segregated ethnic groups. To test these assumptions Hypotheses IV and V are proposed:

IV that home community residential preference bias is greater for relatively segregated ethnic groups;

and,

V that distant community residential aversion bias is greater for relatively segregated ethnic groups.

4.4 HYPOTHESES CONCERNING PLACE ATTRIBUTES

The objective is to determine whether place attribute appraisals differ according to the economic status of ethnic migrants.

Neighbourhood characteristics, accessibility to friends and relatives, and employment location considerations have been identified as important place attributes in residential choice. However, the importance attached to these attributes is known to vary between groups of differing socio-economic status. In general, accessibility attributes are stressed by financially constrained low income groups, whilst neighbourhood characteristics are emphasized by relatively more mobile high status groups (Herbert, 1973; Moriarty, 1974). Inter-ethnic differences in socio-economic

status are widely documented (e.g., Lieberman, 1963; Porter, 1965; Darroch and Marston, 1971; Peach, 1983). The close relationship between accessibility considerations and the distribution of low income ethnic groups has been stressed in ecological and neoclassical studies (Burgess, 1925; Cressey, 1938; Ford, 1950; Alonso, 1960). Increases in income, discretionary time and personal means of transportation help facilitate the suburbanization of ethnic groups. As suburbanization proceeds, the advantages of accessibility to urban services are traded for the benefits of space and neighbourhood design. The relationship between low income ethnic groups and workplace accessibility considerations is noted in several studies (e.g., Whitelaw and Gregson, 1972; Harvey, 1973; Dahya, 1974). In Winnipeg a distinct status hierarchy is noted in which the British and German groups are generally more prosperous than the other ethnic groups (see footnote 47, page 89). These status differences are reflected in contrasting suburbanization experiences (see Chapter III, Section 3.3.2). Because of such differences, it is argued that ethnic groups will differ in their place attribute appraisals. More specifically, accessibility considerations may be more important to lower status ethnic groups, while environmental objectives may be more favourably appraised by higher status ethnic groups. To test these assumptions Hypotheses VI and VII are proposed:

- VI that more importance is attached to accessibility attributes by lower economic status ethnic groups;**

and,

VII that less importance is attached to environmental attributes by lower economic status ethnic groups.

4.5 HYPOTHESIS CONCERNING MIGRATION INTENTIONS

The objective is to determine whether migration intentions differ according to the urbanization status of ethnic migrants.

Substantial evidence indicates that certain types of household are more likely than others to change their place of residence. These more mobile groups include highly urbanized individuals identified on the basis of their non-family status and accommodation in rental housing (e.g., Speare, 1970; Pickvance, 1973).⁵³ Urbanization status tends to vary between ethnic groups. For instance, disproportionate numbers of many ethnic minorities are housed in rental accommodation (e.g., blacks in U.S. cities and immigrant workers in European cities). This tenurial preference reflects the operation of several factors, including social choice, economic necessity, recency of immigration and discrimination in the allocation of housing resources (e.g., Kain and Quigley, 1975; Drewe, et al., 1975; Humphreys and Whitelaw, 1979).⁵⁴ Similarly, family

⁵³ When urbanization is defined in terms of tenurial and family status it approximates the urbanization/familism dimension of social area analysis (Shevky and Williams, 1949; Shevky and Bell, 1955).

⁵⁴ In contrast, these constraints may sometimes be reflected

composition characteristics are observed to vary between ethnic groups. These variations are related to differences in ethnic immigration history, length of urban residency and the influence of group norms. For example, newly established immigrant communities are frequently comprised of single males of working age (Dahya, 1974; King and King, 1977). Greater structural balance in ethnic communities may be expected with increasing length of residence, and with the adoption of dominant group norms (i.e., with increased acculturation). A limited body of literature indicates that urbanization status has a significant influence on ethnic mobility rates (Roistacher, 1974; Speare, et al., 1975).

Variation in urbanization status has been observed among Winnipeg's ethnic groups. Thus, a disproportionate number of the city's Chinese and French households are found in rental accommodation, and above average proportions of the German, Italian and Ukrainian households are owner occupiers (see footnote 48, page 89). In addition, between-group variation in family formation characteristics is suggested by the contrasting residency histories of the city's ethnic groups (see Chapter III, Section 3.1). Based on these observations, one might expect that Winnipeg's ethnic groups will possess different migration intentions. To test this assumption Hypothesis VIII is proposed:

in above average rates of home ownership (e.g., Ward and Sims, 1981; Simmons, 1981).

VIII that the likelihood of moving is greater for more urbanized ethnic groups.

4.6 HYPOTHESIS CONCERNING RESIDENTIAL SEGREGATION

The objective is to determine whether the fulfillment of migration intentions in accordance with expressed place preferences will lead to change in the intensity of residential segregation.

Change in the intensity of ethnic segregation is not only dependent on the different move intentions of individual ethnic groups. Of equal importance is the ethnic mix in origin and destination environments. Thus, if the migration biases of individual ethnic groups resemble those which are typical of undifferentiated migrants (e.g., Adams, 1969; Brown and Holmes, 1971a), each group might be expected to prefer distance-biased locations within its home community. As a result of such preferences, the rate of ethnic mixing and associated desegregation would be slow. Alternatively, considerable adjustments in the intensity of ethnic segregation might be achieved if a small but proportionately significant number of persons in a highly segregated group chose to change their community of residence. In Winnipeg's case, long-term reduction in the intensity of ethnic segregation has been observed as successive generations have participated in dispersive movements from ethnic core communities. Recently, however, this desegregation process

appears to have slowed (Chapter III, Section 3.1.1). In view of these remarks, Hypothesis IX is proposed:

IX that prospective ethnic migration behaviour will not change the intensity of ethnic segregation.

4.7 COMPOSITION AND ADMINISTRATION OF THE QUESTIONNAIRE

4.7.1 The Questionnaire

To test the hypotheses a questionnaire was designed, tested and then administered to members of the six principal ethnic groups. The objective of each question is now described.

The first question of the enquiry (Appendix A) was directed at ascertaining the extent of spatial bias in recent intra-urban migration. The origin and destination addresses (or street junctions) associated with each household's most recent move were recorded. These locations were subsequently fitted to a system of grid co-ordinates encompassing the entire city. The second question of the enquiry was designed to provide some indication of the motives underlying the most recent migration activity. This question was asked with the knowledge that migrants are prone to distort facts and may attempt to rationalize their actions when asked to recall their behaviour:

It is very likely that at a time when a decision [to move] is made, only one or two variables are really influential in the making of the decision, though in attempting to recollect what factors were considered at the time the decision was made most people attribute more weight than they actually gave to less important variables...all

retrospective studies suffer, as far as the respondents are concerned, from the faulty recollection and the effects of 'cognitive dissonance', that is the need, post hoc, to justify the choice made even at the expense of enhancing the advantages of the object chosen (Lyon and Wood, 1977, p.1171).

For these reasons households were requested to state only the two most important reasons for moving from their previous address. The listing of move determinants offered in Question 2 (Appendix A) was compiled largely on the basis of Clark's (1970) evaluation of move determinants in Christchurch, New Zealand.

The third question (Appendix A) was designed to identify areas of residential preference and aversion. Households were asked to assume that they intended to change their place of residence in Winnipeg. Respondents were shown a map of the city in which twenty communities were identified.⁵⁵ They were then asked to select and rank order the three communities in which they would **most** prefer to live. Such 'movements' were required to take place under conditions of current income constraints (Clark, 1976; Short, 1977). This question resembled that posed in Clark and Cadwallader's (1973a) investigation of residential preference patterns. In this instance, however, the mapping of residential aversion patterns was also attempted. This was accomplished by rank ordering the three communities of **least** preference. These procedures allowed the computation

⁵⁵ The identity of these communities is discussed in the field methods section of this chapter (Section 4.7.2).

of place preference and aversion scores for each of Winnipeg's twenty communities.

The fourth question was designed to measure place attribute appraisals. Households were asked to assume an imminent change in place of residence. The question asked householders to assess the importance of twelve place attributes. These attributes were of a type that migrants might reasonably be expected to consider during processes of household relocation. Households were also allowed to identify unlisted attributes which might be of particular concern to them. This question tested whether intra-urban migrants resemble their inter-urban counterparts insofar as the latter display few between-group differences in the appraisal of place attributes (Gustavus and Brown, 1977).

The fifth question of the enquiry (Appendix A) was designed to ascertain the migration intentions of each ethnic group. More specifically, households were asked to indicate the likelihood of moving within: 1) the next year (short-term); and, 2) the next five years (medium-term). In both cases households were asked to choose one of six possible responses ranging from 'definitely will not move' to 'certain to move.'

The sixth question of the enquiry (Appendix A) requested information on imminent migration intentions and was included largely for purposes of conceptual completeness and

questionnaire design. Of the few respondents faced with the immediate prospect of moving, most named locations within their home or adjacent communities.⁵⁶ However, the resulting data base was insufficient to allow meaningful cartographic or statistical interpretation. For these reasons interpretation of this aspect of ethnic migration behaviour is not pursued in this study.

In contemplating the questions pertaining to prospective migration it is noted that many potential migrants fail to fulfill their expectations:

It is known that stated attitudes, as reflected in questionnaire answers, may very well not be reflected in subsequent behaviour, and that behaviour may equally not reflect attitudes and preferences (Lyon and Wood, 1977, p.1171).

Similar concern has been expressed by Duncan and Newman (1976):

in general, individuals are not able to forecast their own mobility behaviour very well. In fact fewer than half of those who reported they expected to move actually fulfilled these expectations over a three year period (Duncan and Newman, 1976, p.183).

In view of these remarks, the forecasts presented in Chapter VI are based on a conservative interpretation of the questionnaire data.

⁵⁶ Typically, these respondents were actively engaged in processes of residential search and in some instances had made legal commitments to purchase or lease property.

The last part of the questionnaire (Appendix A) requested 'supplementary information' and was designed to accomplish two objectives: 1) to verify the ethnic identity of respondents; and, 2) to ascertain the income and urbanization status of respondents such that the hypotheses could be formally tested (Chapters V and VI).

4.7.2 Field Methodology and Ethnic Composition of Sampled

Prior to executing the questionnaire a pilot survey was conducted in the communities of North St. Boniface, Fort Rouge, River Heights-Tuxedo and Northwest Winnipeg. Results of this pre-test were used to improve the structure and phrasing of the questionnaire and to enable better drafting of a set of questionnaire guidelines. These guidelines were subsequently used by the principal researcher and field assistants. Whilst the major part of the survey was administered in English or French, field assistants possessing foreign language skills were employed to interview respondents who were unable to converse in either of these languages. This approach was adopted to avert the possibility of sampling bias which would be introduced by restricting interviews to linguistically assimilated members of the ethnic groups.

To reduce the final survey to a manageable size, only the migration behaviour of the six principal ethnic groups was solicited. As noted (Chapter III, Section 3.2), these

groups were selected to represent the diverse origin and residency characteristics of a larger number of ethnic groups. For operational and analytical purposes potential respondents were identified in twenty communities. Each of these communities was comprised of a grouping of several of the city's 104 census tracts to which a recognizable community name could be assigned. This level of aggregation allowed accomplishment of two objectives: 1) the delimitation of areas with different ethnic compositions and levels of ethnic segregation; and, 2) the delimitation of areas with contrasting residential environments in terms of the age and type of housing stock and measures of socio-economic status. The map drawn to satisfy these objectives was modelled on Figure 2 and was included in Question 3 of the questionnaire (Appendix A). To assist respondent orientation the map depicted Winnipeg's principal highways and watercourses. The city boundary was drawn to fit the extent of the current and 'on-line' residential development surface.

Responses were obtained from a sampling of households reflecting the tenorial characteristics of the ethnic groups in each of the twenty communities (Table 8).⁵⁷ The location

⁵⁷ This sampling distribution was based on information provided in a customized census tabulation (Statistics Canada, 1979b). Ideally the sampling design should also have accounted for inter-ethnic differences in other socio-economic variables, particularly income and family status. Unfortunately, this option was precluded by logistical difficulties encountered in identifying such ethnic samples in the field.

TABLE 8

ETHNIC AND TENURIAL CHARACTERISTICS OF SAMPLED HOUSEHOLDS

PROPORTION OF ETHNIC HOUSEHOLDS SAMPLED BY TENURIAL STATUS													
	BRITISH .25%		CHINESE 15%		FRENCH 1%		GERMAN 1%		ITALIAN 5%		UKRAINIAN 1%		TOTAL
O : OWNERS	O	R	O	R	O	R	O	R	O	R	O	R	O R
R : RENTERS													
COMMUNITY													
N.Kildonan	2	2	1	0	0	1	11	4	1	1	4	2	19 10
E.Kildonan	10	4	2	2	3	3	18	6	5	2	22	5	60 22
Transcona	5	1	1	0	3	1	5	1	6	1	10	1	30 5
N.St.Boniface	3	3	1	1	17	18	2	2	4	1	2	2	29 27
N.St.Vital	5	1	1	0	3	1	2	1	0	0	2	0	13 3
S.St.Boniface	4	2	2	0	8	2	4	1	3	0	4	1	25 6
S.St.Vital	4	4	0	3	4	4	4	3	1	1	3	2	16 17
S.F.Garry	2	1	3	1	3	1	2	1	1	0	1	0	12 4
N.F.Garry	5	2	1	3	2	1	4	2	3	0	2	1	17 9
Fort Rouge	10	15	3	6	3	7	7	9	17	5	6	6	46 48
R.Heights-Tuxedo	9	2	2	0	1	1	5	1	2	0	3	1	22 5
Charleswood	4	1	0	0	1	0	4	1	1	0	2	0	12 2
Assiniboia	9	2	4	1	3	1	9	1	2	0	5	1	32 6
St.James	12	7	2	2	2	2	5	3	3	1	4	2	28 17
W.Winnipeg	9	9	8	5	3	5	14	10	25	4	10	6	69 39
Downtown	1	14	6	27	1	11	1	10	8	7	4	9	21 78
N.W.Winnipeg	3	2	2	5	2	2	4	2	3	0	4	2	18 13
N.Winnipeg	3	5	1	1	1	6	10	7	7	3	39	16	61 38
W.Kildonan	3	1	3	1	1	0	6	2	2	0	12	2	27 6
O.Kildonan	1	1	0	0	1	1	3	1	1	0	6	2	12 5
TOTAL OWNERS	104		43		62		120		95		145		569
TOTAL RENTERS		79		58		68		68		26		61	360
ETHNIC GROUP TOTALS	183		101		130		188		121		206		929

Source: Computations based on Statistics Canada (1979b).

of these communities is shown in Figure 2. Sampling was based on the entire population of ethnic households rather than on households with a history of recent migration. It was considered that this design would more likely include members of both the residentially stable and the more highly mobile elements in the ethnic groups. Any serious attempt to evaluate the relationships between micro-behavioural process and change in ecological patterns requires that both elements be included in the analysis. To ensure

approximately equal sample sizes and representation in each of the communities, the percentages sampled were inversely related to the number of households in each group.⁵⁸ For example, whereas only a 0.25% sample of households was obtained from the large British group, a 15.00% sample was sought from the much smaller Chinese group. These sampling levels indicated a total desired sample size from all ethnic groups of 929 respondents. As data from the 1981 census were unavailable at the time of survey, all samples were based on 1971 census distributions.

After identifying the desired number of ethnic households in each tenure category, potential respondents were selected by a random sampling of residential addresses listed in Henderson's Directory (i.e., the city directory). Potential respondents were thus identified at several street locations in each of the city's twenty communities. Up to one member of each ethnic group was interviewed at the first street location in each community. Additional random locations were then sought until the desired sample sizes were obtained for all groups. This method worked best in areas dominated by relatively stable single-family home ownership patterns. The higher occupancy turnover rates of rental

⁵⁸ Because of the uneven distribution of the small Chinese and Italian populations their respective sampling frames of 15% and 5% failed to identify potential respondents in a small number of communities. Whilst the sampling of higher percentages would have resolved this problem, the success of the survey would then have been unnecessarily dependent on high rates of respondent detection and co-operation.

properties made the successful identification of potential respondents more difficult, particularly in inner city low income areas.

The ethnicity of potential respondents was estimated on the basis of surname analysis. Surnames at street locations in the Henderson's Directory were compared to those appearing in onomastic and ethnographic sources (Dionne, 1914; Linnartz, 1936; Yuzyk, 1953; Hursky, 1957; Spada, 1969), and in the telephone directories of foreign cities (Berlin, Paris and Rome). This procedure helped improve the prospect of obtaining usable interview data. Inevitably, cases of incorrect identification resulted from inaccurate ethnic group assignation. For instance, individuals of Metis, Polish and Jewish ethnic origins were sometimes mistaken for persons of French, Ukrainian and German identity respectively. Incorrect identification also stemmed from changes in the residential location of households subsequent to their listing in the Henderson's Directory. Incorrect identifications necessitated the sampling of additional respondents until response samples with the appropriate ethnic (and tenurial) characteristics were obtained. Consequently, a total of approximately 1300 interviews were conducted to derive the final sample of 929 respondents (Table 8).

4.8 SUMMARY

Hypotheses are derived and presented for the purpose of evaluating inter-ethnic and intra-district variations in the patterning, determinants, and expectations of intra-urban migration behaviour. Individual areas of enquiry and their associated hypotheses are stated as:

migration patterning

- I that distance bias in migration is greater for relatively segregated ethnic groups;

and,

- II that ethnic core directionality in migration is greater for relatively segregated ethnic groups.

move determinants

- III that move determinants differ between ethnic groups.

place preferences

- IV that home community residential preference bias is greater for relatively segregated ethnic groups;

and,

- V that distant community residential aversion bias is greater for relatively segregated ethnic groups.

place attributes

- VI that more importance is attached to accessibility attributes by lower economic status ethnic groups;

and,

- VII that less importance is attached to environmental attributes by lower economic status ethnic groups.

migration intentions

- VIII that the likelihood of moving is greater for more urbanized ethnic groups.

residential segregation

**IX that prospective ethnic migration behaviour will
not change the intensity of ethnic segregation.**

Discussion also focuses on the structure of the migration questionnaire used in data collection, and on the ethnic and tenurial composition of the respondent sampling frame.

Chapter V

DATA PRESENTATION AND HYPOTHESIS TESTING: PAST MIGRATION BEHAVIOUR

This chapter focuses on the past migration experience of Winnipeg's ethnic groups. These groups are disaggregated into movers and non-movers on the basis of their migration histories. The moves of post-1971 migrants are then selected for detailed analysis. Centographic analysis is used to examine spatial bias in migration. Specific hypotheses refer to the distance and directional properties of recent migration and to its determinants. Hypothesis testing is conducted at two levels. The first compares the migration of the study's principal ethnic groups. The second compares the migration of the representative and non-representative groups of each ethnic district.

5.1 ETHNIC VARIATION IN MOBILITY STATUS

The retrospective analysis in this chapter requires that respondents be classified into movers and non-movers on the basis of their personal migration histories (Table 9). This classification provides comparative information on ethnic mobility rates and residential stability in ethnic core communities. Non-movers are divided into three categories:

- 1) inveterate non-movers residing at locations in which

TABLE 9
MOBILITY RATES AND TENURIAL CHARACTERISTICS OF RESPONDENTS

		MOVERS (TIME OF LAST MOVE)						NON-MOVERS OCCUPATION OF CURRENT RESIDENCE)					
				BEFORE 1971		BETWEEN 1971-1979		BEFORE 1951		BETWEEN 1951-1970		BETWEEN 1971-1979	
		N	%	N	%	N	%	N	%	N	%	N	%
BRITISH	OWNERS	104	(100.0)	36	(34.6)	39	(37.5)	13	(12.5)	6	(5.8)	10	(9.6)
	RENTERS	79	(100.0)	7	(8.9)	56	(70.9)	0	(-)	1	(1.3)	15	(19.0)
CHINESE	OWNERS	43	(100.0)	8	(18.6)	29	(67.4)	0	(-)	2	(4.7)	4	(9.3)
	RENTERS	58	(100.0)	2	(3.4)	41	(70.7)	0	(-)	1	(1.7)	14	(24.1)
FRENCH	OWNERS	62	(100.0)	19	(30.6)	27	(43.5)	3	(4.8)	4	(6.5)	9	(14.5)
	RENTERS	68	(100.0)	3	(4.4)	47	(69.1)	1	(1.5)	0	(-)	17	(25.0)
GERMAN	OWNERS	120	(100.0)	49	(40.8)	42	(35.0)	10	(8.3)	6	(5.0)	13	(10.8)
	RENTERS	68	(100.0)	7	(10.3)	42	(61.8)	0	(-)	1	(1.5)	18	(26.5)
ITALIAN	OWNERS	95	(100.0)	40	(42.1)	31	(32.6)	4	(4.2)	13	(13.7)	7	(7.4)
	RENTERS	26	(100.0)	3	(11.5)	13	(50.0)	0	(-)	4	(15.4)	6	(23.1)
UKRAINIAN	OWNERS	145	(100.0)	43	(29.7)	60	(41.4)	20	(13.8)	15	(10.3)	7	(4.8)
	RENTERS	61	(100.0)	6	(9.8)	39	(63.9)	0	(-)	2	(3.3)	14	(23.0)
---		---		---		---		---		---		---	
TOTAL A	OWNERS	569	(100.0)	195	(34.3)	228	(40.1)	50	(8.8)	46	(8.1)	50	(8.8)
	RENTERS	360	(100.0)	28	(7.8)	238	(66.1)	1	(0.3)	9	(2.5)	84	(23.3)
TOTAL B	OWNERS	110	(100.0)	43	(39.1)	34	(30.9)	17	(15.5)	6	(5.5)	10	(9.1)
	RENTERS	76	(100.0)	7	(9.2)	53	(69.7)	0	(-)	4	(5.3)	12	(15.8)
TOTAL A: COLUMN TOTALS ARE EXPRESSED AS A % OF ALL OWNERS (569) AND RENTERS (360). TOTAL B: COLUMN TOTALS IDENTIFY THE NUMBER OF OWNERS AND RENTERS RESIDING IN ETHNIC CORE COMMUNITIES. THESE TOTALS ARE EXPRESSED AS A % OF ALL OWNERS (110) AND RENTERS (76) RESIDING IN ETHNIC CORE COMMUNITIES.													

residence was established before 1951; 2) long-term non-movers at residences established between 1951-1970; and, 3) medium-term non-movers at residences established between 1971-1979. These categories are further divided according to the tenurial status of the respondents.

The number and distribution of non-movers confirms the existence of stable residential elements in Winnipeg's ethnic cores. The inveterate non-mover category is comprised almost entirely of owner occupiers. These account for 8.8% of all owner occupiers, and for 15.5% of owner occupiers residing in ethnic core communities (Table 9).

The community of North Winnipeg (Figure 2) alone accounts for 43% (22 of 51) of all inveterate non-movers. Most of the remaining inveterate non-movers are resident in the communities of West Winnipeg and Fort Rouge. Above average proportions of British, German and Ukrainian owner occupiers are found in this category.⁵⁹

The long-term non-mover group is also comprised almost entirely of owner occupiers. Most noticeable is the apparent emergence between 1951-1970 of a stable residential sub-group within the Italian community. The comparatively recent immigration of Winnipeg's Italian and Chinese communities (Table 4) may explain why greater numbers of these groups are not observed among the inveterate non-movers. In contrast, the medium-term non-mover group includes a disproportionate number of renters. Inter-city migrants with household heads younger than 35 years make up 48.8% of the renters in this category, and a further 20.2% is comprised of new households with heads under 25 years. These characteristics make the post-1971 non-movers a likely source of prospective migrants (see Chapter VI).

Two categories of movers are identified: 1) migrants who completed their last move prior to 1971; and, 2) migrants who completed their last move between 1971-1979. The

⁵⁹ 65% (13 of 20) of the Ukrainians in this category reside in North Winnipeg. Many are elderly residents and several report residence at their present addresses since birth or early childhood.

pre-1971 migrants are comprised almost entirely of owner occupiers. These constitute 34.3% of all owner occupiers in the study, and 39.1% of owner occupiers residing in their respective ethnic core communities. The lapse in time since their last moves is suggestive of their attachment to current residential locations. Because of long-term changes in the distribution of Winnipeg's housing stock and shorter-term changes in market trends, it is reasonable to assume that pre-1971 migrants have moved under circumstances which differ from those experienced by more recent migrants. Consequently, the pre-1971 movers are excluded from the detailed analysis presented in later sections of this chapter.

A disproportionate number of renters in both absolute and relative terms is included among the post-1971 movers. This phenomenon is in keeping with standard observations concerning the comparative frequency and recency of moves made by renters (e.g., Rossi, 1955; Speare et al., 1975). Renters in this mover category account for 66.1% of all renters in the study, and for 69.7% of renters residing in their respective ethnic core communities. An exceptional situation is observed in the approximately equal proportions of Chinese owners (67.4%) and renters (70.7%) who completed their last moves between 1971-1979. The lowest incidence of mobility in this period is associated with Italian owners (32.6%) and renters (50.0%). The contrast between the

Chinese and Italian mobility rates suggests that dispersal from the Italian ethnic core may be proceeding at a relatively slow rate. Analysis in the later sections of this chapter focuses on the moves made between 1971-1979.⁶⁰ These dates coincide with the decennial census interval and the year in which the field survey was conducted. The relative disposition of Winnipeg's ethnic groups in 1971 is described in Chapter III.

Table 10 classifies the 1971-1979 movers by community of origin and tenurial status. In general, these data are distributed in a pattern resembling that of the entire ethnic sample (Table 8). For instance, large numbers of Germans have move origins in communities of the German district (i.e., North Kildonan, East Kildonan and West Winnipeg). Similarly, the French core of North St. Boniface is prominent among the French move origins. However, the distributions in Tables 8 and 10 differ in two important ways. First, the preponderance of renters or intended renters among the movers is reflected in move origins which are biased towards the central area and mature suburbs.

⁶⁰ Ideally, retrospective analysis should select a shorter time frame of from one to five years. A time frame of this length is more easily achieved when the respondent sample is specifically designed to exclude non-movers, or when the sample size is very much larger than that employed in the present study. Respondents in this study were sampled in proportion to their tenurial status and residential distribution. Consequently, the present sampling design represents a compromise between that which is desirable, and that which is logistically possible on the basis of limited financial resources.

TABLE 10

RESIDENTIAL LOCATION OF POST-1971 MOVERS PRIOR TO MIGRATION

	<-----NUMBER OF MOVERS----->												COMMUNITY TOTALS	
	BRITISH		CHINESE		FRENCH		GERMAN		ITALIAN		UKRAINIAN			
O : OWNERS	O	R	O	R	O	R	O	R	O	R	O	R	O	R
R : RENTERS														
COMMUNITY OF ORIGIN														
N.Kildonan	3	0	1	0	0	0	6	4	0	0	7	2	17	6
E.Kildonan	3	3	0	2	1	2	8	4	1	2	6	1	19	14
Transcona	0	0	1	0	0	1	1	0	2	0	3	1	7	2
N.St.Boniface	1	4	2	0	8	16	1	0	2	0	0	1	14	21
N.St.Vital	1	1	0	0	0	1	1	0	0	0	2	0	4	2
S.St.Boniface	1	0	0	1	4	1	0	2	0	0	0	3	5	7
S.St.Vital	2	3	0	3	1	3	0	0	0	0	2	0	5	9
S.F.Garry	2	1	2	5	2	1	2	3	0	0	1	0	9	10
N.F.Garry	2	0	0	1	0	0	0	1	1	2	1	0	4	4
Fort Rouge	4	11	3	4	0	4	5	2	2	4	2	5	16	30
R.Heights-Tuxedo	6	5	0	0	0	0	1	2	0	0	2	2	9	9
Charleswood	1	3	1	0	1	0	1	0	0	0	2	1	6	4
Assiniboia	0	0	0	0	3	2	0	0	0	0	2	0	5	2
St.James	3	1	0	0	2	3	2	2	0	0	3	1	10	7
W.Winnipeg	5	6	6	3	2	3	6	11	16	1	8	4	43	28
Downtown	1	12	11	19	0	5	1	8	1	2	2	5	16	51
N.W.Winnipeg	0	1	2	1	1	1	2	1	0	0	0	2	5	6
N.Winnipeg	1	2	0	2	0	1	1	0	6	1	12	8	20	14
W.Kildonan	1	2	0	0	1	1	3	0	0	1	3	0	8	4
O.Kildonan	2	1	0	0	1	2	1	2	0	0	2	3	6	8
TOTAL OWNERS	39		29		27		42		31		60		228	
TOTAL RENTERS		56		41		47		42		13		39		238
ETHNIC GROUP TOTALS	95		70		74		84		44		99		466	

Second, several communities of marked ethnic concentration are relatively under-represented. Most noticeable is the comparative absence of British and Italian movers with respective move origins in St.James and West Winnipeg. This bias provides contributory evidence of neighbourhood stability within the British and Italian ethnic cores.

5.2 ETHNIC VARIATION IN THE SPATIAL BIASES OF RECENT MIGRATION

Investigation of spatial bias in recent intra-urban migration required respondents to provide migration histories for that part of their adult lives during which they had formed independent households within Winnipeg (Appendix A, Question 1). The following analysis examines the behaviour of households who had moved directly to their current locations from other points in the city between 1971 and 1979, the time of the survey. In total, 66.2% of respondents had moved within this period (Table 9). Discussion is presented in two sections. In the first, centographic analysis is employed to provide a statistical and cartographic summary of spatial bias. Spatial bias is expressed in terms of the distance, directional and sectoral properties of migration. The second section presents the test results for specific hypotheses concerning inter-ethnic and intra-district differences in the distance and direction of migration.

Both sections of this discussion require an assessment of the segregation status of Winnipeg's ethnic groups. This status is determined on the basis of the indices of segregation discussed in Chapter III (Tables 2 and 5). For convenience the relevant indices are repeated in Table 11. Analysis concerning the principal ethnic groups utilizes indices of isolation (I^*) to rank all groups with respect to

TABLE 11

RESIDENTIAL SEGREGATION OF THE PRINCIPAL AND ETHNIC DISTRICT GROUPS

PRINCIPAL GROUPS		ETHNIC DISTRICT GROUPS			
		(Representative)		(Non-Representative)	
	I*		C*		C**
BRITISH	1.09	BRITISH	1.39	Non-BRITISH	0.59
CHINESE	2.14	CHINESE	2.63	Non-CHINESE	1.12
FRENCH	2.32	FRENCH	3.17	Non-FRENCH	0.72
GERMAN	1.20	GERMAN	1.58	Non-GERMAN	0.95
ITALIAN	1.61	ITALIAN	2.15	Non-ITALIAN	1.09
UKRAINIAN	1.39	UKRAINIAN	2.03	Non-UKRAINIAN	0.71
KEY: I* : Index of Isolation (from column 3, Table 2)					
C* : Index of Locational Concentration (from column 3, Table 5)					
C** : Mean Index of Locational Concentration (based on column 3, Table 5)					

Source: Computation based on Statistics Canada (1974b).

the least segregated British group.⁶¹ Analysis involving the representative and non-representative groups in the ethnic districts utilizes indices of locational concentration (C* or C**).⁶²

⁶¹ The index of isolation is defined in footnote 29, page 69.

⁶² The index of locational concentration (C* or C**) is defined in footnote 36, page 77. C* values denote the size of the index for representative groups, for example, the British of the British district (C* = 1.39). This value is presented in column 4 of Table 11. C** values denote the mean size of the index for the five non-representative groups in each ethnic district. For example, the C** value for the British district is the average of the C* values for the Chinese, French, German, Italian and Ukrainian groups $((0.69 + 0.53 + 0.83 + 0.43 + 0.49) / 5 = 0.59)$. This value is presented in column 6

5.2.1 Spatial Bias in Migration: A Centrographic Analysis

Objective statistical description of migration bias is provided by the TRANSMAP (Brown et al., 1969) and CENTRO (Hultquist et al., 1971) centrographic mapping routines.⁶³ Within the context of cultural groups, centrographic analysis has been used to describe residential segregation (Lee, 1967) and the constrained migration patterns of immigrant groups (Humphreys and Whitelaw, 1979). In this study, centrographic analysis is used to determine the precise distance, directional and sectoral properties of recent ethnic migration activity.

In TRANSMAP the distance, directional and sectoral properties of the migration data are preserved in terms of a point distribution. This is accomplished by rotation and translation of the reference (origin) and related (destination) nodes about a selected orientation (ethnic core) node. In this study separate orientation nodes are selected for each ethnic group.⁶⁴ The CENTRO programme is then used to fit standard ellipses to the transformed data.

of Table 11.

⁶³ Among its many applications, centrographic analysis has been used to assess: the migration patterns of housing sub-markets (Fung, 1972; Wiseman and Virden, 1977); the residential search of disaggregated populations (Bible and Brown, 1979); and, the search behaviour of displaced households (Phipps, 1984).

⁶⁴ The orientation node of an ethnic group is defined as the central point of the census tract containing the group's highest index of locational concentration (C*).

Of the various statistics recorded, distance bias is described by the standard radius of a distribution about its mean centre. Sectoral bias is measured by the coefficient of circularity (CC*). The coefficient is determined as the ratio of the standard distances of a distribution about its minor and major axes. Values for each coefficient range from 0.0 (complete sectorality) to 1.0 (complete circularity). The standard ellipse of a distribution is defined by the length of the aforementioned axes. Directional bias is determined by the sign of the displacement distance on the horizontal (directional) axis of the distribution.⁶⁵ A statistical summary of the spatial bias for each of the principal ethnic groups is presented in Table 12. This summary is disaggregated to show the spatial biases of ethnic tenurial groupings. The standard ellipses for the principal ethnic groups are displayed in Figure 4.

Following transformation of the data, distance bias is evident in the standard radii of all ethnic groups, and is greatest for the more segregated Chinese, French and Italian groups (Table 12).⁶⁶ These tendencies are maintained within

⁶⁵ Directional bias towards an ethnic core location is present when angles of rotation and displacement are each close to 0° and the displacement distance is markedly negative (Brown and Holmes 1971a, 1971b). Conversely, directional bias away from an ethnic core is indicated when the rotation angle is close to 180°, the displacement angle approaches 0° and the displacement distance is markedly positive.

⁶⁶ Segregation indices (I*) for the principal ethnic groups are presented in Table 11).

TABLE 12

SPATIAL BIAS STATISTICS FOR ETHNIC MIGRANTS, 1971-1979

	SAMPLE SIZE	STANDARD RADIUS MEAN CENTRE (KM)	COEFFICIENT OF CIRCULARITY (CC=)	REFERENCE NODE COORDINATES		MEAN CENTRE		DISPLACEMENT		DEGREES		ROTATION
				VERT. AXIS	HOR. AXIS	VERT. AXIS	HOR. AXIS	VERT. AXIS (KM)	HOR. AXIS (KM)	GIVEN	OFF HOR. AXIS	
PRINCIPAL GROUPS												
BRITISH	95	5.75	0.70	6.15	13.50	5.84	12.59	-0.31	-0.91	68.21		21.79
CHINESE	70	4.90	0.72	13.90	16.40	14.36	15.29	0.46	-1.11	79.82		10.18
FRENCH	74	4.20	0.67	15.80	14.75	15.96	13.24	0.16	-1.51	98.41		8.41
GERMAN	84	5.28	0.88	18.05	20.50	18.22	19.93	0.17	-0.57	68.44		21.56
ITALIAN	44	3.89	0.95	12.05	14.95	11.93	13.80	-0.12	-1.15	97.95		7.95
UKRAINIAN	99	5.35	0.60	14.75	17.45	14.69	15.31	-0.06	-2.41	87.20		2.80
OWNERS												
BRITISH	39	6.83	0.84	6.15	13.50	5.84	12.45	-0.31	-1.05	68.57		21.43
CHINESE	29	6.10	0.84	13.90	16.40	14.68	15.85	0.78	-0.55	83.26		6.74
FRENCH	27	5.09	0.47	15.80	14.75	16.43	12.73	0.63	-2.02	108.48		18.48
GERMAN	42	5.97	0.82	18.05	20.50	18.86	20.50	0.81	0.00	56.83		33.17
ITALIAN	31	4.00	0.84	12.05	14.95	11.88	14.17	-0.17	-0.78	1.88		88.12
UKRAINIAN	60	5.88	0.59	14.75	17.45	14.67	15.01	-0.08	-2.44	84.29		5.71
RENTERS												
BRITISH	56	4.85	0.51	6.15	13.50	5.84	12.69	-0.31	-0.81	68.03		21.97
CHINESE	41	3.77	0.52	13.90	16.40	14.14	14.90	0.24	-1.50	78.99		11.01
FRENCH	47	3.52	0.72	15.80	14.75	15.69	13.53	-0.11	-1.22	64.16		25.84
GERMAN	42	4.20	0.77	18.05	20.50	17.52	19.21	-0.53	-1.29	121.08		31.08
ITALIAN	13	3.42	0.44	12.05	14.95	12.04	12.90	-0.01	-2.05	92.99		2.99
UKRAINIAN	39	4.35	0.60	14.75	17.45	14.72	15.78	-0.03	-1.67	95.71		5.71

the ethnic tenure groups, with the exception that the distance bias of Chinese owners is not pronounced. In addition, distance bias among renters is generally greater than that among owners of the same ethnic group. This finding may reflect the greater dispersal of housing opportunities in the owner occupier sector of the housing market (see Chapter III, Section 3.3.2).

Greatest sectoral bias is disclosed by the coefficient of circularity for the Ukrainian group, whilst the least is registered by the Italian group. Despite these variations, marked sectoral bias is not evident, and no clear relationship exists between sectoral bias and segregation status. Thus, approximately equal levels of sectorality are

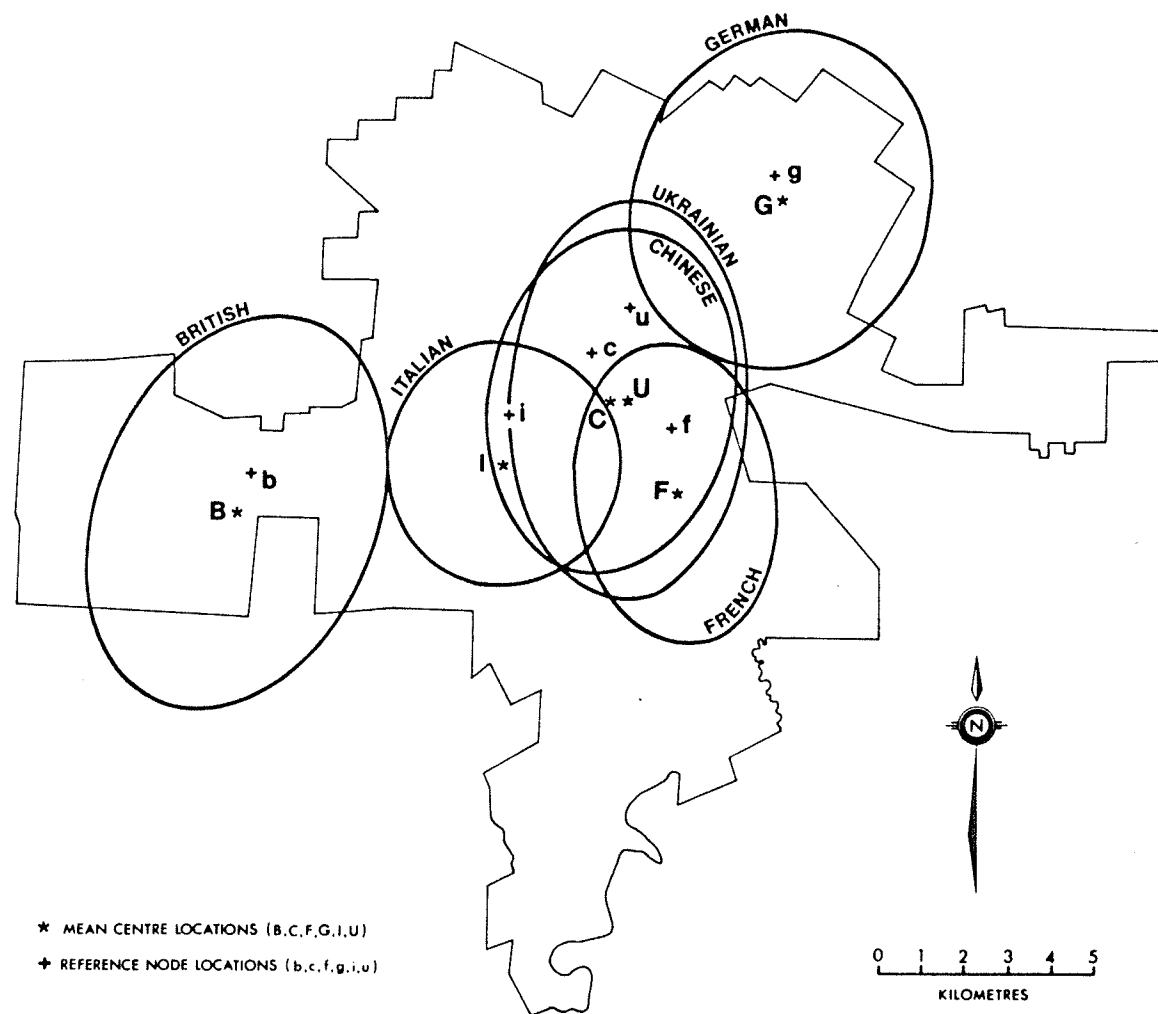


Figure 4: STANDARD ELLIPSES OF THE PRINCIPAL ETHNIC GROUPS

exhibited by groups with contrasting segregation status (e.g., British and Chinese). Among the ethnic tenure groups, greatest sectoral bias is exhibited by French and Ukrainian owners, and by British, Chinese and Italian renters. These between-group variations appear unrelated to differences in segregation status. Nevertheless, there is some tendency for sectoral bias among renters to be greater than that among owners of the same ethnic group. This phenomenon is best exhibited by the aforementioned renter groups. Conversely, the sectoral bias of French owners exceeds that of French renters.

Most migration patterns appear directionally biased towards their respective ethnic core locations. This is evidenced by: 1) small angles of rotation; 2) pronounced negative displacement distances along the horizontal (directional) axes; and, 3) relatively modest displacement angles along the vertical axes. Collectively, these values suggest that directional bias is greatest among the French, Italian and Ukrainian groups. Pronounced directional bias is also evident among French and Ukrainian owners, and among Chinese, Italian and Ukrainian renters. In certain instances directional bias among renters exceeds that among owners of the same ethnic group (e.g., Chinese and Italian), but evidence of greater directional bias among owners is also shown (e.g., French and Ukrainian). Collectively, the spatial bias data provide contributory evidence of

residential stability within the ethnic core communities. This evidence is best exhibited by the more segregated ethnic groups, and is especially pronounced among Chinese and Italian renters, and French and Ukrainian owners.

At this point a word of caution is required concerning the validity of the aforementioned comparative statistics. The validity of these statistics is dependent on the dimensions of the opportunity field available to migrants. Precise delimitation of opportunity fields may be difficult to determine even under relatively simple assumptions concerning residential structure and urban morphology (Moore, 1970; Moore and Brown, 1970). Clearly these assumptions do not apply in the present study. Earlier discussion has noted that the city's ethnic groups possess contrasting residential distributions and densities, and occupy different sectors of the housing market (see Chapter III, Section 3.3). Because of this, the housing opportunity fields of the individual ethnic groups will necessarily differ. The complexity of this situation is accentuated by the city's linear morphology. Consequently, it is almost impossible to determine whether the observed differences in spatial bias are related to unspecified differences in the ethnic opportunity fields, to the spatial arrangement of the city's residential areas, or to some more fundamental cultural factors.

5.2.2 Spatial Bias in Migration: A Test of Hypotheses

Analysis in the following section offers specific tests for inter-ethnic and intra-district differences in migration bias. Examination of distance and directional bias involves the multiple testing of Hypothesis I:

that distance bias in migration is greater for relatively segregated ethnic groups;

and, Hypothesis II:

that ethnic core directionality in migration is greater for relatively segregated ethnic groups.

Hypothesis testing for the study's principal ethnic groups provides a series of fifteen inter-ethnic tests (ethnic pairings) for each hypothesis.⁶⁷ The district level analysis requires six district-specific tests for each hypothesis. Indices reflecting inter-ethnic (I*) and intra-district (C* or C**) variation in segregation are presented in Table 11.

5.2.2.1 Ethnic Variation in the Distance of Migration

The migration distances of the principal ethnic groups are presented in Table 13. The general form of these data is consistent with the results of the centrophobic analysis. Mean migration distances range between 3.0 and 4.2 km, and the migration distances of owners tend to be greater than those of renters of the same ethnic group.

⁶⁷ This number of tests is determined from the formula $n(n-1)/2$, where n refers to the number (6) of the principal ethnic groups.

TABLE 13

PRINCIPAL ETHNIC GROUPS: VARIATION IN DISTANCE OF MIGRATION
1971-1979

	N	MEAN DISTANCE KM.	STANDARD DEVIATION KM.	MEDIAN DISTANCE KM.	MODAL DISTANCE KM.	MEAN RANK	RESULTS OF BONFERRONI T TEST ¹
<u>PRINCIPAL GROUPS</u>							
BRITISH	95	4.13	4.13	2.92	0.50	247.52	A B
CHINESE	70	3.19	3.93	1.12	0.05	192.94	B
FRENCH	74	3.04	3.28	1.81	0.50	208.65	A B
GERMAN	84	4.04	3.47	2.73	0.71	260.66	A
ITALIAN	44	3.04	2.71	1.82	0.50	218.63	A B
UKRAINIAN	99	4.18	3.98	3.00	0.05	250.87	A B

<u>OWNERS</u>							
BRITISH	39	5.39	4.40	3.54	0.71	299.54	A
CHINESE	29	4.70	4.07	3.50	0.05	265.17	A B
FRENCH	27	3.62	4.24	1.81	0.50	218.72	A B C
GERMAN	42	4.44	4.12	2.86	0.50	263.56	A B
ITALIAN	31	3.05	2.76	1.58	0.50	217.37	A B C
UKRAINIAN	60	4.77	4.26	3.68	0.71	273.70	A B
<u>RENTERS</u>							
BRITISH	56	3.26	3.73	1.90	0.50	211.29	A B C
CHINESE	41	2.12	3.51	0.50	0.05	141.84	C
FRENCH	47	2.72	2.58	1.81	0.50	202.86	B C
GERMAN	42	3.63	2.67	2.73	1.12	257.76	A B
ITALIAN	13	3.04	2.69	2.06	0.50	221.62	A B C
UKRAINIAN	39	3.28	3.35	1.81	0.05	215.74	A B C

¹ Mean ranks with the same letter are not significantly different at the 0.05 level. A detailed listing of the confidence limits associated with the Bonferroni test procedure is provided in Appendix B.

Extreme distance bias is indicated by low modal distance values, and by median distance values which are exceeded by the means. A parametric multiple comparison of means test is precluded because the data are non-normally distributed. Unequal group variances are suggested by high and unequal standard deviations, and the data are positively skewed about their means. Normalization of the data is not achieved by a log transformation. In view of these

restrictions, the data are transformed to ranks and a multiple comparison of mean ranks test is conducted.

Multiple comparison is achieved through the use of the Bonferroni t test.⁶⁸ This a posteriori test procedure controls the Type I experimentwise error rate by dividing the desired significance level of the test by the number of between-group contrasts.⁶⁹ Control for Type I errors reduces the probability of falsely rejecting the null hypothesis when it is true. Conversely, as the rejection level of the test is set quite low, this increases the probability of Type II errors, i.e., of failing to reject the null hypothesis when it is false.⁷⁰ Comparison of all possible inter-ethnic pairings is based on the mean rank scores, and the experimentwise significance level is set at 0.05. Test

⁶⁸ Strictly speaking, multiple comparison should be based on the nonparametric Kruskal-Wallis rank sum test. From a statistical standpoint, however, the large size of the data base ($N = 466$) renders the Bonferroni and Kruskal-Wallis tests approximately equivalent, and in practical terms, the Bonferroni test offers the advantage of being more accessible. Data handling procedures for the test are provided by the ANOVA feature of SAS programming (Ray, 1982). The comparative merits of the Bonferroni t test are described in Miller (1966, pp.67-70) and Neter and Wasserman (1974, pp.480-482).

⁶⁹ Specifically, the procedure ensures that the confidence coefficient for all between-group comparisons is at least $1 - \alpha$. The test procedure is written as $|\bar{R}_i - \bar{R}_j| > t_{\alpha/(k)} / \sqrt{MSE(1/n_i + 1/n_j)}$ where: $|\bar{R}_i - \bar{R}_j|$ is the difference between mean ranks; $t_{\alpha/(k)}$ is the Bonferroni t statistic; df is the degrees of freedom; MSE is the mean square error; and, n_i and n_j indicate the number of cases in each between-group comparison. Confidence limits for each between-group comparison are presented in Appendix B.

⁷⁰ The increased probability of Type II errors stems from

results reveal that the mean ranks of the Chinese and German groups are significantly different. Reference to Table 11 indicates that the lower ranking Chinese group is the more segregated of the two groups. Consequently, the observed difference in these ranks is supportive of Hypothesis I.

As noted, the Bonferroni t test is susceptible to Type II errors. Errors of this type are most likely to occur in comparisons between: 1) the Chinese and Ukrainian; 2) the Chinese and British; and, 3) the French and German.⁷¹ In each case, the group with the lower mean rank is also the more segregated. Because of these relationships, additional group-specific support for Hypothesis I is suggested. The reason for the distinctive migration behaviour of the Chinese group becomes evident when between-group comparisons are made of the ethnic tenure groups. Thus, a Bonferroni t test of all possible between-group pairings identifies significant differences at the 0.05 level in 6 of the 66 tests.⁷² These tests refer to pairings involving: 1)

the more conservative nature of the test design. Conventionally, an increase in the Type II error rate is considered less problematical than an increase in the Type I error rate. In this analysis, the greatest probability of Type II errors occurs where tests which are non-significant in an a posteriori experimentwise design are found to be significant in an a priori comparisonwise design.

⁷¹ The chi-square values associated with these comparisons are significant in a LSD (least-significant difference) multiple comparisons test. This test controls for the Type I comparisonwise error rate, but not the experimentwise error rate (Winer, 1962; Ray, 1982).

⁷² This number of tests is determined from the formula

Chinese renters and all owner occupier groups except French and Italian owners; 2) Chinese renters and German renters; and, 3) French renters and British owners.⁷³ In each case, the lowest mean ranks are associated with Chinese and French renters. These renters form members of the two most segregated groups in the study. Consequently, it appears that the extreme distance bias exhibited in these results largely accounts for the instances in which group-specific support for Hypothesis I is suggested.

As in the citywide analysis, short-distance migration bias of less than 4.0 km is dominant (Table 14). Distance bias is most pronounced in the representative groups of the Chinese, French and Italian districts, and is least pronounced in the non-representative groups of the British and Chinese districts. Within the individual ethnic districts, the distance bias of the representative group appears to exceed that of the non-representative group. As with the principal groups, a parametric test of the difference between group means is precluded by the non-normality of the data. Instead, the non-parametric Wilcoxon 2-sample test is adopted. This test is used to compare the

$nt(nt-1)/2$, where n is the number of ethnic groups (6), and t is the number of tenure categories (2) for each group.

⁷³ The LSD multiple comparisons test identifies significant differences at the 0.05 level in 23 of the 66 tests. The move distances of Chinese renters are judged significantly different to those of all groups except Italian renters (i.e., 10 of 11 pairings involving Chinese renters are significantly different).

TABLE 14

ETHNIC DISTRICT GROUPS: VARIATION IN DISTANCE OF MIGRATION
1971-1979

	N	MEAN DISTANCE KM.	STANDARD DEVIATION KM.	MEDIAN DISTANCE KM.	MODAL DISTANCE KM.	MEAN RANK	WILCOXON 2-SAMPLE TEST Z-SCORES ¹
BRITISH	22	5.55	4.16	4.02	3.64	31.68	-0.3952
NON-BRITISH	43	5.73	3.73	5.22	1.58	33.67	
CHINESE	39	2.20	3.56	1.00	0.05	52.26	-2.7067*
NON-CHINESE	92	2.93	3.04	1.54	0.50	71.83	
FRENCH	32	2.11	2.74	1.06	0.50	28.58	-3.3435*
NON-FRENCH	44	5.45	4.74	4.48	0.05	45.72	
GERMAN	34	3.14	3.12	2.18	0.71	61.62	0.4253
NON-GERMAN	84	3.26	3.53	1.91	0.50	58.64	
ITALIAN	25	2.12	2.23	1.12	0.50	85.30	-0.1820
NON-ITALIAN	148	2.98	3.60	1.50	0.05	87.29	
UKRAINIAN	37	3.81	3.83	2.50	0.50	38.73	-0.7922
NON-UKRAINIAN	44	4.25	3.98	3.52	1.00	42.91	

* Significant at 0.01 level.
¹ The probability of finding two such significant tests purely by chance is < .01.

mean ranks of the representative and non-representative groups in each district. Test results indicate highly significant z-scores for the Chinese and French districts. In both cases the mean rank of the more segregated representative group is lower than that of the non-representative group (Table 14). Consequently, the directionality expressed in these results is consistent with that specified in Hypothesis I. Also, as the six district-level tests are independent of each other, the probability of finding two significant test statistics may be determined

according to a binomial probability distribution.⁷⁴ Standard cumulative binomial probability tables indicate that this probability is less than .01 (Bhattacharyya and Johnson, 1977, p.591). Because of these relationships, modest district-specific support for Hypothesis I is suggested.

5.2.2.2 Ethnic Variation in the Direction of Migration

Direction of movement is measured from the respective ethnic core locations. For example, British moves are measured with respect to the British core area in St.James, whilst Chinese moves are measured from the Chinese core in Downtown (Figure 2). Figure 5 (A) shows the angular relationships between a migration origin location (R, the reference node), an ethnic core (O, the orientation node) and seven possible destination locations (related nodes A to G). In Figure 5 (B) the deflection⁷⁵ of the move angles has been disregarded such that all moves are measured from one side of the principal axis (p,p'). Angles of movement are assigned to one of six 30° sectors. Move angles of 0° to 30° (move A) and 150° to 180° (moves D and E) indicate

⁷⁴ The cumulative binomial probability is expressed as $P[X \leq c] = \sum_{x=0}^c \binom{n}{x} p^x (1-p)^{n-x}$ where: P is the cumulative probability; $x=0$ is the number of significant test statistics; n is the number of tests; and, p is the probability of success in each test. The binomial distribution is discussed in (Bhattacharyya and Johnson, 1977, pp.145-152).

⁷⁵ The move angles of the related nodes from the reference nodes in terms of the ethnic cores are deflected to either the right (moves A,B,C and D) or left (moves E,F and G) of the principal axis (p,p').

respective directional biases towards and away from the ethnic core. Move angles of 30° to 60° (move G) and 120° to 150° (move C) suggest that directional and cross-sector biases are of approximately equal strength. Moves with strong cross-sector biases are indicated by angles between 60° and 120° (moves B and F).

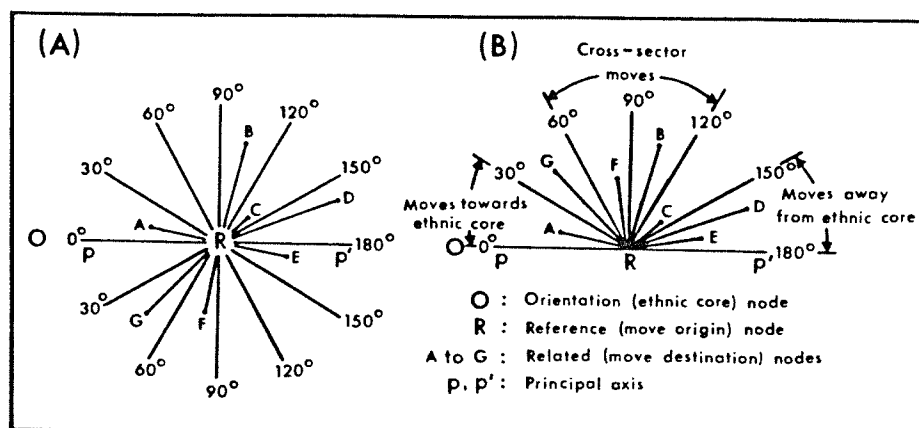
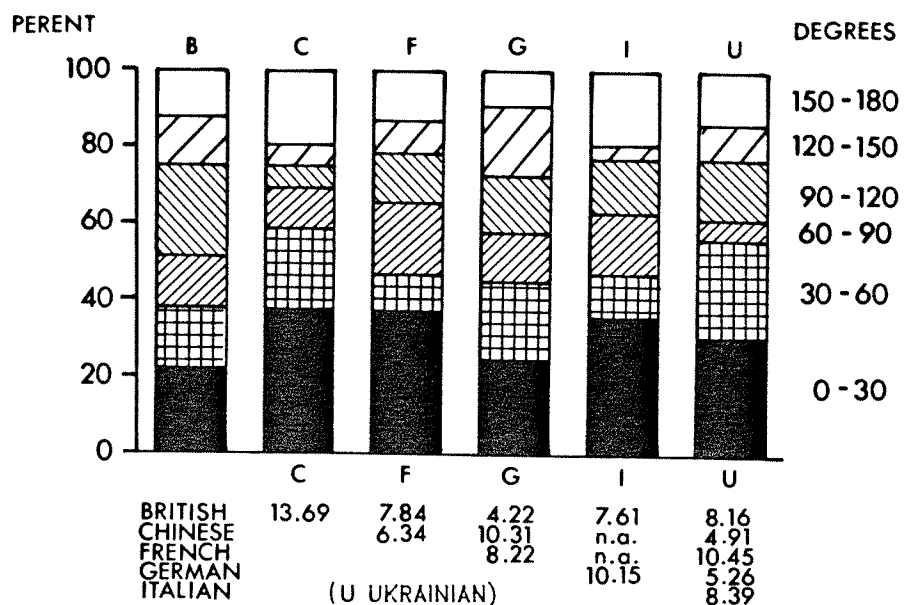


Figure 5: CLASSIFICATION OF MOVE ANGLES BY 30° SECTORS

If moves were equally distributed between the six 30° sectors, each sector would account for approximately 16.7% of moves and directional bias would be absent. Instead, distinct directional bias is suggested by the large proportion of moves which are directed towards the respective ethnic cores. Movements of this type (move angles between 0° and 30°) account for between 22.6% (British) and 37.5% (Chinese) of moves (Figure 6). When centrifugal movements (150° to 180°) are added to this pattern, the extent of sectoral bias ranges between 35.5%

MIGRATION ANGLES OF THE PRINCIPAL ETHNIC GROUPS



MIGRATION ANGLES OF THE ETHNIC DISTRICT GROUPS

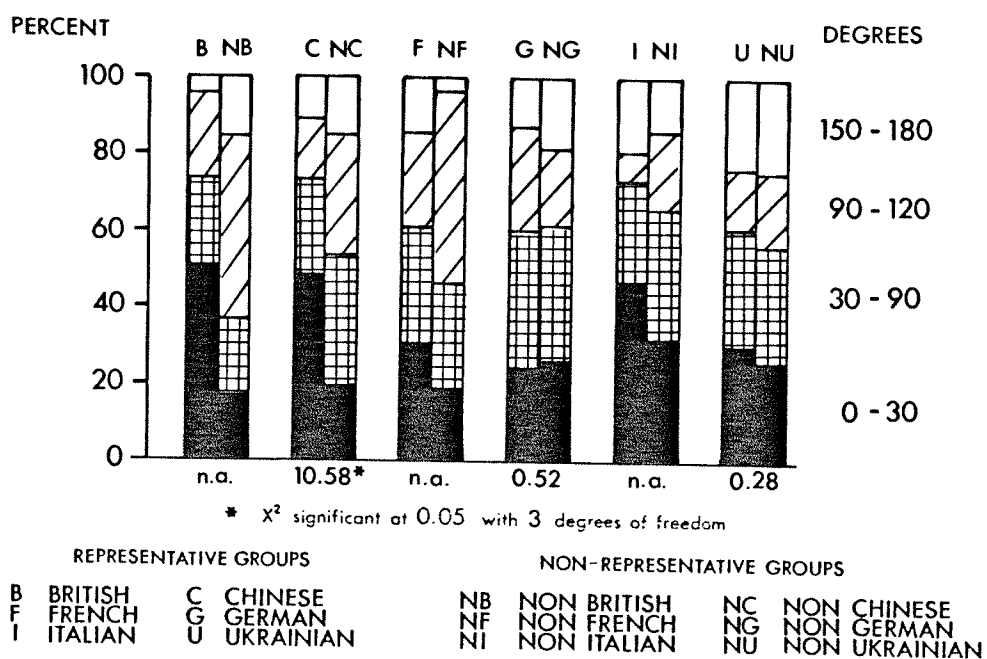


Figure 6: ETHNIC VARIATION IN ETHNIC CORE MIGRATION ANGLES

(British) and 57.8% (Chinese). On the basis of these data, directional bias in ethnic migration is confirmed for all groups.

Multiple comparison of the migration angles employs the chi-square test.⁷⁶ The desired significance level of the test is set at 0.05, and fifteen chi-square statistics are generated by comparing all possible inter-ethnic pairings. As the chi-square statistics are examined a posteriori, the experimentwise significance level of 0.05 is maintained by applying a Bonferroni modification (Neter and Wasserman, 1974; Meddis, 1984, pp.288-290). The Bonferroni modification sets the significance level for each between-group test as the ratio of the overall significance level to the number of inter-ethnic tests (i.e., $0.05 / 15 = 0.003$). In practice this means that the critical chi-square value for the test with 5 degrees of freedom is increased from 11.07 to 18.64. This modification is appropriate in the present situation as the tests are dependent on each other. The modification reduces the probability of Type I errors, but increases the probability of Type II errors.

Test results indicate that none of the between-group pairings is significant at the 0.05 level. In addition, no substantial change in the test results is obtained when the

⁷⁶ Explanation and examples of the non-parametric chi-square test may be found in Siegel (1956) and Blalock (1972). Chi-square statistics are generated using the CROSSTABS feature of SPSS programming (Nie et al., 1975).

Bonferroni modification is relaxed. Specifically, a comparisonwise test design indicates that the only realistic probability of a Type II error occurs in comparing the British and Chinese groups. Thus, inspection of the data distributions reveals that the Chinese (37.5%) register more moves within the 0° to 30° sector than the British (22.6%) (Figure 6). Much of this difference is accounted for by the extreme directional bias of Chinese renters.⁷⁷ In addition, the Chinese (20.3%) have a greater proportion of their moves registered between 150° and 180° than the British (12.9%). Segregation indices confirm that the Chinese ($I^* = 2.14$) group is more segregated than British ($I^* = 1.09$) (Table 11). The directionality expressed in these relationships is consistent with Hypothesis II. However, as the observed relationships are not significant at the 0.05 level, the validity of this result is questionable. The remaining test results indicate that directional bias is not greater for relatively segregated ethnic groups. Consequently, group-specific support for Hypothesis II is limited at best.

In the intra-district analysis, cross-sector movements are collapsed into two categories with ranges between 30° - 90° and 90° - 150° (Figure 6). This procedure is adopted so that the statistical requirements of the chi-square test can

⁷⁷ Moves between 0° and 30° account for 55.6% of moves made by Chinese renters. Corresponding proportions for Chinese owners, British owners and British renters are set at 14.3%, 27.0% and 19.6%.

be satisfied more easily.⁷⁸ Unfortunately, the procedure is only partially successful. Statistically reliable chi-square values are identified in only three of the six intra-district tests. Test results indicate that chi-square is significant in the Chinese district ($\chi^2 = 10.58$, 3 d.f., <0.05). Examination of the data distributions in Figure 6 indicates that moves within the 0° to 30° sector are more typical of the representative Chinese (47.2%) than of the non-representative Chinese (19.3%). Segregation indices confirm that the representative Chinese group ($C^* = 2.63$) is more segregated than the non-representative group ($C^{**} = 1.12$) of the Chinese district (Table 11). In an a posteriori examination of six test statistics the probability of finding one significant test at the .0.05 level is .26. Consequently, the statistical validity of this observation is questionable. Despite this, further support for Hypothesis II is suggested in the British district. The statistical requirements of the chi-square test are not met in this instance. However, because the directional bias of the representative British group (50.0% of moves between 0° and 30°) far exceeds that of the non-representative group (16.7%), the test is rendered superfluous.⁷⁹ In view of these relationships, modest

⁷⁸ The chi-square test requires that: 1) the data are in the form of frequencies counted in each of several categories; 2) total numbers observed exceed 20; 3) the expected frequency in any one fraction must not normally be less than 5; and, 4) the distributions must be independent (Hammond and McCullagh, 1974).

district-specific support for Hypothesis II is suggested.

5.3 ETHNIC VARIATION IN THE MOVE DETERMINANTS OF RECENT MIGRATION

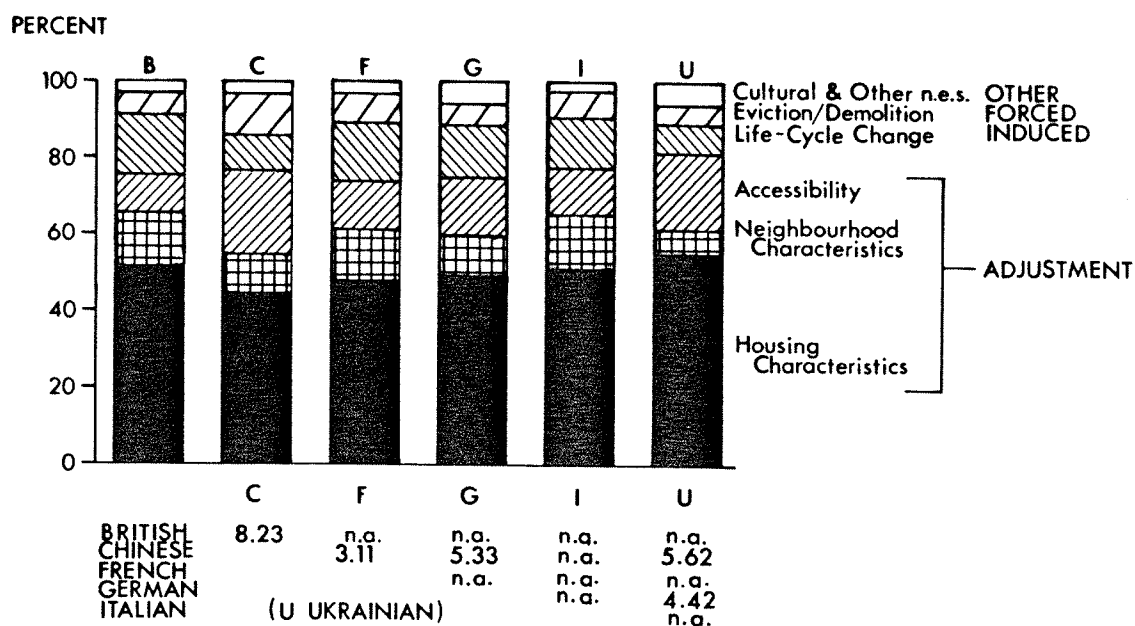
Investigation of move determinants required each respondent to list the first and second most important reasons for moving from their previous address (Appendix A, Question 2). For clarity of presentation, only the primary or most important move determinants of each ethnic group are evaluated. Emphasis on primary move determinants is also conditioned by the desire to reduce cognitive dissonance effects in respondent recall (Lyon and Wood, 1977). Analysis involves the multiple testing of Hypothesis III:

that move determinants differ between ethnic groups.

Primary move determinants are grouped into major categories (Figure 7) based on the typology of moves suggested by Clark and Onaka (1983). These categories distinguish between adjustment (i.e., housing, neighbourhood and accessibility motives), induced (i.e., life-cycle changes) and forced (i.e., eviction or demolition) moves. Adjustment moves are further divided into accessibility, neighbourhood and housing adjustment categories. A small number of moves remain unclassified and are included in the

⁷⁹ Similar, but less convincing arguments might be made with respect to the greater directional bias of the representative groups in the French and Italian ethnic districts.

MOVE DETERMINANTS OF THE PRINCIPAL ETHNIC GROUPS



MOVE DETERMINANTS OF THE ETHNIC DISTRICT GROUPS

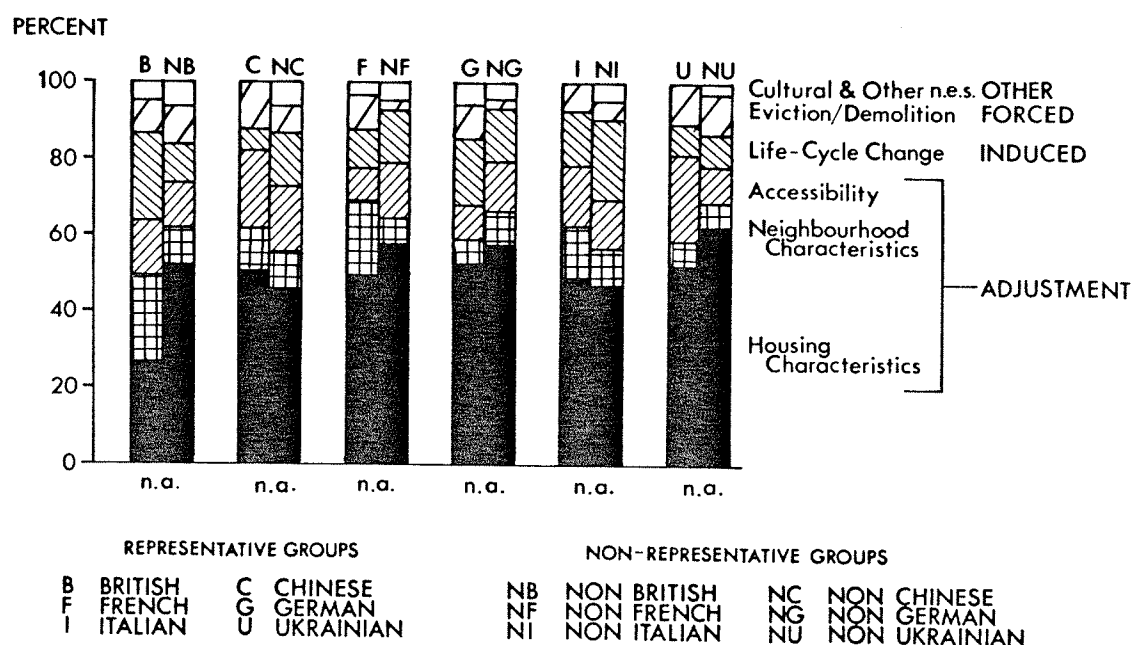


Figure 7: GROUPED MOST IMPORTANT MOVE DETERMINANTS

analysis as other moves.⁸⁰ This provides a six-part typology of moves. On this basis, housing adjustments emerge as the most prominent move category, and account for between 44.3% (Chinese) and 55.6% (Ukrainian) of principal group moves. The identity of the second most important move category tends to vary between the groups: accessibility considerations are important to the Chinese and Ukrainian groups; life-cycle changes are stressed by the British; and, life-cycle changes, neighbourhood condition, and accessibility considerations are each of approximately equal importance to the French, German and Italian groups.

Multiple comparison of move determinants employs the chi-square test. The experimentwise significance level of the test is set at 0.05, and chi-square values are generated for all possible inter-ethnic pairings. The critical chi-square value for the test with 5 degrees of freedom is set at 18.64. Statistically reliable chi-square values are generated for only 5 of the 15 tests involving the principal ethnic groups, and none of these values is significant at the 0.05 level. The presence of unreliable chi-square values is related to the dominance of housing adjustment moves and to the small number of moves classified as other moves. Reliable chi-square values are obtained when the latter moves are excluded from the analysis. Exclusion causes only minor changes to the chi-square values shown in

⁸⁰ Other moves include specifically cultural motives, transiency and reasons unstated.

Figure 7. Again, none of these values is significant at the 0.05 level. In addition, as none of the chi-square values is significant in a comparisonwise test design, the possibility of Type II errors is remote. On the basis of these results Hypothesis III is not supported.

Within the ethnic districts, housing adjustments again account for the largest proportion (range 27.3% to 61.4%) of move determinants (Figure 7). This observation is true for both the representative and non-representative groups. Less agreement is shown in the identification of the second most important move determinant. In general, life-cycle changes, neighbourhood condition and accessibility considerations are mentioned with approximately equal frequency. But within the individual districts, the representative groups tend to stress neighbourhood conditions, whilst accessibility considerations are emphasized by the non-representative groups. This variation is best demonstrated in the British, French and Italian districts, and may reflect cultural differences in the appraisal of these areas. Specifically, the move determinants of the representative groups appear related to the aesthetic qualities of their ethnic districts, whilst those of the non-representative groups are based more on the functional characteristics of these locations.

The dominance of housing adjustment motives together with the small or uneven size of the response groups precludes

the use of the chi-square test. Despite this, inspection of the data for the British district suggests the possibility of a significantly different response structure. In this instance, considerable variation exists between the British (27.3%) and non-British (53.5%) groups in the proportion of moves identified as housing adjustments. Part of this variation may be attributed to the higher proportion of owner occupiers among the non-representative group. Nevertheless, the migration determinants still vary when between-group differences in tenorial status are taken into account. Specifically, home ownership goals or housing quality improvements are cited by 42.0% of non-British owners, but by only 7.7% of British owners.

In general, the preceding results fail to support Hypothesis III. All groups conform to the housing adjustment model of migration, and inter-ethnic differences in move determinants are not identified. The implication is that ethnic groups move for essentially the same reasons irrespective of their contrasting cultural and socio-economic backgrounds. However, these results are specific to the typology of moves employed in the study. Exploratory analysis using Clark's (1970) earlier typology provides evidence of inter-ethnic differences in move determinants.⁸¹ Most of these differences involve the Chinese and Italian

⁸¹ A major distinguishing feature of Clark's typology involves the combining of dwelling space adjustments and changes in personal affairs under the umbrella category of life-cycle factors.

groups. Also, the chance of obtaining quite different results by employing alternative move typologies becomes evident when the move categories of the principal groups are disaggregated into their constituent parts (Table 15). For example, the housing adjustment category shows considerable between-group variation in the proportion of moves attributed to space adjustment and house purchase motives. This variation holds true even when differences in ethnic tenurial status are taken into account. In light of these comments, the most characteristic dimensions of the move typology of the principal ethnic groups may be reviewed.

Table 16 shows that space adjustment moves are associated with owner occupiers in general, and with the British, Chinese and French groups in particular. The British households in this category are mostly family units with above average incomes. These households have moved relatively long distances either between or into neighbourhoods in the new suburbs. Chinese and French movers in this category have somewhat lower incomes and have moved over shorter distances. A greater proportion of their moves have been confined to the less expensive housing markets of the mature suburbs. Moves to improve the quality of accommodation are important to all owner occupier groups with the possible exception of the Italian. French owners in this category are comprised of family units with above average incomes. These households have moved intermediate

TABLE 15

MOVE DETERMINANTS OF WINNIPEG'S PRINCIPAL ETHNIC GROUPS

	BRITISH		CHINESE		FRENCH		GERMAN		ITALIAN		UKRAINIAN	
	OWN	RENT	OWN	RENT	OWN	RENT	OWN	RENT	OWN	RENT	OWN	RENT
	39	56	29	41	27	47	42	42	31	13	60	39
	%	%	%	%	%	%	%	%	%	%	%	%
<u>ADJUSTMENT MOVES</u>												
HOUSING CHARACTERISTICS												
PREVIOUS HOME TOO SMALL OR TOO LARGE	25.6	17.9	27.6	4.9	25.9	14.9	14.3	11.9	19.4	15.4	18.3	7.7
TO LIVE IN BETTER QUALITY ACCOMMODATION	20.5	23.2	17.2	22.0	22.2	6.4	16.7	11.9	9.7	-	16.7	15.4
TO REDUCE COST OF ACCOMMODATION	2.6	7.1	-	9.8	-	21.3	-	11.9	-	15.4	3.3	17.9
TO BUY A HOUSE	10.3	-	10.3	-	3.7	-	31.0	-	32.3	-	25.0	-
HOUSING SPECULATION OR INVESTMENT	-	-	-	-	3.7	-	-	-	-	-	1.7	-
NEIGHBOURHOOD CHARACTERISTICS												
TO LIVE IN A BETTER NEIGHBOURHOOD	5.1	1.8	3.4	2.4	7.4	-	2.4	4.8	6.5	-	1.7	-
TO INCREASE PERSONAL PRIVACY OR SECURITY	7.7	7.1	3.4	12.2	11.1	8.5	7.1	4.8	3.2	23.1	3.3	5.1
TO REDUCE NOISE PROBLEM	-	-	-	-	-	2.1	4.8	-	-	-	1.7	-
ACCESSIBILITY CONSIDERATIONS												
TO BE CLOSER TO FRIENDS AND RELATIVES	-	1.8	3.4	2.4	-	2.1	2.4	7.1	-	-	3.3	7.7
TO BE CLOSER TO SHOPPING FACILITIES	-	-	-	-	-	2.1	-	-	-	-	-	-
TO BE NEARER A PARK OR RECREATION FACILITY	-	-	-	-	-	-	2.4	-	-	-	-	-
TO BE NEARER A PLACE OF WORSHIP	-	-	-	4.9	-	-	-	-	-	-	-	-
TO BE CLOSER TO WORK	5.1	7.1	6.9	19.5	7.4	8.5	2.4	11.9	12.9	-	8.3	10.3
TO BE CLOSER TO DOWNTOWN	-	1.8	-	-	-	-	-	2.4	-	-	-	-
TO BE CLOSER TO EDUCATION FACILITIES	2.6	-	-	2.4	3.7	2.1	-	-	-	7.7	1.7	5.1
TO BE NEARER PUBLIC TRANSPORTATION	-	1.8	-	-	-	-	-	-	-	-	1.7	2.6
<u>INDUCED MOVES</u>												
LIFE-CYCLE CHANGES	12.8	21.4	6.9	9.8	3.7	21.3	9.5	19.0	12.9	15.4	6.7	10.3
<u>FORCED MOVES</u>												
EVICION OR PROPERTY DEMOLITION	5.1	5.4	17.2	7.3	3.7	10.6	2.4	7.1	-	23.1	1.7	10.3
<u>OTHER MOVES</u>												
SPECIFIC CULTURAL OR ETHNIC REASONS	-	-	-	-	-	-	-	-	-	-	3.3	-
OTHER REASONS, NOT ELSEWHERE SPECIFIED	2.6	3.6	3.4	2.4	7.4	-	4.8	7.1	3.2	-	1.7	7.7
TOTAL MOVES %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

distances either within the French district or between neighbourhoods in the new suburbs. British households seeking improved accommodation have moved throughout the mature and new suburbs and have exhibited less distance bias.

TABLE 16

TYPOLOGY OF CHARACTERISTIC MOVES: WINNIPEG'S PRINCIPAL ETHNIC GROUPS

MOVE CATEGORY	<-----BRITISH----->			<-----CHINESE----->			<-----FRENCH----->			<-----GERMAN----->			<-----ITALIAN----->			<-----UKRAINIAN----->		
	MEAN INCOME H' HOLD HEAD \$	MEAN DIST. MOVED KM.	MOVE TYPE	MEAN INCOME H' HOLD HEAD \$	MEAN DIST. MOVED KM.	MOVE TYPE	MEAN INCOME H' HOLD HEAD \$	MEAN DIST. MOVED KM.	MOVE TYPE	MEAN INCOME H' HOLD HEAD \$	MEAN DIST. MOVED KM.	MOVE TYPE	MEAN INCOME H' HOLD HEAD \$	MEAN DIST. MOVED KM.	MOVE TYPE	MEAN INCOME H' HOLD HEAD \$	MEAN DIST. MOVED KM.	MOVE TYPE
<u>OWNERS</u>																		
HOUSING SPACE ADJUSTMENT	19,300	6.1	5 6	16,300	4.1	6 1	17,100	3.3	1 4 5									
HOUSING QUALITY ADJUSTMENT	17,500	6.6	6 2 5				17,500	3.3	4									
HOUSE PURCHASE										16,300	3.3	6 4	15,100	1.7	1	13,200	4.8	2
FORCED MOVE				10,000	4.6	6 1												
<u>RENTERS</u>																		
HOUSING COST REDUCTION							10,900	2.8	1							9,500	1.5	1 2
ACCESSIBILITY TO WORKPLACE				11,000	2.8	1 2 3												
LIFE-CYCLE CHANGES	8,000	4.4	1 2				10,600	2.9	1	8,000	4.0	2						
FORCED MOVE							10,200	2.6	3				11,800	3.3	1 2 3	13,100	3.0	1
ORIENTATION OF MOVE TYPE (CRITERION FOR INCLUSION: >25% OF MOVES IN STATED MOVE CATEGORY)																		
1	INTRA-COMMUNITY - WITHIN DOWNTOWN OR MATURE SUBURB																	
2	INTER-SUBURBAN - BETWEEN DOWNTOWN AND MATURE SUBURBS OR BETWEEN MATURE SUBURBS																	
3	INTER-SUBURBAN - FROM NEW SUBURBS TO DOWNTOWN OR MATURE SUBURBS																	
4	INTRA-COMMUNITY - WITHIN NEW SUBURB																	
5	INTER-SUBURBAN - BETWEEN NEW SUBURBS																	
6	INTER-SUBURBAN - FROM DOWNTOWN OR MATURE SUBURBS TO NEW SUBURBS																	

In contrast to the groups above, home ownership motives are stressed by German, Italian and Ukrainian owner occupiers. Significantly, these groups possess the highest rates of home ownership among the groups in the study.⁸² The typical Italian household in this category is a family unit of moderate income which has moved a short distance within neighbourhoods in the mature suburbs. Properties in the West Winnipeg ethnic core have been especially favoured. These moves exemplify the '**community maintainer**' status of the Italian group (Driedger and Church, 1974; Dreidger, 1978). Germans and Ukrainians in this category have similar income characteristics, but include more one and two person households and have exhibited less distance bias. The Germans have moved from the mature to new suburbs, or locally within the new suburbs. The Ukrainians have confined most of their purchases to properties in the older suburbs. More unusually, forced moves are identified with a small group of Chinese families in owner occupied property. Relocation has been caused by redevelopment projects in Downtown, or by fires. Two households have made short distance adjustment moves within a few blocks of 'Chinatown', but the three wealthiest households have negotiated lengthy moves to locations in the new suburbs. This contrast in behaviour is suggestive of the '**community maintainer**' and '**suburban invader**' elements in the Chinese population.

⁸² See footnote 48 page 89.

Moves precipitated by cost considerations are more typical of renters in general, and of French and Ukrainian renters in particular. Households in both ethnic groups are comprised of young adults, pensioners or persons approaching pensionable age. The French households include an equal number of single and multiple persons households, whereas single person households predominate among the Ukrainians. Members of both groups have tended to make short distance moves within their respective ethnic core communities, or within other low income housing markets of the mature suburbs.

The small number of moves motivated by accessibility considerations makes the interpretation of specific accessibility motives somewhat meaningless, although one exception should be noted. Specifically, workplace accessibility considerations are stressed by all groups, and particularly by renters. Among renters, the Chinese response pattern is the most pronounced. The Chinese in this category are comprised of low income-single person or family households. Most of these households have moved either within Downtown or from Downtown to adjacent communities. In addition, all moves with origins in the new suburbs have terminated in Downtown. These households include a range of occupational types, but the majority are associated with the service occupations in 'Chinatown'.

Moves precipitated by life-cycle changes are most clearly associated with the British, French and German renters. German households in this category are comprised of young adults or persons of pensionable age. Despite their low incomes, these households have moved relatively long distances between communities in the older suburbs. These moves seem to reflect the group's '**ecological assimilator**' status. British and French households in this category resemble the German, except that the French exhibit greater distance bias. This bias is suggestive of the group's '**community maintainer**' status.

Finally, forced moves are associated with renters in general, and with French, Italian and Ukrainian renters in particular. Low income-single person households predominate in each group. The Ukrainian group includes many elderly persons who have made short distance adjustment moves within the community of North Winnipeg. The French and Italian groups are more varied in age, but have made similar adjustment moves within their respective ethnic districts. Interestingly, the Italians in this category have exhibited less distance bias than Italian families moving into owner occupied property.

On the basis of these observations, the lack of support for Hypothesis III seems much less conclusive. Considerable between-group variation in determinants is suggested even after tenurial status has been taken into account. In

addition, ethnic tenure groups with similar move determinants exhibit contrasts in distance bias. The reasons for these variations are not entirely understood, but between-group differences in income, family status and initial residential location seem to be important influences.

5.4 SUMMARY

The fieldwork data are summarized to reflect the migration experiences of persons associated with Winnipeg's principal ethnic groups and ethnic districts. Mover and non-mover groups are identified. The distribution of inveterate and long-term non-movers confirms the presence of stable residential elements in Winnipeg's ethnic core communities. Post-1971 movers are selected for more detailed analysis. Centographic analysis of recent migration activity indicates that distance bias increases with segregation status. Directional bias towards the respective ethnic cores is also evident, although pronounced sectoral bias is absent. Despite these findings, detailed inter-ethnic and intra-district analyses provide only modest support for the view that distance bias is greater for the more segregated group in each ethnic pairing (Hypothesis I). In addition, even less support is established for the view that directional bias (with respect to ethnic core locations) is greater for the more segregated ethnic group (Hypothesis II).

The move determinants of post-1971 migrants are classified using a six-part typology of moves (Clark and Onaka, 1983). Housing adjustments account for the largest number of move determinants for all ethnic groups. The identity of the second most numerous determinant tends to vary between the groups. Despite this, inter-ethnic and intra-district differences in move determinants are not recorded (Hypothesis III). This result is specific to the typology of moves employed in hypothesis testing. Alternative or more detailed typologies may produce quite different results (e.g, Clark, 1970). Disaggregation of the move typology into its constituent parts reveals important between-group variations in the move determinants of the principal ethnic groups. These variations are present even when the effect of tenurial status is controlled.

Chapter VI

DATA PRESENTATION AND HYPOTHESIS TESTING: PROSPECTIVE MIGRATION BEHAVIOUR

This chapter focuses on the prospective migration behaviour of Winnipeg's ethnic groups. Hypothesis testing is again conducted at inter-ethnic and intra-district levels. Specific hypotheses refer to residential preference and aversion patterns, place attribute appraisals, migration intentions, and change in residential segregation. In addition, prospective migration patterns are assessed in terms of the social area status of the origin and destination communities.

6.1 ETHNIC RESIDENTIAL PREFERENCE AND AVERSION PATTERNS

Comparison of ethnic residential preference and aversion patterns required each respondent to assume that a residential relocation decision was imminent. Respondents had then to identify the communities in which they would **most** and **least** like to live given that migration would take place within the constraints imposed by their current income levels (Appendix A, Question 3). Specifically, respondents were asked to rank three communities in each category. For clarity of presentation the following analysis is restricted to respondents' primary preference and aversion patterns.

This restricted or conservative use of the data base is warranted in view of Lyon and Wood's (1977) remarks concerning the non-fulfillment of attitudes and preferences in migration.

6.1.1 Residential Preference Patterns

Respondents' preference scores for each community are summed, and are then expressed as percentage counts. This procedure reveals pronounced and relatively exclusive residential preference patterns for each of the principal ethnic groups (Figure 8). These patterns reflect strong home community biases and tend to approximate the distributions based on indices of locational concentration (Figure 3). Between 30.1% (British) and 46.9% (French) of first preferences are assigned to communities within the respective ethnic districts (Table 17). The strength of these residential biases may help explain the persistence of distinct ethnic neighbourhoods in Winnipeg.

Analysis involves the multiple testing of Hypotheses IV:

**that home community residential preference bias
is greater for relatively segregated ethnic groups.**

Residential choices are grouped to produce a three-part typology of communities which reflects differing intensities of distance bias. The three community types are defined as: 1) home communities (areas of current residence); 2) adjacent communities; and, 3) communities in distant areas



Figure 8: RESIDENTIAL PREFERENCE PATTERNS OF THE PRINCIPAL ETHNIC GROUPS

TABLE 17

ETHNIC RESIDENTIAL PREFERENCE PATTERNS BY ETHNIC DISTRICT

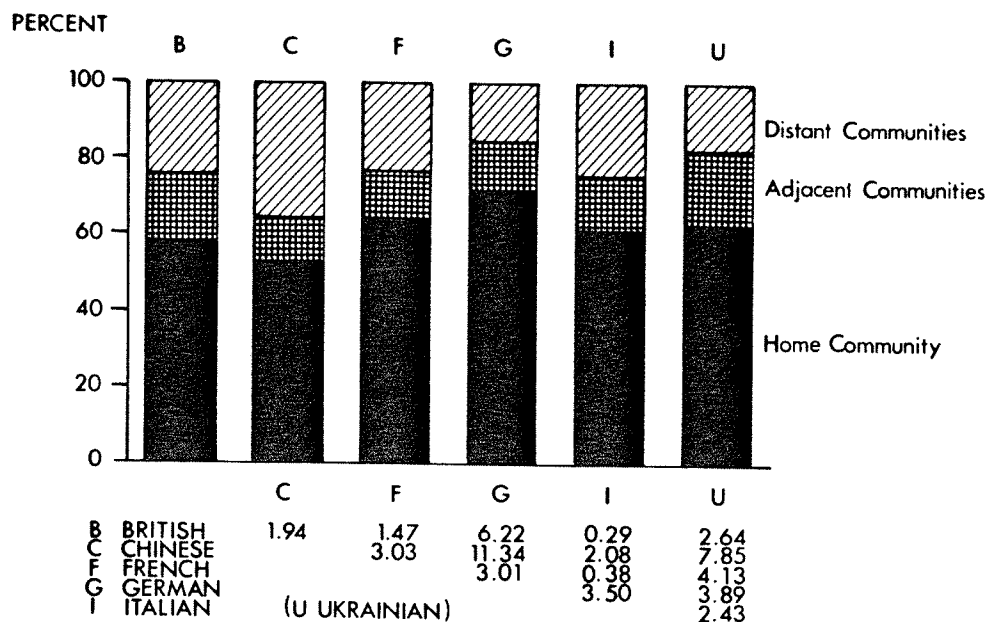
	<-----ETHNIC DISTRICTS----->					
	BRITISH %	CHINESE %	FRENCH %	GERMAN %	ITALIAN %	UKRAINIAN %
BRITISH	30.1	19.2	14.2	25.8	27.3	9.8
CHINESE	22.3	44.4	27.3	13.1	37.4	7.0
FRENCH	18.5	15.3	46.9	11.5	19.1	9.1
GERMAN	19.8	18.6	12.3	36.9	25.6	15.5
ITALIAN	20.7	28.9	14.9	30.5	34.7	13.2
UKRAINIAN	13.6	12.8	11.2	27.4	18.6	37.1

Values represent the proportions (%) of the ethnic group choices which are assigned to each ethnic district. The ethnic districts are not exhaustive of Winnipeg's twenty communities, and, because several communities are common to more than one district, the row values do not add to 100%.

of the city. Adjacent communities are defined on the basis of propinquity. For example, the adjacent or propinquitous communities of North St.Boniface are identified as East Kildonan, Transcona, North St.Vital, South St.Boniface, Fort Rouge and Downtown (Figure 2). A listing of all adjacent community combinations is provided in Appendix C. The grouped data and results of hypothesis testing are presented in Figure 9. Indices reflecting inter-ethnic (I*) and intra-district (C* or C**) variation in segregation are presented in Table 11.

If place preferences were equally distributed between the three community types, each type would account for 33.3% of

RESIDENTIAL PREFERENCES OF THE PRINCIPAL ETHNIC GROUPS



RESIDENTIAL PREFERENCES OF THE ETHNIC DISTRICT GROUPS

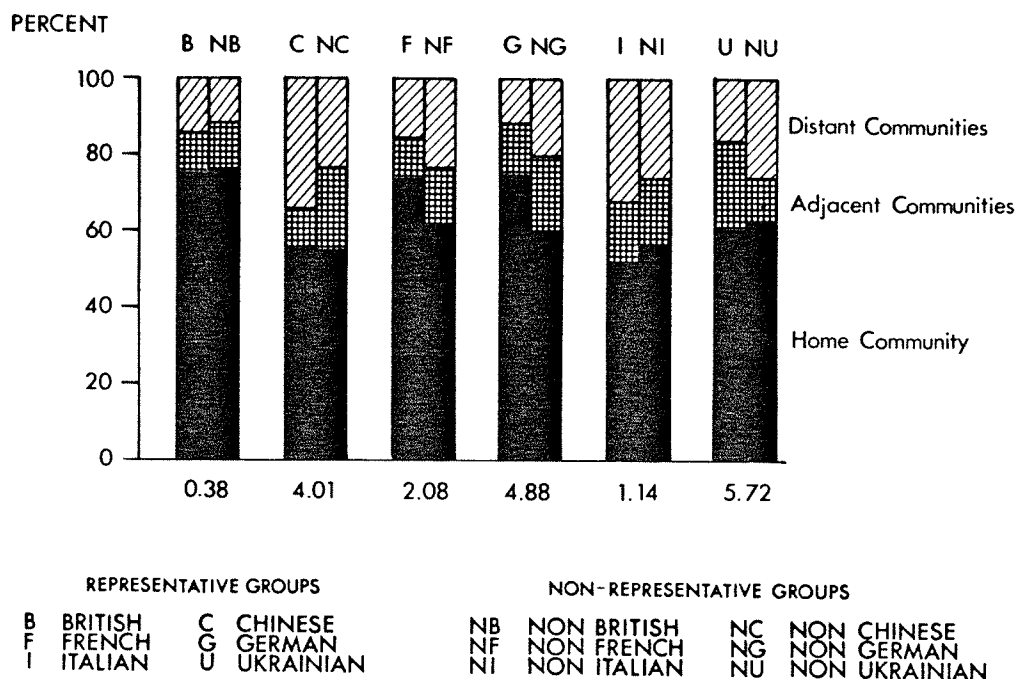


Figure 9: ETHNIC VARIATION IN RESIDENTIAL PREFERENCE STRUCTURES

preferences and home community bias would not exist. Instead, the data reveal that home community preferences account for between 52.5% (Chinese) and 70.6% (German) of the principal ethnic response structures. Multiple comparison of the place preferences employs the chi-square test. The experimentwise significance level of the test is set at 0.05, and fifteen chi-square statistics are computed by comparing all possible between-group pairings. After applying a Bonferroni modification, the critical chi-square value for the test with 2 degrees of freedom is set at 12.21. Test results indicate that none of the between-group pairings is significant at the 0.05 level. Relaxation of the Bonferroni modification indicates that the greatest likelihood of Type II errors occurs in comparisons between: 1) the German and British; 2) the German and Chinese; and, 3) the Ukrainian and Chinese.⁸³ Inspection of the data distributions (Figure 9) reveals that the home community preferences of the German (70.6%) are greater than those of the British (58.5%) and Chinese (52.5%), and that those of the Ukrainian (62.0%) also exceed those of the Chinese. Segregation indices (Table 11) confirm that the German group ($I^* = 1.20$) is more segregated than the British ($I^* = 1.09$), but that both the German and Ukrainian ($I^* = 1.39$) groups are less segregated than the Chinese ($I^* = 2.14$). Because of the directionality expressed in these relationships,

⁸³ The chi-square values for these tests are significant at the 0.05 level in a comparisonwise test design.

Hypothesis IV is supported in only the first of the above mentioned ethnic pairings. In view of these findings, it is reasonable to conclude that the preference structures of most ethnic groups are not dissimilar.

Home community biases are also evident in the representative and non-representative response structures of each ethnic district (Figure 9). These biases are most strongly expressed in the representative (75.0%) and non-representative (76.1%) response structures of the British district, and are least typical of the representative (52.1%) and non-representative (56.9%) response structures of the Italian district. Despite some obvious variation in the intensity of residential preference, significant chi-square values are not identified in the intra-district tests. Consequently, district-specific support for Hypothesis IV is not established, and, in the absence of alternative evidence, the home community residential preference biases of representative and non-representative groups must be assumed to be similar.

6.1.2 Residential Aversion Patterns

Visual comparison of residential preference (Figure 8) and aversion patterns (Figure 10) suggests that greater between-group consensus is present in the latter patterns. Thus, each of the principal ethnic groups shares a marked disaffection for the inner city communities of Downtown,

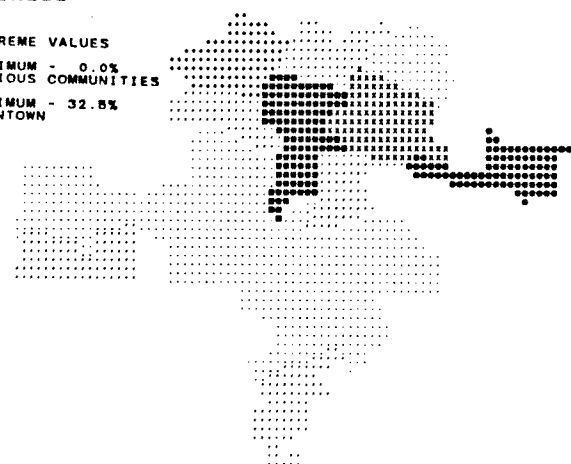
BRITISH

EXTREME VALUES
MINIMUM - 0.0%
NORTH FORT GARRY
MAXIMUM - 29.5%
DOWNTOWN



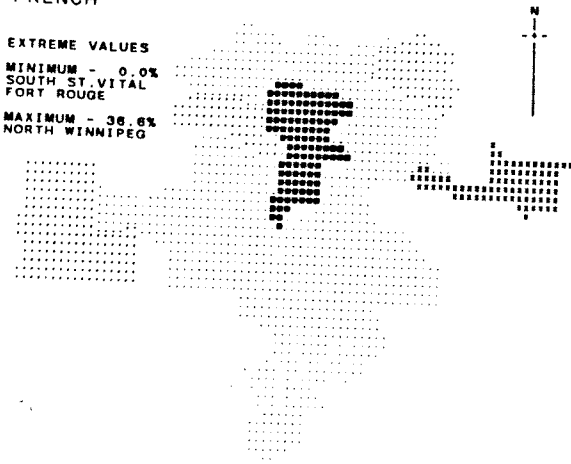
CHINESE

EXTREME VALUES
MINIMUM - 0.0%
VARIOUS COMMUNITIES
MAXIMUM - 32.8%
DOWNTOWN



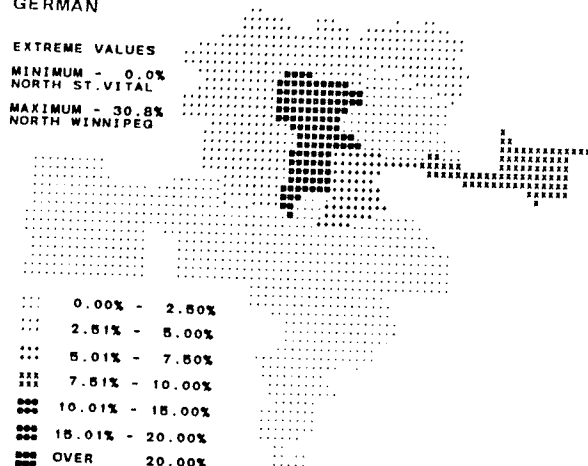
FRENCH

EXTREME VALUES
MINIMUM - 0.0%
SOUTH ST. VITAL
FORT ROUGE
MAXIMUM - 36.6%
NORTH WINNIPEG



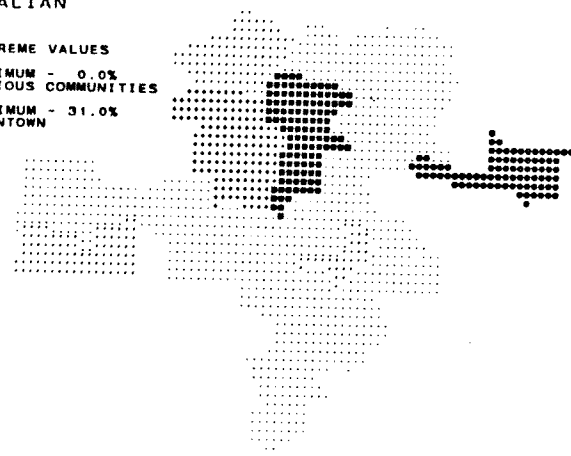
GERMAN

EXTREME VALUES
MINIMUM - 0.0%
NORTH ST. VITAL
MAXIMUM - 30.8%
NORTH WINNIPEG



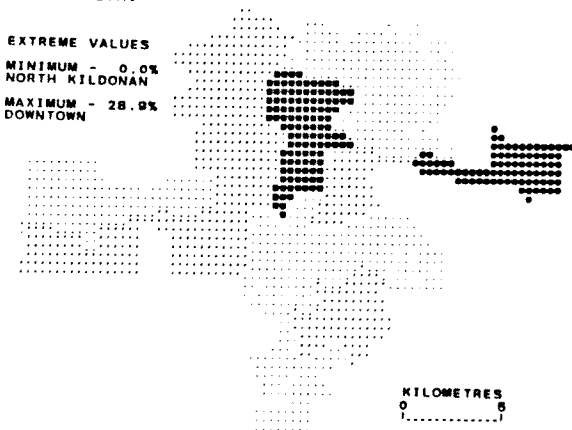
ITALIAN

EXTREME VALUES
MINIMUM - 0.0%
VARIOUS COMMUNITIES
MAXIMUM - 31.0%
DOWNTOWN



UKRAINIAN

EXTREME VALUES
MINIMUM - 0.0%
NORTH KILDONAN
MAXIMUM - 28.9%
DOWNTOWN



KILOMETRES
0 5

Figure 10: RESIDENTIAL AVERSION PATTERNS OF THE PRINCIPAL ETHNIC GROUPS

West Winnipeg and North Winnipeg, and for the suburban community of Transcona.⁸⁴ Perhaps surprisingly, this bias is shared by members of the Ukrainian, Italian and Chinese groups, large numbers of which reside in these communities (Figure 3). Summation of the aversion patterns by ethnic district reveals a common disaffection for communities in the Italian and Ukrainian districts (Table 18). Overall, the least disfavoured part of the city is the British district.

Analysis involves the multiple testing of Hypotheses V:

**that distant community residential aversion bias
is greater for relatively segregated ethnic groups.**

As in the testing of Hypothesis IV, residential choices are assigned to home, adjacent or distant community categories. Aversion bias is absent if each category accounts for 33.3% of choices. The data, however, reveal that between 61.9% (Ukrainian) and 73.5% (German) of the ethnic response structures are associated with distant communities (Figure 11). Multiple comparison of residential aversion employs the chi-square test. The experimentwise significance level of the test is set at 0.05, and fifteen chi-square statistics are computed by comparing all possible between group pairings. A Bonferroni modification is adopted and

⁸⁴ Incorporated in 1912, Transcona was developed as the industrial suburb for the employees of the Grand Trunk Pacific and National Transcontinental railways (Bellan, 1978). The apparent low regard for the community may be related to its lingering working class image and its comparative isolation from Winnipeg's other communities (Figure 2).

TABLE 18

ETHNIC RESIDENTIAL AVERSION PATTERNS BY ETHNIC DISTRICT

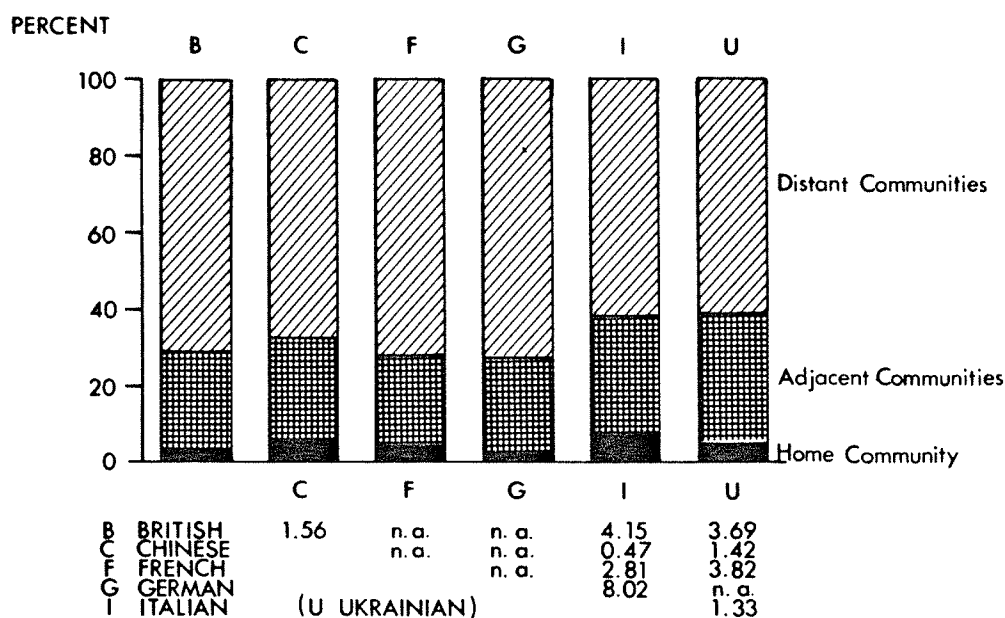
	<-----ETHNIC DISTRICTS----->					
	BRITISH %	CHINESE %	FRENCH %	GERMAN %	ITALIAN %	UKRAINIAN %
BRITISH	6.6	32.7	8.7	7.5	41.5	40.9
CHINESE	1.2	37.4	5.0	11.2	51.1	44.9
FRENCH	8.9	24.3	2.4	13.0	31.6	50.3
GERMAN	4.3	30.7	10.3	8.6	38.8	45.9
ITALIAN	2.7	37.2	8.0	11.5	47.8	38.9
UKRAINIAN	7.2	34.5	8.7	8.2	44.3	43.2

Values represent the proportions (%) of the ethnic group choices which are assigned to each ethnic district. The ethnic districts are not exhaustive of Winnipeg's twenty communities, and, because several communities are common to more than one district, the row values do not add to 100%.

the critical chi-square value for the test with 2 degrees of freedom is set at 12.21. Valid chi-square values are generated for just nine of the fifteen inter-ethnic tests. None of the tests is significant at the 0.05 level. In the remaining tests, the data frequencies often fail to satisfy the statistical requirements of the chi-square test.⁸⁵ Relaxation of the Bonferroni modification suggests the possibility of a Type II error in comparing the German and Italian aversion structures. Inspection of the data distributions (Figure 11) reveals that the distant community

⁸⁵ Essentially the extent of agreement between the ethnic groups is so great as to render the chi-square test redundant.

RESIDENTIAL AVERSION OF THE PRINCIPAL ETHNIC GROUPS



RESIDENTIAL AVERSION OF THE ETHNIC DISTRICT GROUPS

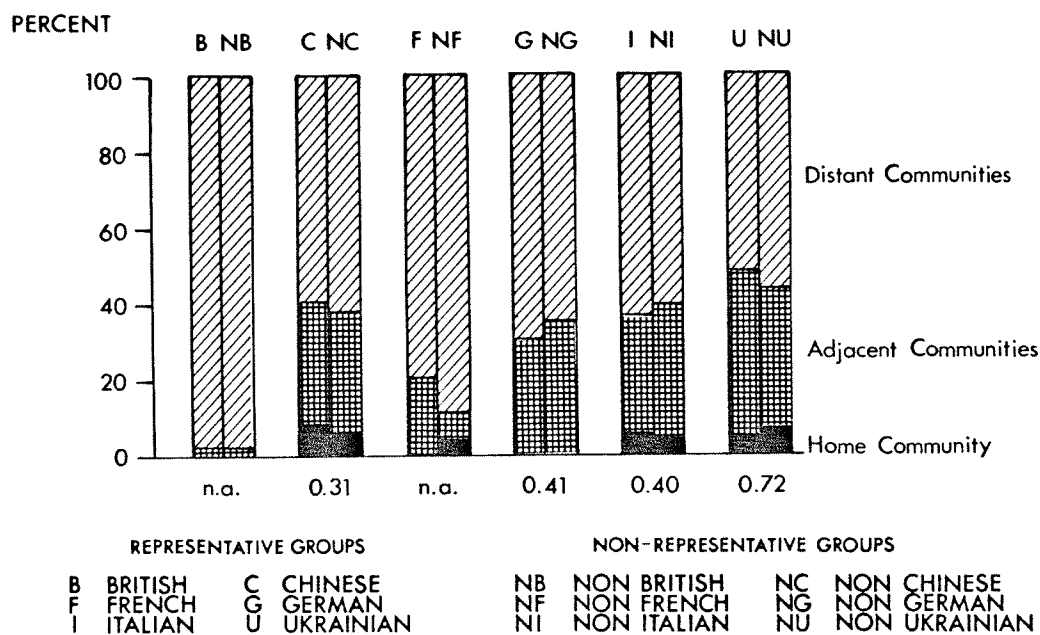


Figure 11: ETHNIC VARIATION IN RESIDENTIAL AVERSION STRUCTURES

aversion bias of the German (73.5%) group is greater than that of the Italian (62.8%). These groups also differ in their home community aversion biases (German 1.1%; Italian 6.2%). However, the segregation indices (Table 11) confirm that the German group ($I^* = 1.20$) is **less** segregated than the Italian ($I^* = 1.61$). The directionality revealed in this relationship is opposite to that expressed in Hypothesis V. Because of this, group-specific support of Hypothesis V is not established.

As might be expected, disaffection for distant communities is also demonstrated in the ethnic district response structures (Figure 11). This disaffection is most clearly expressed by the representative (97.9%) and non-representative (97.6%) respondents of the British district, and is least typical of the representative (51.3%) and non-representative (55.6%) respondents in the Ukrainian district. The statistical requirements of the chi-square test are met in only four of the six intra-district tests. However, in these instances the extent of agreement between the ethnic aversion structures is such that significant chi-square values are not identified. In short, district-specific support for Hypothesis V is not identified.

6.2 ETHNIC VARIATION IN PLACE ATTRIBUTE APPRAISALS

Ethnic variation in place attribute appraisals was assessed by providing respondents with a list of twelve pre-selected attributes. Respondents were then asked to rate these attributes within the context of a prospective change in residential location (Appendix A, Question 4). This change in residence was to be made within the limits set by current income. Respondents were requested to evaluate attributes on a scale ranging from 1 (absolutely no importance) to 5 (extremely important). The list of attributes was compiled largely on the basis of those examined in the socio-culturally stratified studies of Herbert (1973) and Gustavus and Brown (1977). The twelve attributes may be divided into two types. The first of these identifies ten **accessibility** features of location. The second defines two **environmental** considerations.⁸⁶ Because the relationship between economic status and the two types of attributes is perceived to be different, analysis requires the testing of separate hypotheses. These are defined respectively as Hypothesis VI:

that more importance is attached to accessibility attributes by lower economic status ethnic groups;

and, Hypothesis VII:

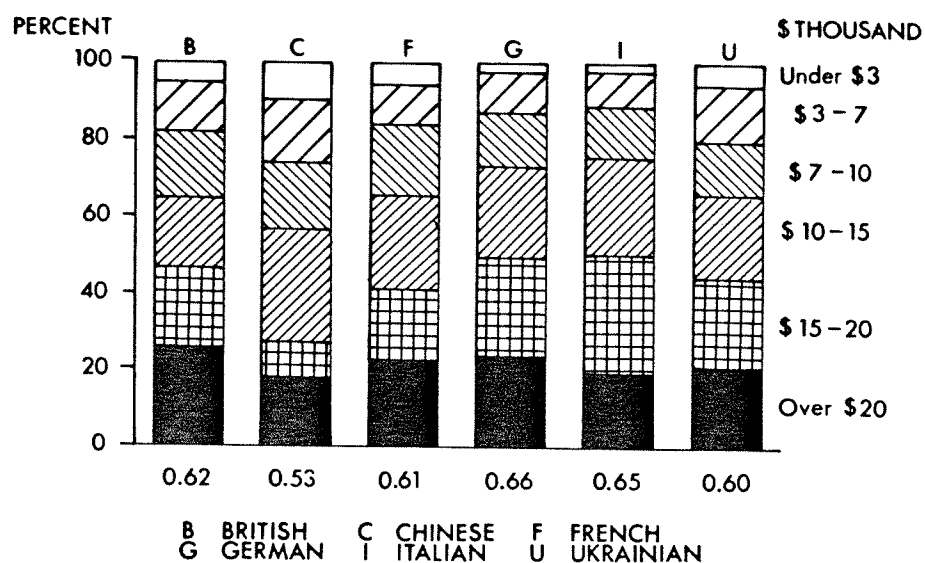
that less importance is attached to environmental attributes by lower economic status ethnic groups.

⁸⁶ One environmental consideration, the presence of treed streets, was included because of the unusually extensive canopy of elms and other shade species found in Winnipeg's prairie location.

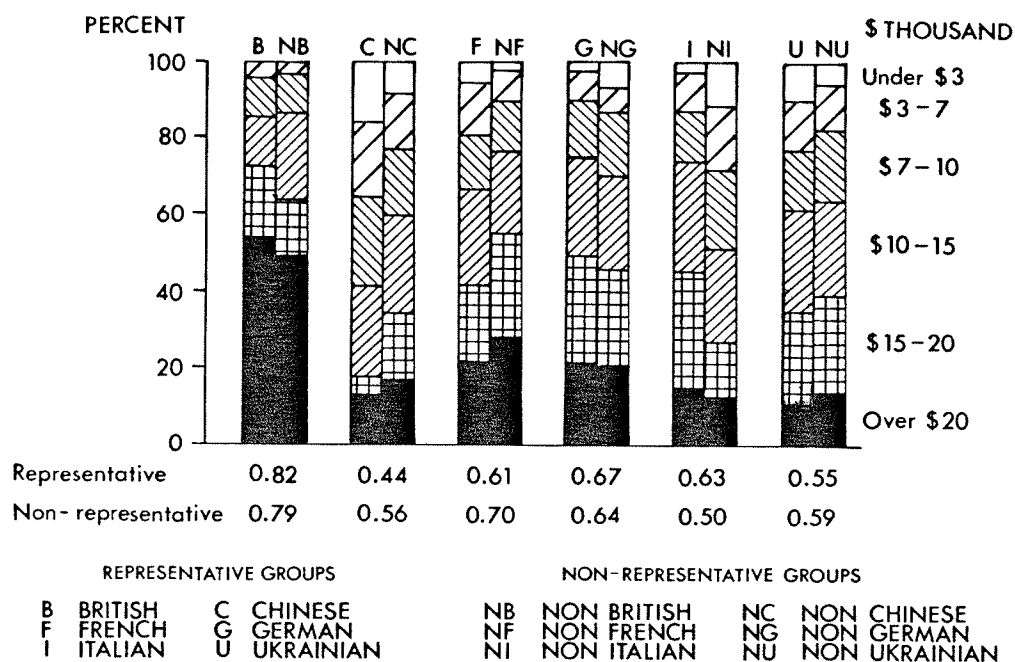
Indices (E*) reflecting inter-ethnic and intra-district variation in economic status (income) are presented in Figure 12. These indices utilize data obtained during the field survey (Appendix D). The refined indices at the base of each bar graph are based on the cumulative percentage counts. Theoretically these indices may range in value between 0.0 and 1.0. A value of 0.0 would be registered if all persons of a given ethnic group were assigned to the lowest income category. Conversely, a value of 1.0 would be registered if all persons in the same group were placed in the highest income category. A value of 0.5 would suggest that group members were more or less equally distributed between all income categories.

Positively biased appraisals (Figures 13 to 24) indicate that, irrespective of type, most attributes are considered important in household relocation decision-making. Among the principal ethnic groups this bias is best expressed in the case of public transportation (Figure 13). Between 20.7% (German) and 35.4% (Ukrainian) of respondents view access to this service as 'extremely important', and only 0.8% (Italian) to 5.9% (German) consider such accessibility as of 'absolutely no importance'. Closeness to places of work (Figure 14), educational services (Figure 15), shopping facilities (Figure 16) and the presence of well-treed streets (Figure 17) are also viewed as particularly

INCOME LEVELS OF THE PRINCIPAL ETHNIC GROUPS



INCOME LEVELS OF THE ETHNIC DISTRICT GROUPS



The income indices indicated at the base of each bar graph are derived by refining cumulative frequency counts.

Categories are summed from the base of each graph.

Figure 12: INCOME STATUS OF HOUSEHOLD HEADS

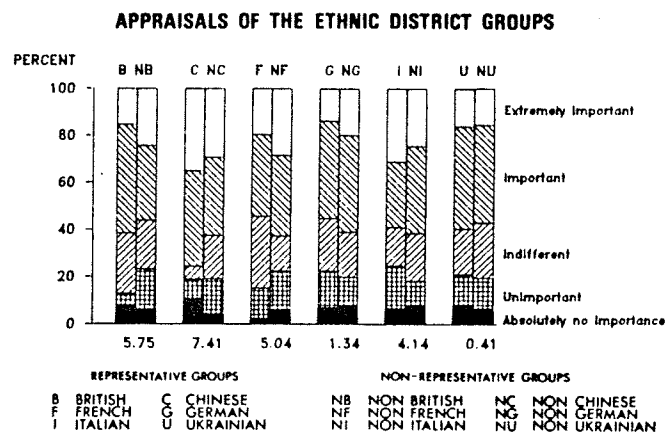
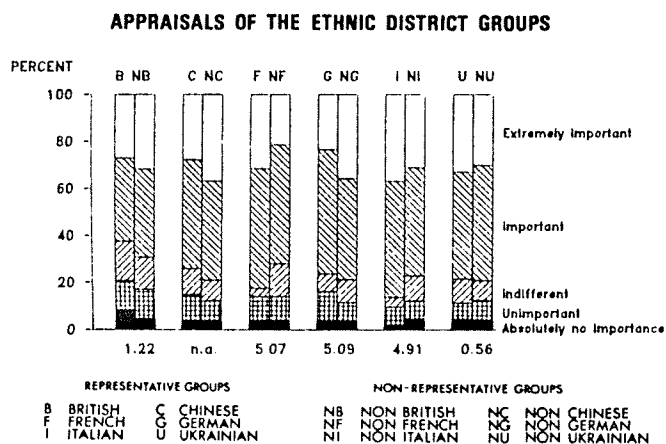
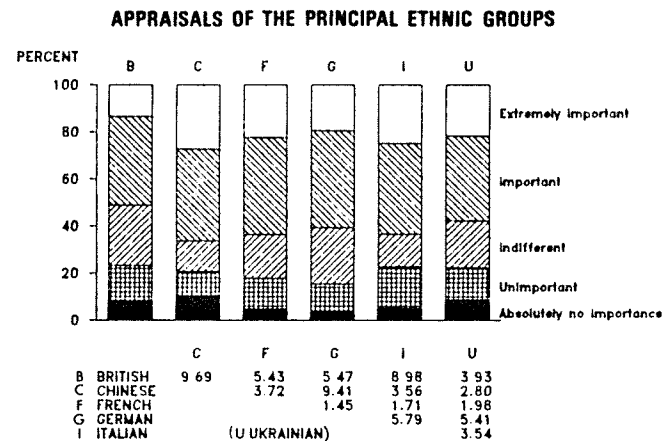
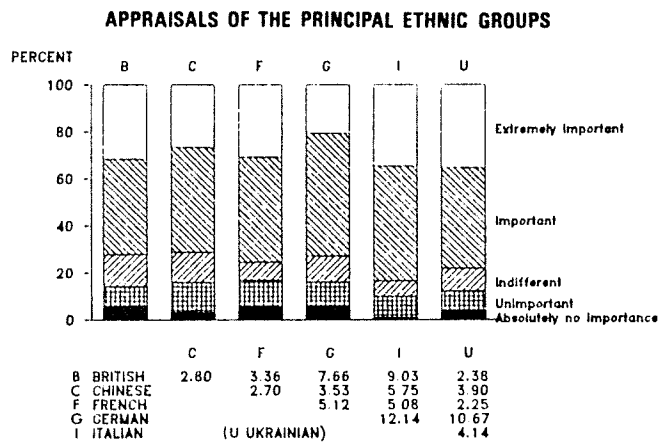


Figure 13: PLACE ATTRIBUTE: ACCESS TO PUBLIC TRANSPORTATION

Figure 14: PLACE ATTRIBUTE: ACCESS TO WORK

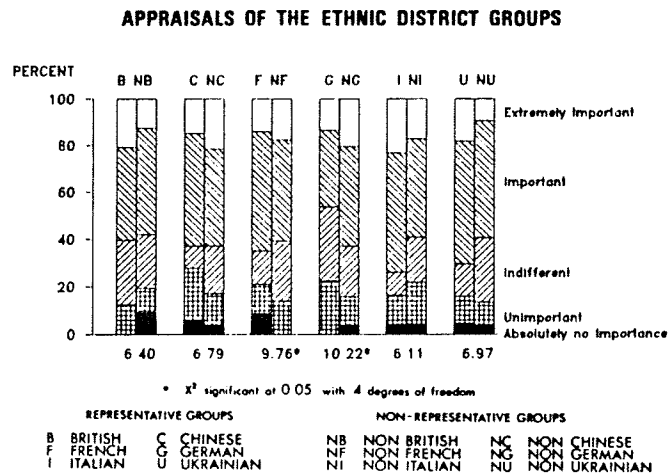
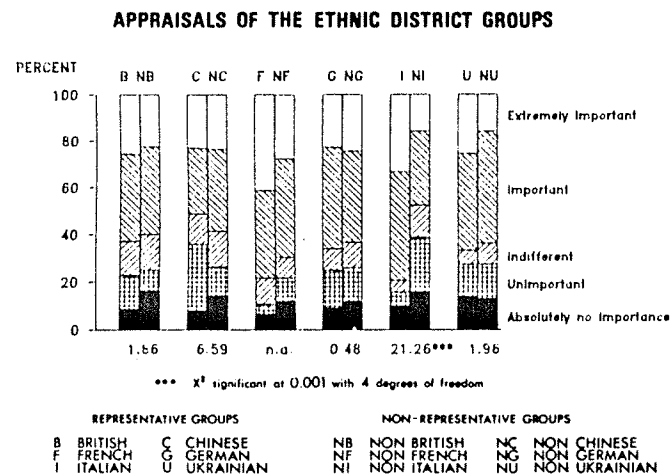
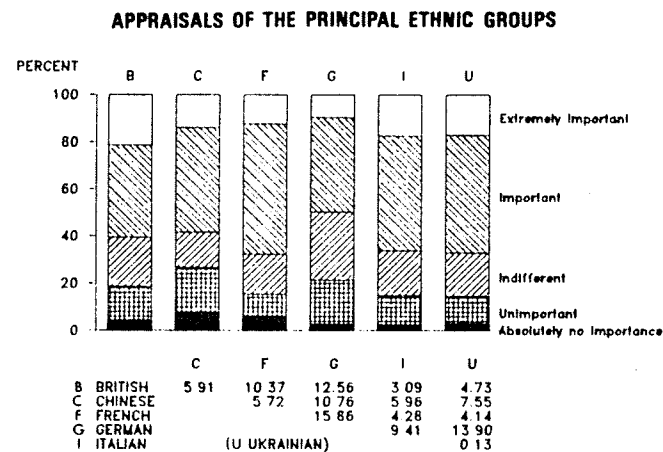
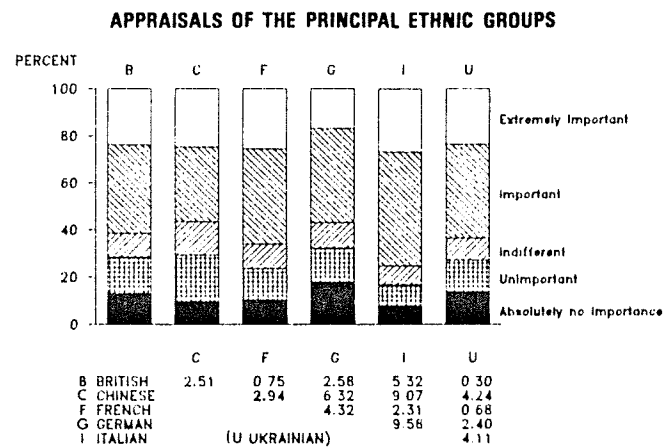


Figure 15: PLACE ATTRIBUTE: ACCESS TO EDUCATIONAL SERVICES

Figure 16: PLACE ATTRIBUTE: ACCESS TO SHOPPING FACILITIES

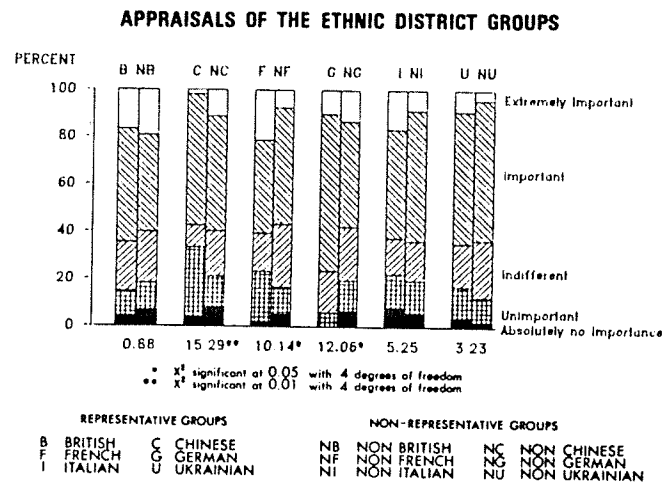
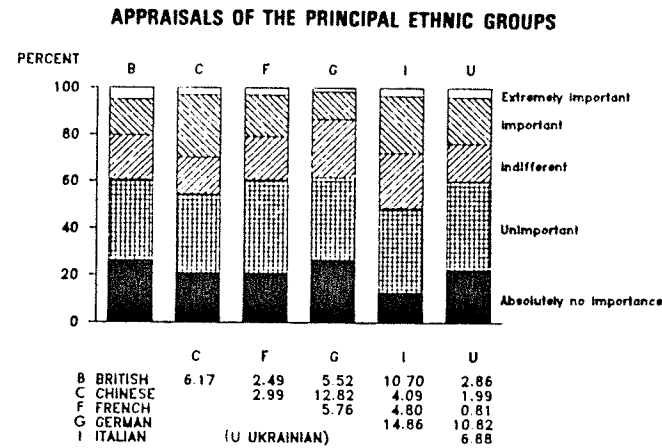
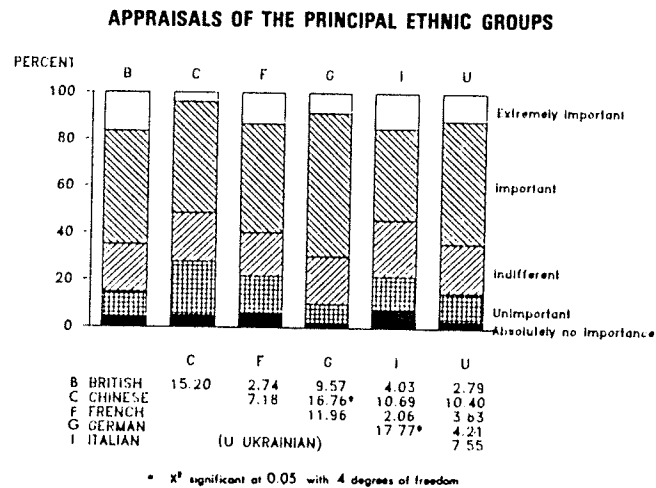


Figure 17: PLACE ATTRIBUTE: RESIDENCE ON WELL-TREED STREETS

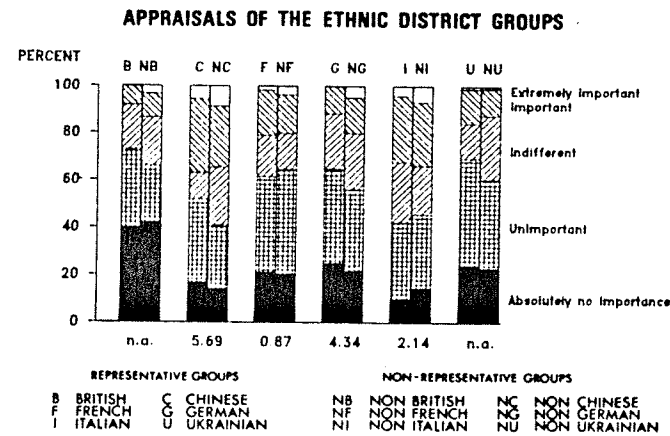
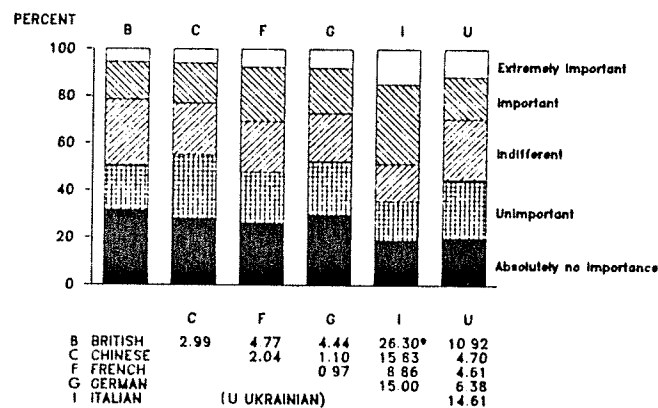


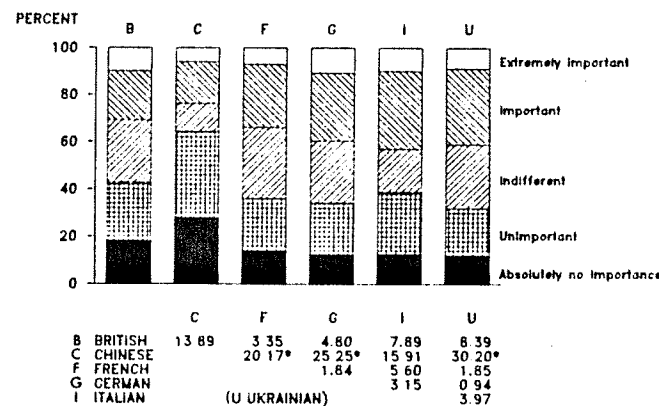
Figure 18: PLACE ATTRIBUTE: ACCESS TO DOWNTOWN

APPRAISALS OF THE PRINCIPAL ETHNIC GROUPS



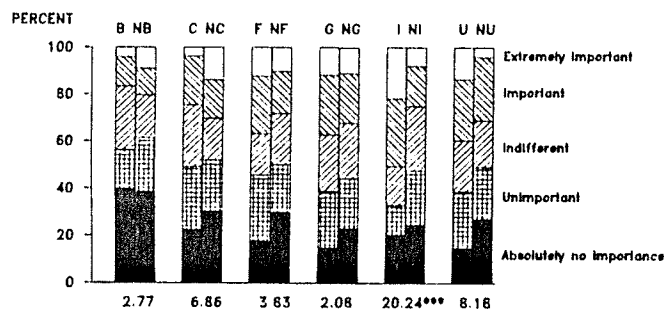
* χ^2 significant at 0.05 with 4 degrees of freedom

APPRAISALS OF THE PRINCIPAL ETHNIC GROUPS



* χ^2 significant at 0.05 with 4 degrees of freedom

APPRAISALS OF THE ETHNIC DISTRICT GROUPS

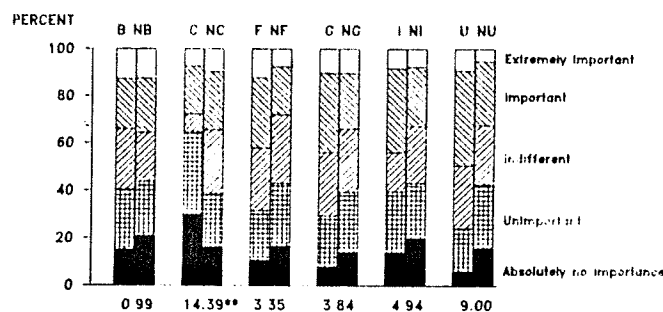


*** χ^2 significant at 0.001 with 4 degrees of freedom

REPRESENTATIVE GROUPS				NON-REPRESENTATIVE GROUPS			
B	BRITISH	C	CHINESE	NB	NON BRITISH	NC	NON CHINESE
F	FRENCH	G	GERMAN	NF	NON FRENCH	NG	NON GERMAN
I	ITALIAN	U	UKRAINIAN	NI	NON ITALIAN	NU	NON UKRAINIAN

Figure 19: PLACE ATTRIBUTE: ACCESS TO RELATIVES

APPRAISALS OF THE ETHNIC DISTRICT GROUPS

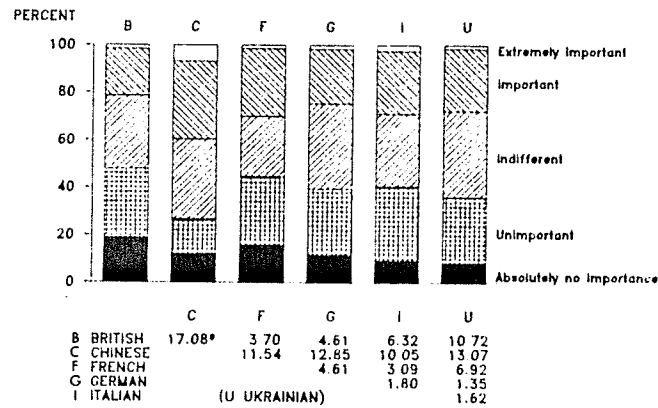


** χ^2 significant at 0.01 with 4 degrees of freedom

REPRESENTATIVE GROUPS				NON-REPRESENTATIVE GROUPS			
B	BRITISH	C	CHINESE	NB	NON BRITISH	NC	NON CHINESE
F	FRENCH	G	GERMAN	NF	NON FRENCH	NG	NON GERMAN
I	ITALIAN	U	UKRAINIAN	NI	NON ITALIAN	NU	NON UKRAINIAN

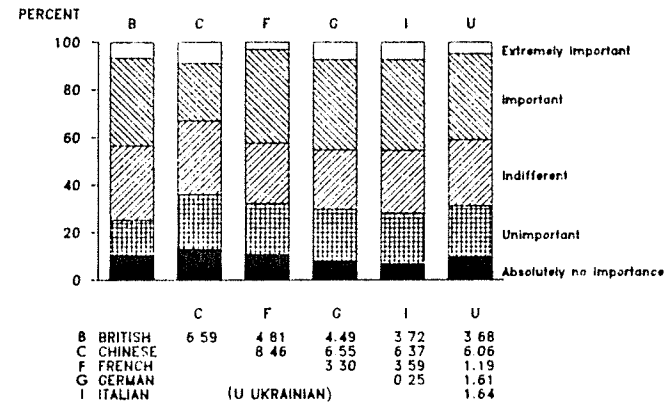
Figure 20: PLACE ATTRIBUTE: ACCESS TO A PLACE OF WORSHIP

APPRAISALS OF THE PRINCIPAL ETHNIC GROUPS

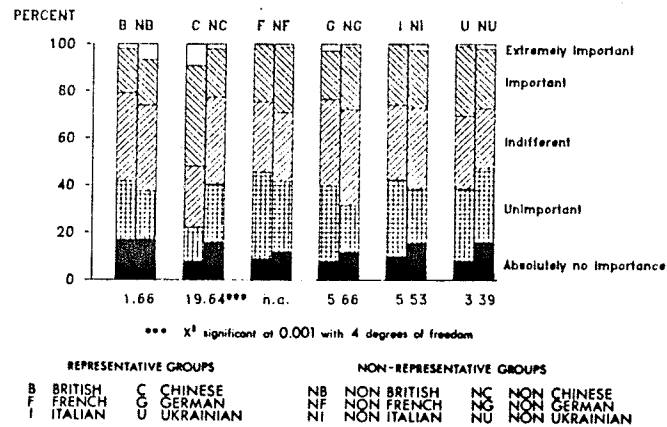


* χ^2 significant at 0.05 with 4 degrees of freedom

APPRAISALS OF THE PRINCIPAL ETHNIC GROUPS



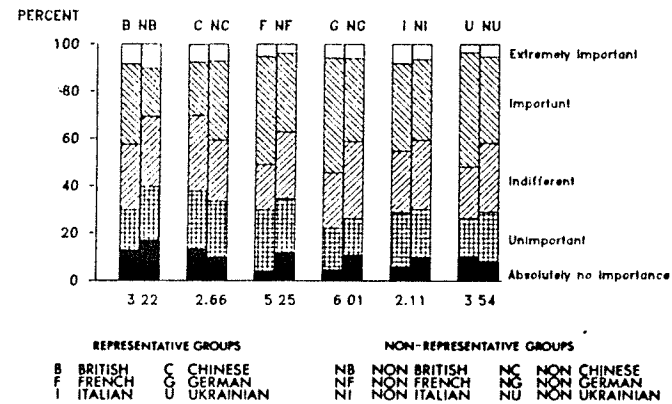
APPRAISALS OF THE ETHNIC DISTRICT GROUPS



*** χ^2 significant at 0.001 with 4 degrees of freedom

REPRESENTATIVE GROUPS			NON-REPRESENTATIVE GROUPS		
B BRITISH	C CHINESE		NB NON BRITISH	NC NON CHINESE	
F FRENCH	G GERMAN		NF NON FRENCH	NG NON GERMAN	
I ITALIAN	U UKRAINIAN		NI NON ITALIAN	NU NON UKRAINIAN	

APPRAISALS OF THE ETHNIC DISTRICT GROUPS

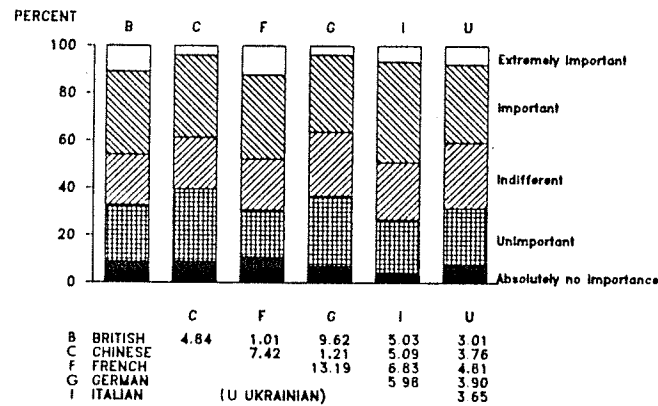


REPRESENTATIVE GROUPS			NON-REPRESENTATIVE GROUPS		
B BRITISH	C CHINESE		NB NON BRITISH	NC NON CHINESE	
F FRENCH	G GERMAN		NF NON FRENCH	NG NON GERMAN	
I ITALIAN	U UKRAINIAN		NI NON ITALIAN	NU NON UKRAINIAN	

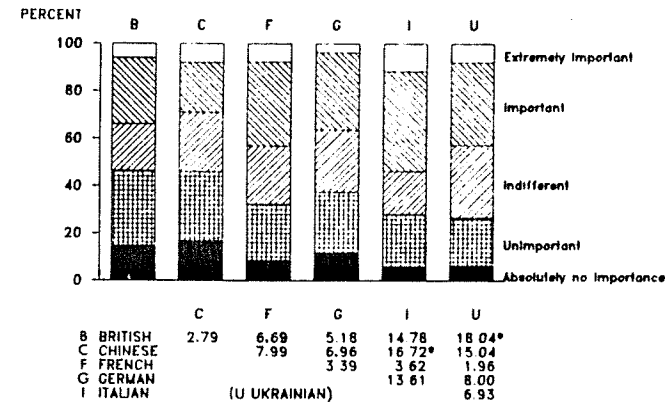
Figure 21: PLACE ATTRIBUTE: RESIDENCE IN A NEW NEIGHBOURHOOD

Figure 22: PLACE ATTRIBUTE: ACCESS TO FRIENDS

APPRAISALS OF THE PRINCIPAL ETHNIC GROUPS

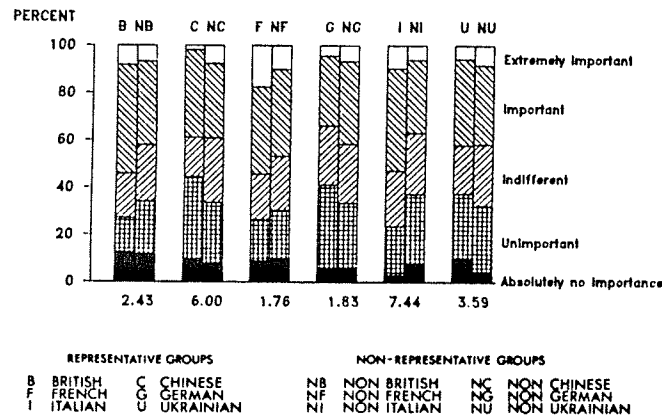


APPRAISALS OF THE PRINCIPAL ETHNIC GROUPS

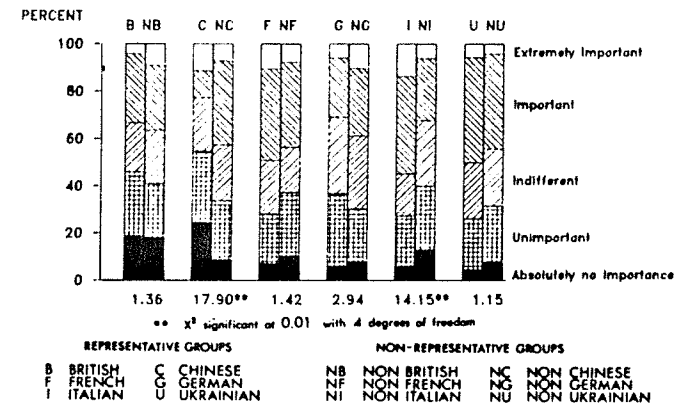


* χ^2 significant at 0.05 with 4 degrees of freedom

APPRAISALS OF THE ETHNIC DISTRICT GROUPS



APPRAISALS OF THE ETHNIC DISTRICT GROUPS



** χ^2 significant at 0.01 with 4 degrees of freedom

Figure 23: PLACE ATTRIBUTE: ACCESS TO A PARK

Figure 24: PLACE ATTRIBUTE: ACCESS TO MEDICAL AND DAYCARE SERVICES

important attributes. In contrast, a mere 1.6% (German) to 4.9% (British) of respondents consider that access to the downtown is 'extremely important' (Figure 18). Indeed, between 12.6% (Italian) and 26.6% (French) of respondents consider the downtown as of 'absolutely no importance'. Similarly, the advantages of residing close to relatives (Figure 19), places of worship (Figure 20) or in new neighbourhoods (Figure 21) are viewed as comparatively unimportant. Between these two extremes respondents assign more modest levels of importance to residing close to friends (Figure 22), parks (Figure 23) and medical/daycare services (Figure 24).

Multiple comparison of each place attribute employs the chi-square test. The experimentwise significance level for each attribute is set at 0.05, and chi-square values are generated for all possible inter-ethnic pairings. After applying a Bonferroni modification, the critical chi-square value for the test with 4 degrees of freedom is set at 16.66. Test results indicate an overall pattern of agreement between the ethnic groups, despite their varied income status (Figure 12). Chi-square is significant in only 5% (9 of 180) of the inter-ethnic tests (Table 19). Of these, the greatest number of significant tests are found in pairings involving the Chinese group (i.e., in 6 of the array of 60 tests involving that group). Fewest significant tests are established in pairings involving the French group

(i.e., in 1 of 60 tests). In addition, less than 2% (3 of 180) of the tests are linked to data distributions which have the same directional bias as predicted on the basis of inter-ethnic variation in income (Figure 12).

TABLE 19
TEST RESULTS FOR HYPOTHESES VI AND VII BY ETHNIC GROUP
IDENTITY

	PRINCIPAL ETHNIC GROUPS						ETHNIC DISTRICTS	
	TOTAL	CHINESE	FRENCH	GERMAN	ITALIAN	UKRAINIAN		
BRITISH	[3 (11)]	1 (3)	0 (1)	0 (3)	1 (2)	1*(2)	BRITISH	0
CHINESE	[6 (14)]		1 (1)	2*(3)	1 (4)	1 (3)	CHINESE	4 *
FRENCH	[1 (5)]			0 (3)	0 (0)	0 (0)	FRENCH	2
GERMAN	[3 (17)]				1*(5)	0 (3)	GERMAN	2 *
ITALIAN	[3 (12)]					0 (1)	ITALIAN	3
			UKRAINIAN [2 (9)]				UKRAINIAN	0

Each cell of the matrix has a theoretical maximum of 12 significant differences. Such differences are established in 9 (5%) of the 180 inter-ethnic tests. The asterisks denote the position of 3 tests which conform to the directionality expressed in Hypothesis VI or VII. Values in parentheses () indicate the distribution of possible Type II errors. Values in brackets [] indicate the number of significant differences and possible Type II errors involving the individual ethnic groups.

A maximum of 12 significant differences is possible for each ethnic district. Such differences are identified in 11 (16%) of the 67 tests. The asterisks denote the identity of 3 tests which support Hypothesis VI or VII.

In terms of the individual attributes, significant tests are most numerous in evaluating the importance of proximity to places of worship (i.e., in 3 of the matrix of 15 tests for this attribute), but few, if any, significant tests are associated with most attributes (Table 20). Moreover, only a portion of these tests conforms to the directionality expressed in Hypotheses VI and VII. Because of this, support for Hypothesis VI is restricted to the appraisal of medical/daycare services (i.e., in 1 of the 2 significant tests) (Table 20). In this instance, the Ukrainian and British groups are observed to differ in their desire to

TABLE 20
TEST RESULTS FOR HYPOTHESES VI AND VII BY PLACE ATTRIBUTE
IDENTITY

	<-----PRINCIPAL ETHNIC GROUPS----->			<-----ETHNIC DISTRICTS----->		
	Number of Significant Differences	Number Supporting Hypothesis	Number of Possible Type II Errors	Number of Significant Differences	Binomial Probabilities ¹	Number Supporting Hypothesis
ACCESSIBILITY ² ATTRIBUTES						
DOWNTOWN	0	0	4	0	1.00	0
WORK	0	0	1	0	1.00	0
TRANSPORT	0	0	2	0	1.00	0
SHOPPING	0	0	5	2	.03	1
EDUCATION	0	0	1	1	<.06	0
MEDICAL/DAYCARE	2	1	3	2	<.01	0
RELATIVES	1	0	4	1	<.06	0
FRIENDS	0	0	0	0	1.00	0
WORSHIP	3	0	2	1	<.06	0
PARK	0	0	2	0	1.00	0
ENVIRONMENTAL ³ ATTRIBUTES						
NEIGHBOURHOOD AGE	1	0	5	1	<.06	0
TREED STREETS	2	2	5	3	<.01	2
TOTAL	9	3	34	11		3

¹ These probabilities refer to the chance occurrence of significant differences. For example, significant relationships are observed in the Chinese ($X^2 = 17.90$, 4 d.f., $P < .01$) and Italian ($X^2 = 14.15$, 4 d.f., $P < .01$) district appraisals of medical/daycare facilities (Figure 24). In independent tests for each of six ethnic districts, the cumulative probability of finding two which are significant at the 0.01 level by chance is <.01

² Values shown refer to test results for Hypothesis VI.

³ Values shown refer to test results for Hypothesis VII.

reside close to medical and daycare services ($X^2 = 18.04$, 4 d.f., $P < 0.05$). Data inspection (Figure 24) reveals that 'important' or 'extremely important' ratings are more characteristic of the Ukrainian group (42.8%) than of the British (33.9%). Conversely, fewer Ukrainians (6.3%) than British (14.8%) rate the attribute as of 'absolutely no importance'. Income indices (Figure 12) confirm that the Ukrainian group ($E^* = 0.60$) is of lower economic status than the British ($E^* = 0.62$). Consequently, these relationships provide limited group-specific support for Hypotheses VI.

Support for Hypothesis VII is restricted to the evaluation of treed streets (2 of 2). In these tests the

appraisal of the German group differs from those of the Chinese ($X^2 = 16.76$, 4 d.f., $P < 0.05$) and Italian ($X^2 = 17.77$, 4 d.f., $P < 0.05$) groups. Data inspection reveals that relatively more Germans (69.7%) than Chinese (51.5%) or Italians (54.2%) consider residence on treed streets to be 'important' or 'extremely important'. Also, relatively fewer Germans (2.1%) than Chinese (5.0%) or Italians (7.5%) view this attribute to be of 'absolutely no importance'. Income indices confirm that the German group ($E^* = 0.66$) is of higher economic status than the Chinese ($E^* = 0.53$) and Italian ($E^* = 0.65$) groups (Figure 12). Consequently, these relationships provide limited group-specific support for Hypothesis VII.

When the Bonferroni modification is relaxed, chi-square is significant in an additional 19% of the tests (i.e., in a further 34 of the 180 tests).⁸⁷ Again, however, only a portion of these tests is linked to attribute appraisals in which directionality is consistent with Hypotheses VI or VII. Consequently, the tentative support for Hypotheses VI and VII identified by this procedure is limited to an additional 12% of the tests (i.e., to 21 of the 180 tests.).

Within the ethnic districts significantly different place attribute appraisals are exceptional rather than commonplace. Chi-square values are significant in only

⁸⁷ These tests indicate the probability of Type II errors associated with the experimentwise test design.

eleven (16%) of the sixty-seven tests for which statistical requirements are met (Table 19). Whilst four of these tests are associated with the Chinese district and three with the Italian, none is found in either of the British or Ukrainian districts. More importantly, the binomial distribution indicates the probability associated with the chance occurrence of significant test results. This probability is unacceptably high in the case of the lone significant result for the place of worship attribute.⁸⁸ In addition, inspection of the data distributions (Figures 13 to 24) reveals that only three (4%) tests are linked to data distributions which are biased in the direction predicted by inter-ethnic variation in income (Figure 12). These tests are found in the appraisals of shopping facilities and treed streets. Access to shopping facilities is stressed by the relatively low income non-representative group of the German district (Figure 16). The desirability of residing on treed streets is stressed by the relatively high income representative group of the German district, and by the non-representative group of the Chinese district (Figure 17). In view of the exceptional nature of these results, district-specific support for Hypotheses VI and VII is extremely limited.

⁸⁸ In this instance, acceptance of the test result increases the Type I error rate.

6.2.1 Place Attribute Appraisals: Additional Considerations

In addition to gathering data specific to the pre-selected attributes, the survey also encouraged respondents to identify additional place attributes or personal concerns which might influence their selection of a future place of residence. Most respondents considered the pre-selected attributes exhaustive of the elements they would need to evaluate when changing their place of residence. But from the 204 (22%) respondents who volunteered additional information (238 response statements), four major concerns emerged. These were identified as: 1) the need to ensure that destination environments were "not too noisy", "free from crime", "safe and clean" and had "good community policing" (53% of additional responses); 2) the need to satisfy highly personalized and largely recreationally orientated interests, such as ensuring close proximity to golf and tennis clubs, community halls, swimming pools and the Y.M.C.A. (23%); 3) the need to locate close to, or at distance from, 24-hour convenience stores (13%); and, 4) the desire to seek residence in localities "away from Indians", "not next to immigrants" and "not in a French area" (6%).

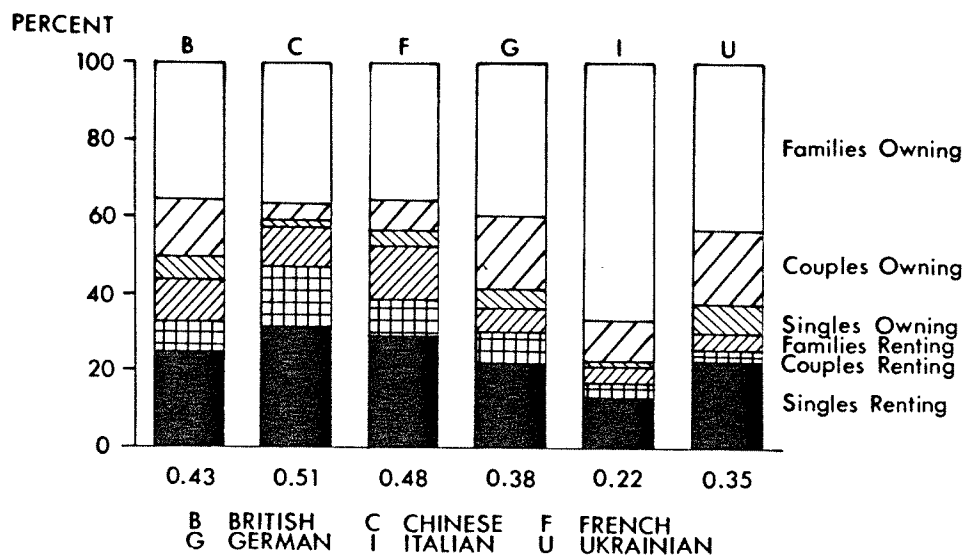
6.3 MIGRATION INTENTIONS AND CHANGE IN RESIDENTIAL SEGREGATION

Investigation of ethnic variation in intra-urban migration intentions required respondents to estimate their expectations of moving within one and five-year time frames (Appendix A, Question 5). Move intentions were measured on a six-point scale in which movement categories ranged from 'certain not to move' to 'certain to move.' In view of Duncan and Newman's (1976) cautionary comments concerning the non-fulfillment of migration intentions, the following analysis is presented as a forecast rather than a prediction. Analysis involves the multiple testing of Hypothesis VIII:

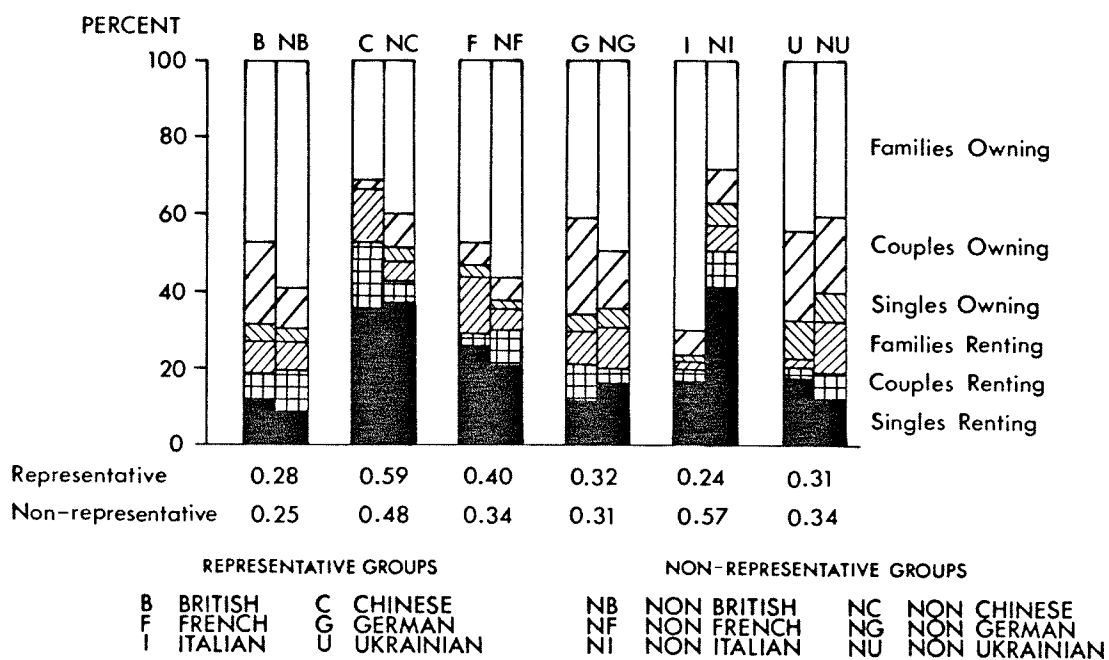
that the likelihood of moving is greater for more urbanized ethnic groups.

The urbanization status (U*) of each ethnic group is determined on the basis of its tenurial and family characteristics (Figure 25). Tenurial characteristics are used to divide each group into owner and renter (tenurial status) divisions. These divisions are then subdivided to identify single person, couple and family (life-cycle) categories. This procedure produces an urbanization variable in which categories range from (1) single persons living in rented accommodation to (6) families residing in owner occupied property. Refined cumulative percentage counts based on these categories indicate that the Italian

URBANIZATION STATUS OF THE PRINCIPAL ETHNIC GROUPS



URBANIZATION STATUS OF THE ETHNIC DISTRICT GROUPS



The urbanization indices indicated at the base of each bar graph are derived by refining the cumulative frequency counts.

Categories are summed from the base of each graph.

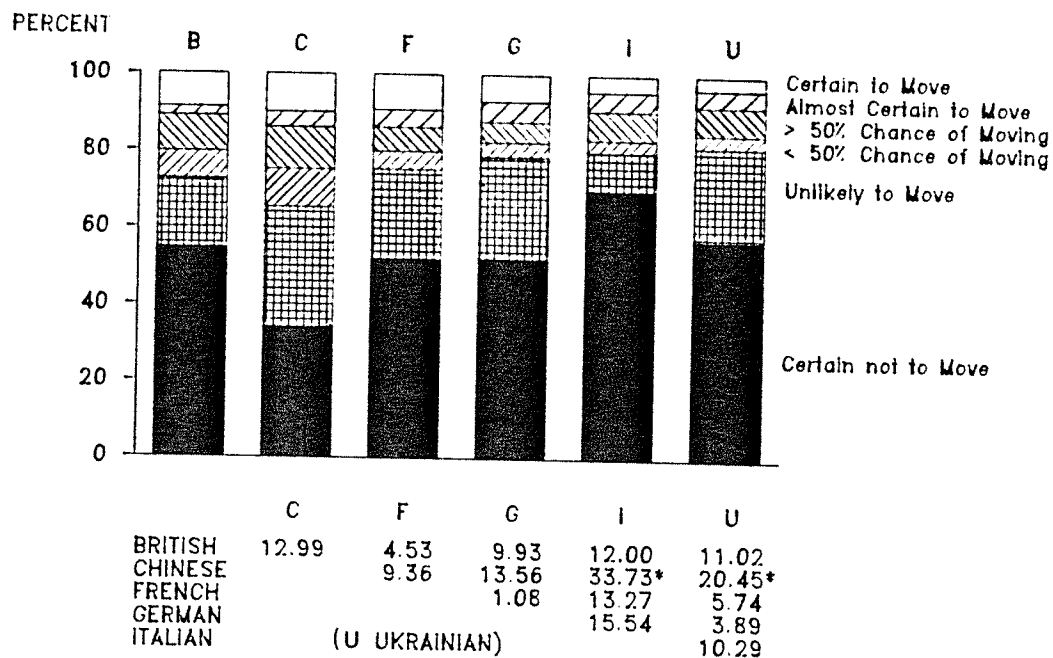
Figure 25: URBANIZATION STATUS OF HOUSEHOLDS

(0.22) group is the least urbanized and that the Chinese (0.51) group is the most urbanized (Figure 25).

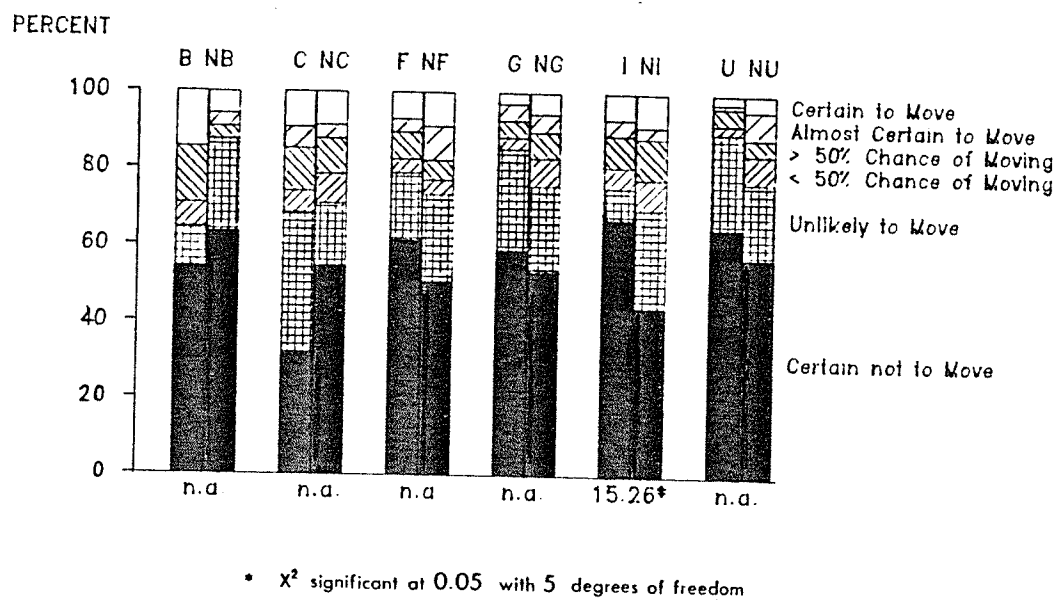
6.3.1 Ethnic Variation in One-Year (Short-Term) Migration Intentions

Summation of the one-year migration intentions produces evidence of short-term community stability. Only 15.1% (Ukrainian) to 24.8% (Chinese) of respondents possess a 'better than 50% chance' of moving (Figure 26). Multiple comparison of migration intentions employs the chi-square test. The experimentwise significance level of the test is set at 0.05, and fifteen chi-square statistics are generated by comparing all possible inter-ethnic pairings. After applying a Bonferroni modification, the critical chi-square value for the test with 5 degrees of freedom is set at 18.64. Test results indicate that two of the between-group comparisons are significant at the 0.05 level. These tests involve comparisons between: 1) the Chinese and Italian; and, 2) the Chinese and Ukrainian. Inspection of the data distributions (Figure 26) indicates that from 3.4% (Ukrainian) to 9.9% (Chinese) of each response group are 'certain to move'. Conversely, between 33.7% (Chinese) and 70.0% (Italian) indicate that they are 'certain not to move'. Urbanization indices (Figure 25) confirm that the Chinese ($U^* = 0.51$) are the most urbanized of the ethnic groups, and that the Italian group ($U^* = 0.22$) is the least urbanized. Because of these relationships, substantial

MIGRATION INTENTIONS OF THE PRINCIPAL ETHNIC GROUPS



MIGRATION INTENTIONS OF THE ETHNIC DISTRICT GROUPS



REPRESENTATIVE GROUPS			NON-REPRESENTATIVE GROUPS				
B	BRITISH	C	CHINESE	NB	NON BRITISH	NC	NON CHINESE
F	FRENCH	G	GERMAN	NF	NON FRENCH	NG	NON GERMAN
I	ITALIAN	U	UKRAINIAN	NI	NON ITALIAN	NU	NON UKRAINIAN

Figure 26: ETHNIC VARIATION IN ONE-YEAR MIGRATION INTENTIONS

The same disinclination to move is also observed in the ethnic district response structures (Figure 26). Respondents claiming that they are 'certain to move' are most frequently identified in the representative British group (14.6%), and are least observed in the representative Ukrainian group (2.3%). In contrast, those who are 'certain not to move' are most typical of the representative Italian group (67.1%), and are least typical of the representative Chinese group (31.5%). Whilst non-mover biases are evident in all response structures, the statistical requirements of the chi-square test are met in only one of the six intra-district tests. In this instance, the chi-square value for the Italian district is significant ($\chi^2 = 15.26$, 5 d.f., $P < 0.05$). Inspection of the data distribution (Figure 26) indicates that considerably fewer members of the representative Italian group are 'certain to move' (6.8%) than are 'certain not to move' (67.1%). Corresponding values for the non-representative group are somewhat less extreme (8.7% and 44.1%). Urbanization indices (U^*) confirm that the representative Italian group ($U^* = 0.24$) is less urbanized than its non-representative ($U^* = 0.57$) counterpart. In view of these relationships, limited district-specific support for Hypothesis VIII is suggested. However, in an a posteriori examination, the probability of finding one such significant statistic is .265. Consequently, the reliability of this result may be

doubted.⁸⁹ Visual inspection of the data suggests that additional support for Hypothesis VIII may be present in the British and Chinese districts.⁹⁰

6.3.2 Ethnic Variation in Five-Year (Medium-Term) Move Intentions

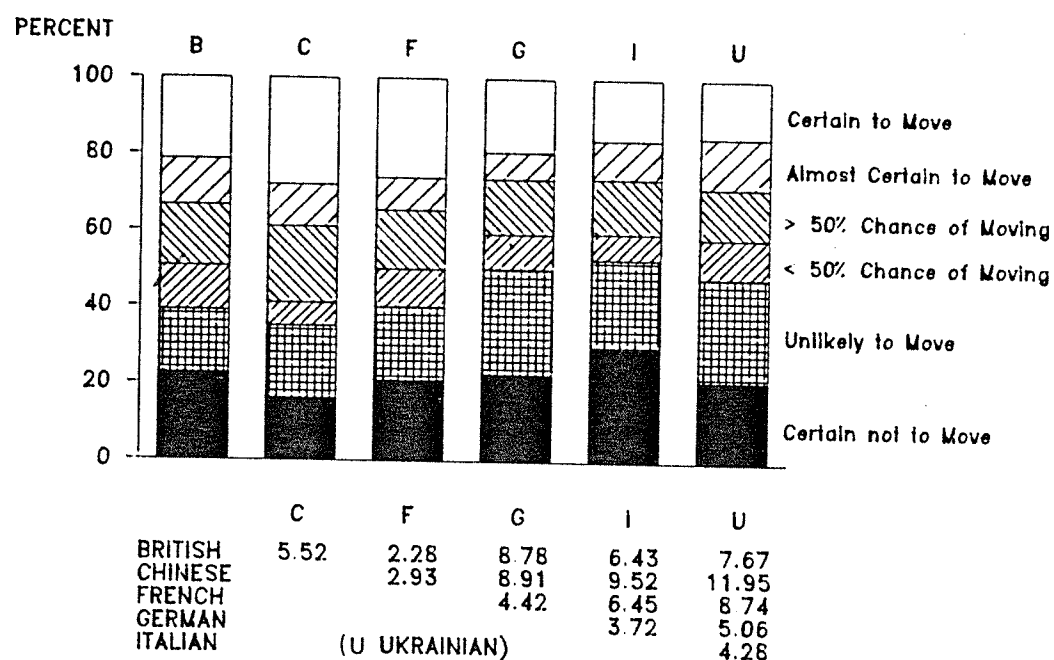
As might be expected, increased mobility prospects are indicated in the five-year migration intentions of the principal ethnic groups (Figure 27). However, whilst between 16.0% (Italian) and 28.0% (Chinese) of respondents indicate that they are 'certain to move', all groups, excluding the Chinese and French, express still greater possibilities of remaining in their current residences. Between 16.0% (Chinese) and 29.4% (Italian) of respondents consider that they are 'certain not to move' within a five-year time frame.

Chi-square statistics are generated for all possible inter-ethnic pairings, and the experimentwise significance level is set at 0.05. After applying a Bonferroni

⁸⁹ Specifically, Hypothesis VIII is accepted at the risk of a Type I error.

⁹⁰ The data distributions for these districts fail to meet the expected frequency requirement of the chi-square test. This situation is related to the considerable non-mover bias exhibited in the data. Collapsing the data into a smaller number of move intention categories might solve this problem. Unfortunately, this 'solution' would produce results which are not strictly comparable with those for other parts of the move intention analysis. More seriously, the use of a collapsing procedure introduces the risk of deliberate manipulation of the data to fit the hypothesis.

MIGRATION INTENTIONS OF THE PRINCIPAL ETHNIC GROUPS



MIGRATION INTENTIONS OF THE ETHNIC DISTRICT GROUPS

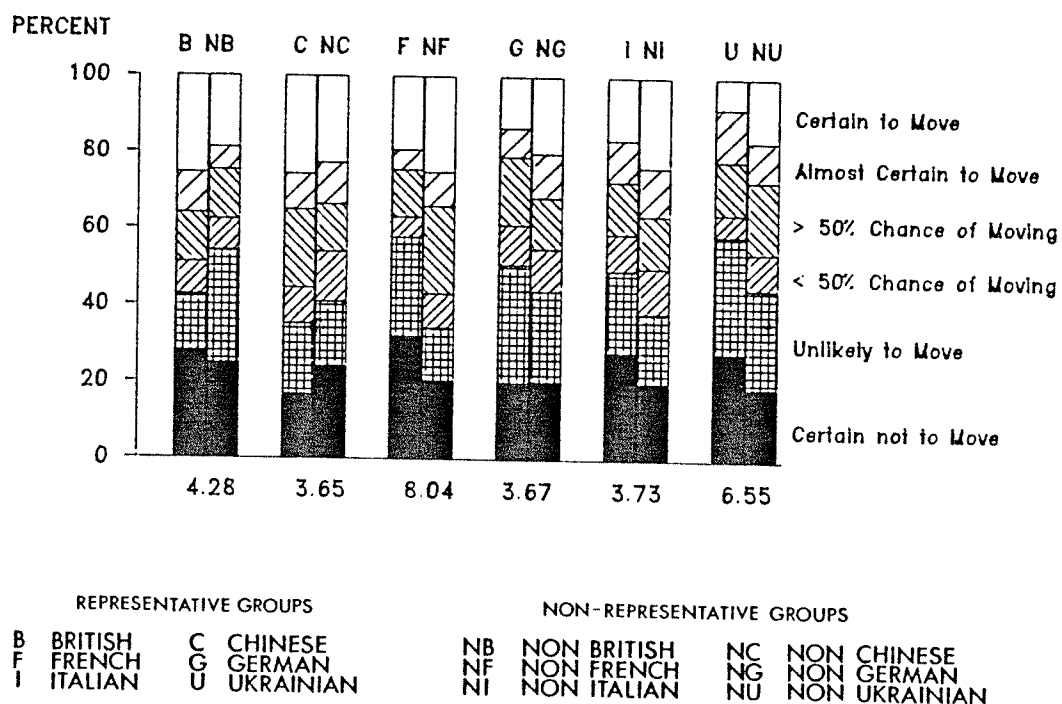


Figure 27: ETHNIC VARIATION IN FIVE-YEAR MIGRATION INTENTIONS

modification, the critical chi-square value for the test with 5 degrees of freedom is set at 18.64. Test results indicate that none of the between-group comparisons is significant at the 0.05 level. Nevertheless, there is some likelihood of a Type II error in the comparison involving the Chinese and Ukrainian groups.⁹¹ In this instance, urbanization indices (Figure 25) confirm that the Chinese group ($U^* = 0.51$) is more urbanized than the Ukrainian ($U^* = 0.35$). Because of this, limited group-specific support for Hypothesis VIII cannot be entirely discounted.

Additional search of the data indicates that migration intentions do not transcend urbanization status to the extent noted for one-year migration intentions (Table 21). Thus, when urbanization status is controlled, there is no consistent distinction between the migration intentions of the Chinese and Ukrainian groups. Expressed alternatively, this suggests that the greater migration intentions of the Chinese group are attributable to the relatively high proportion of renters and single persons within the group. Also, the most striking feature of the data is the greater migration intentions of the renter categories in each ethnic group. This feature is observed in both the one and five-year move intentions, and is consistent with differences in the move intentions of tenure groups observed elsewhere (e.g., Rossi, 1955; Speare, 1970; Pickvance, 1973).

⁹¹ That is, the relationship between these groups is significant in a comparisonwise test design.

Increased mobility prospects are also displayed in the five-year migration intentions of the district response groups (Figure 27). 'Certainty of moving' is most frequently expressed by the representative Chinese group (25.9%), and is least expressed by the representative Ukrainian group (8.0%). Again, however, a general reluctance to move is the most prominent feature of the response structures. This 'certainty not to move' is most expressed by the representative French (31.6%) and British (27.7%) groups, and is least typical of the representative Chinese (16.7%) and non-representative Ukrainian (18.8%) groups. Despite these variations, the chi-square values for each district are not significant. Consequently, Hypothesis VIII is not supported.

6.4 CHANGE IN RESIDENTIAL SEGREGATION: A MEDIUM-TERM FORECAST

Change in the extent of residential segregation is measured by comparing current and forecasted indices of residential dissimilarity.⁹² This comparison is based on the assumption that the individual five-year migration intentions of persons who are 'certain' or 'almost certain' to move will be fulfilled in accordance with their primary place preferences (Table 22).⁹³ A cartographic summary of

⁹² A brief explanation of the index of dissimilarity (ID) is given in Chapter III. Its utility in describing past changes in the intensity of ethnic segregation in Winnipeg is also discussed.

TABLE 22
FIVE-YEAR CHANGE IN RESPONSE GROUP RESIDENTIAL PATTERNING

CURRENT (c) AND FORECASTED (f) RESIDENTIAL DISTRIBUTIONS												
COMMUNITY	BRITISH		CHINESE		FRENCH		GERMAN		ITALIAN		UKRAINIAN	
	c	f	c	f	c	f	c	f	c	f	c	f
NORTH KILDONAN	4	4	1	1	1	2	14	14	2	2	6	11
EAST KILDONAN	14	16	4	4	6	5	24	25	7	9	27	22
TRANSCONA	6	8	1	1	4	4	6	5	7	6	11	11
NORTH ST. BONIFACE	6	5	2	1	35	35	4	4	5	5	4	3
NORTH ST. VITAL	6	8	1	1	4	3	3	1	0	0	2	2
SOUTH ST. BONIFACE	6	5	2	5	10	15	5	4	3	4	5	6
SOUTH ST. VITAL	8	7	3	3	8	6	7	8	2	4	5	5
SOUTH FORT GARRY	3	2	4	8	4	4	3	4	1	4	1	2
NORTH FORT GARRY	7	7	4	3	3	4	6	5	2	1	3	4
FORT ROUGE	25	27	9	7	10	9	16	21	22	19	12	11
RIVER HEIGHTS-TUXEDO	11	14	2	6	2	3	6	8	1	3	4	6
CHARLESWOOD	5	9	0	1	1	1	5	9	1	4	2	3
ASSINIBOIA	10	10	4	3	4	5	10	11	2	2	6	6
ST. JAMES	19	17	4	6	4	7	8	9	4	5	6	9
WEST WINNIPEG	18	17	13	10	8	8	24	20	29	25	15	11
DOWNTOWN	15	10	33	29	12	9	11	8	15	10	13	10
NORTHWEST WINNIPEG	5	3	7	5	4	0	6	5	3	3	6	6
NORTH WINNIPEG	8	7	2	2	7	6	17	15	10	7	54	49
WEST KILDONAN	4	5	4	4	1	1	8	7	2	3	14	19
OLD KILDONAN	2	1	0	0	2	3	4	4	1	3	8	8

CURRENT (c) AND FORECASTED (f) DISSIMILARITY INDICES						
RESPONSE GROUP		CHINESE	FRENCH	GERMAN	ITALIAN	UKRAINIAN
BRITISH	c	47.67	33.96	21.65	31.09	38.14
	f	37.92	39.67	20.87	25.57	37.78
CHINESE	c		52.05	49.29	51.14	55.22
	f		43.85	39.73	40.59	47.76
FRENCH	c			38.51	41.65	44.50
	f			41.42	40.05	46.95
GERMAN	c				32.93	24.82
	f				26.43	28.21
ITALIAN	c		(UKRAINIAN)			39.64
	f					38.03

CALCULATION OF T IN WILCOXON TEST FOR HYPOTHESIS IX
 $R1(c>f) = 93$; $R2(c<f) = 27 = T$
in one-tailed test T is not significant at 0.05 level

prospective change in ethnic residential patterning is presented. This summary is then reviewed within the context of a social area analysis based on the study's twenty

⁹³ 'Certain' and 'almost certain' migrants correspond to the 'intended migrant' category identified by McHugh (1984).

communities. Each of these steps is undertaken in further pursuance of the thesis' secondary objective, namely, to establish closer linkage between Winnipeg's ethnic ecological structure and the numerous individual migration decisions which contribute to that structure. Analysis involves the testing of Hypothesis IX:

that prospective ethnic migration behaviour will not change the intensity of ethnic segregation.

Analysis is based on the potential residential redistribution of the ethnic response groups included in the field survey. Table 22 summarizes the current (c) and forecasted (f) residential distributions of these groups for each of Winnipeg's twenty communities. The data indicate the community totals for each ethnic group and may be used to interpret net gains and losses. For example, a net loss of five British respondents is forecast for the community of Downtown (decrease from 15 to 10 = -5). Conversely, an increase of four German respondents is suggested for the community of Charleswood (increase from 5 to 9 = +4). The extent of segregation existent in these distributions is then determined by computing indices of dissimilarity (ID) for each of the inter-ethnic pairings. Comparison of the indices associated with the current and forecasted distributions indicates that decreasing levels of dissimilarity are expected for eleven of the fifteen pairs, and that particularly large decreases may be expected for pairings involving the Chinese. For instance, dissimilarity

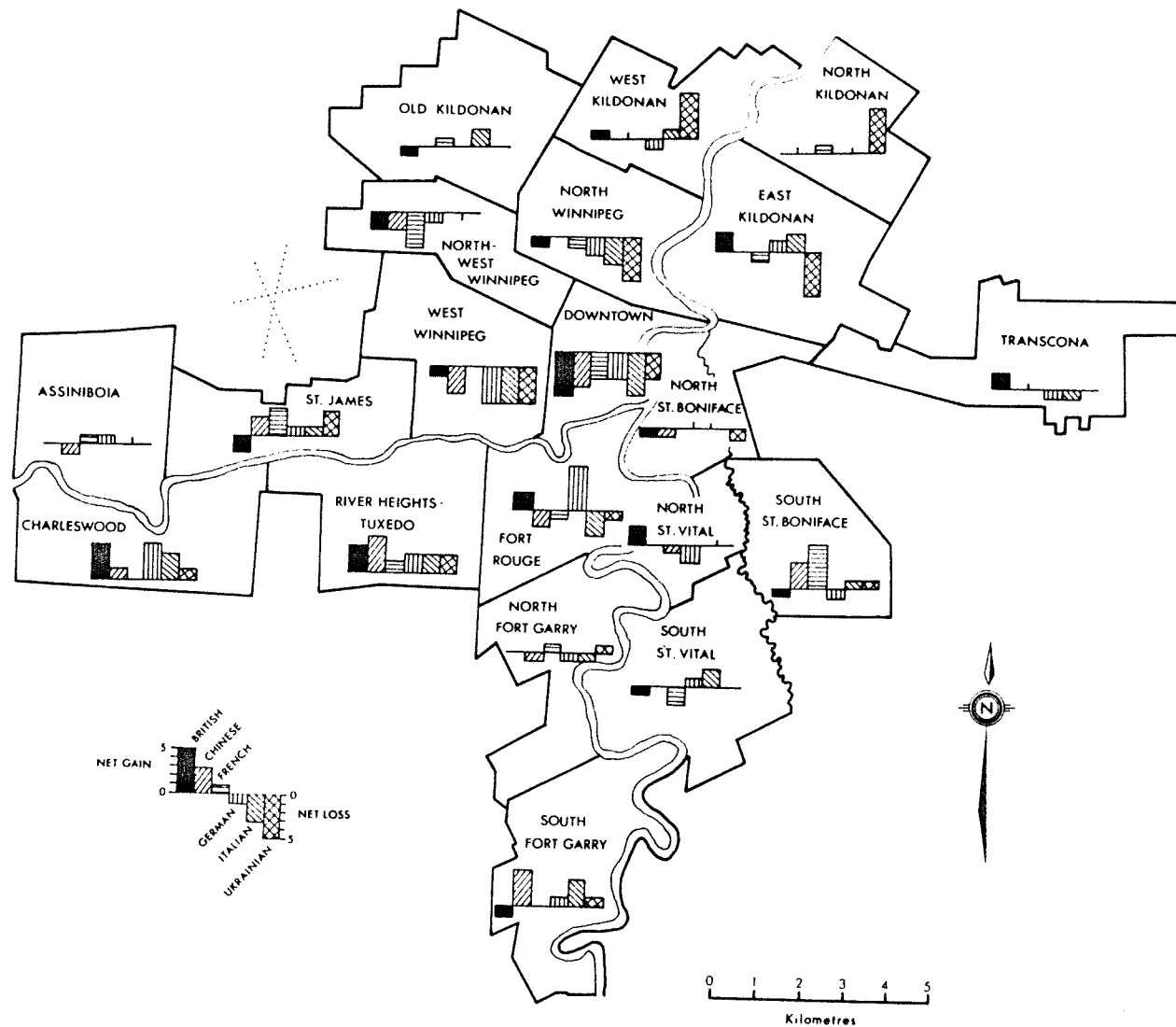
between the Chinese and British is forecast to decline from 47.67% to 37.92%. Despite this, the spatial distribution of the Chinese is likely to remain quite distinctive, as may that of the French. Indeed, the French are associated with three of the four instances in which increases in the dissimilarity indices are forecast. Pairings involving the British group are expected to retain their relatively low measures of dissimilarity, particularly in relation to the German group.

To test the validity of Hypothesis IX the current and forecasted dissimilarity indices are compared by means of a non-parametric Wilcoxon test.⁹⁴ Reference to Table 22 shows that the Wilcoxon T statistic is not significant ($T = 27$, n.s.). In short, the current and forecasted dissimilarity indices are not significantly different, and Hypothesis IX is not supported. Expressed alternatively, this means that a significant medium-term decrease in Winnipeg's overall pattern of ethnic segregation cannot be expected on the basis of respondents' residential preferences and migration intentions.

⁹⁴ This test involves the computation of a statistic T , the value of which must not exceed a known critical value of T if the null hypothesis is to be rejected. In the case of fifteen data pairs the critical T value is set at 25 for a one-tailed directional test significant at the 0.05 level. Detailed accounts of the Wilcoxon test may be found in Siegel (1956) and Hammond and McCullagh (1974).

The major weakness of this forecast is that it deals with ethnic response groups whose composition is unchanging. Processes of household formation and disintegration are ignored. Consequently, the analysis takes no account of possible changes in preference patterning which may result from growth and compositional changes in the various ethnic groups. It also assumes that, irrespective of how many times intending migrants move during the five-year time frame, such moves will always be associated with the areas of first preference. Aside from these qualifications, the utility of the forecast stems from its conceptual simplicity and its ability to simulate prospective residential segregation from known preference patterns and migration intentions. The resulting perspective indicates how ethnic segregation in Winnipeg might evolve in an income constrained housing market.

Although a decrease in Winnipeg's ethnic segregation is not anticipated on the basis of the preceding forecast, important changes may still take place in the distribution of the ethnic populations. Figure 28 presents a cartographic translation of the expected net gains and losses in the distribution of the ethnic response groups. The distribution is based on the current and forecasted community totals presented in Table 22. Of note are the relatively consistent gains which are forecast for all ethnic groups in the suburban communities of Charleswood,



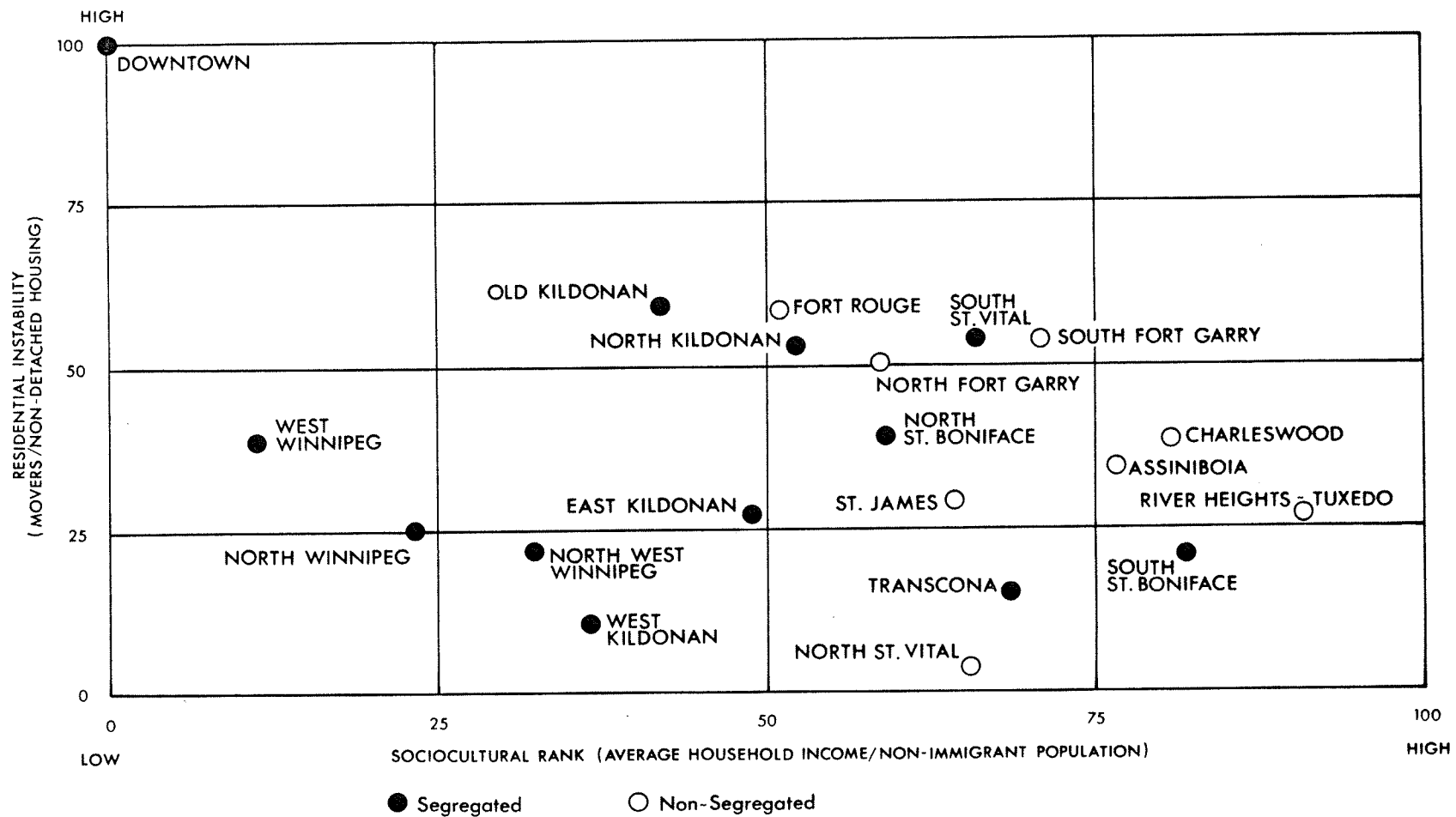
FORECASTED NET CHANGE IN DISTRIBUTION OF ETHNIC RESPONSE GROUPS

River Heights-Tuxedo, South Fort Garry and St.James. Equally consistent losses are forecast for the inner city communities of Downtown, North Winnipeg, Northwest Winnipeg and West Winnipeg. Taken collectively, these changes emphasize greatest net gains in communities of the British and French districts and greatest net losses in communities of the Chinese and Italian districts.

6.5 RESIDENTIAL CHANGE WITHIN SOCIAL SPACE

As previously noted, the segregation forecast may be further interpreted in terms of the social area status of the communities for which major net gains and losses are forecast. For present purposes the social area status of each community is defined by indices of residential instability, sociocultural rank and ethnic segregation (Figure 29).⁹⁵ These indices are computed following the procedures specified by Shevky and Williams (1949) and are based on an interpretation of 1981 census data (Statistics Canada, 1982b, 1983b). Residential instability is determined by a combined measurement of recent migration activity and the proportion of non-detached housing units in each community. Sociocultural rank combines measurements of

⁹⁵ The conventional social rank and urbanization indices of social area analysis are less suited to the present study and are replaced by indices expressing the more relevant considerations of sociocultural status and residential stability. This choice is consistent with Hawley and Duncan's (1957) criticism that conventional social area analysis does not necessarily select those variables which best express the social dimensions of a population.



Source: computation based on Statistics Canada (1983a)

Figure 29: MODIFIED SOCIAL AREA TYPOLOGY, WINNIPEG, 1981

average household income and non-immigrant status. Segregation status refers to the relative concentration of persons of non-British ethnic origin. Appendix E presents a full description of these variables and provides the results of a rank correlation test used in determining their suitability for inclusion in the indices.

Cross-classification of the data presented in Figures 28 and 29 allows each of Winnipeg's twenty communities to be reassigned within a social space framework (Table 23). From within this framework five major groups of communities may be identified. The first of these identifies communities of high sociocultural rank and low or intermediate levels of residential instability (River Heights-Tuxedo, Charleswood, Assiniboia and South St.Boniface). These communities are expected to experience substantial net gains in all or most of their ethnic populations as a consequence of net migration from other parts of the city. Similar gains are also expected in the second group of communities (South Fort Garry, St.James, North Kildonan, Old Kildonan and West Kildonan). These communities are of lesser sociocultural rank than the first group, but share a similar residential instability experience. Most of Winnipeg's less segregated communities are found within these first two groups. In contrast, significant net losses are expected for most ethnic populations in the third group of communities (North St.Boniface, West Winnipeg, North Winnipeg and Northwest

TABLE 23

FORECASTED NET MIGRATION FLOWS FOR WINNIPEG'S SOCIAL AREAS

SOCIOCULTURAL STATUS	<----- High -----> (75 - 100)			<----- Intermediate -----> (25 - 75)			<----- Low -----> (0 - 25)		
RESIDENTIAL INSTABILITY	Low (0 - 25)	Intermediate (25 - 75)	High (75 - 100)	Low (0 - 25)	Intermediate (25 - 75)	High (75 - 100)	Low (0 - 25)	Intermediate (25 - 75)	High (75 - 100)
COMMUNITIES WHERE MOST ETHNIC GROUPS ARE EXPECTED TO EXPERIENCE GAINS FROM MIGRATION	South St.Boniface	River Heights- Tuxedo Charleswood Assiniboia		West Kildonan	South Fort Garry North Kildonan St.James Old Kildonan				
COMMUNITIES WHERE MOST ETHNIC GROUPS ARE EXPECTED TO EXPERIENCE LOSSES BY MIGRATION				Northwest Winnipeg	North St.Boniface			West Winnipeg North Winnipeg	Downtown
COMMUNITIES WHERE THE DIRECTION OF CHANGE VARIES GREATLY BETWEEN ETHNIC GROUPS				North St.Vital Transcona	South St.Vital North Fort Garry Fort Rouge East Kildonan				

Winnipeg). These communities tend to register intermediate or low rankings in both the sociocultural and residential instability dimensions, but form a less uniform group than either of the first two groups. The fourth group is represented by Downtown. This community stands alone because of its low sociocultural status, extreme residential instability and markedly unfavourable net migration prospects for all ethnic populations. All communities in groups three and four are classified as segregated. Finally, a fifth group is comprised of communities in which growth prospects vary considerably between the individual ethnic populations (East Kildonan, Transcona, Fort Rouge, North Fort Garry, North St.Vital and South St.Vital). Generally speaking these communities are of intermediate sociocultural rank and intermediate or low instability status.

This redistribution of ethnic response groups towards high income-low immigrant status suburban communities is consistent with the decentralization and integration components of the Burgess (1925) and Hoyt (1939) models. Moreover, if the association between residential preferences and migration intentions materializes, communities in the western and southern parts of Winnipeg may be expected to experience relatively greater upward pressure on property prices and increased demand for additional residential development.

6.6 SUMMARY

The questionnaire data are summarized to reflect the residential preferences, place attribute appraisals and migration intentions of the ethnic groups. Inter-ethnic and intra-district analyses indicate that home community biases are present in the residential preference patterns of all groups, but little evidence exists to suggest that these biases are greater for the more segregated groups (Hypothesis IV). Still greater agreement is expressed in the distant community aversion biases of the ethnic groups. Consequently, aversion bias is not significantly greater for the more segregated ethnic groups (Hypothesis V). Most place attributes are positively appraised by each ethnic group. Of the attributes tested, access to public transportation is considered particularly important by all groups. Only a small minority of inter-ethnic and intra-district tests produce significantly different appraisals which conform with those predicted on the basis of inter-ethnic differences in income (Hypotheses VI and VII). These differences are most frequently registered in hypotheses concerning the desirability of residing on treed streets and in assessing the importance of residing close to shopping facilities and the downtown.

Non-mover bias is expressed in the one-year (short-term) migration intentions of all groups, though the extent of this bias tends to be greatest for the more urbanized groups

(Hypothesis VIII). In contrast, such differences are virtually absent from the five-year (medium-term) migration intentions of each group. However, the absence of differences may disguise differing propensities to make repeated moves. Comparison of current and forecasted residential distributions indicates that most ethnic groups should become less segregated. This appraisal is based on the expectation that the medium-term migration intentions of migrants will be fulfilled in accordance with their primary place preferences. In addition, the desegregation of individual ethnic groups may be accompanied by net population losses from inner city communities, and by net gains in suburban communities. Desegregation may also involve a net movement of the ethnic populations to communities of higher sociocultural rank. Despite these changes, the prospect of increasing segregation on the part of one or more ethnic groups may prevent a generalized decline in ethnic segregation in Winnipeg (Hypothesis IX).

Chapter VII

SUMMARY AND IMPLICATIONS FOR FURTHER STUDY

This thesis argues that comparative assessment of ethnic migration behaviour represents a relatively neglected aspect of migration study. An extensive literature indicates that distinctive patterns of ethnic segregation have long been a key element in Winnipeg's social geography. This circumstance has prompted speculation that the city's persistent segregation may be related to inter-ethnic differences in major aspects of migration behaviour.

Chapter I contained a brief discussion of Canada's immigration history and the associated emergence of a multicultural urban society. Attention was drawn to the comparative neglect of ethnicity in studies of intra-urban migration behaviour. This neglect was contrasted with the prominence attached to ethnicity in social area and factor analytic studies of urban areas. Chapter II focused on the processes which influence the intensity and persistence of ethnic segregation in Western industrialized cities. Major aspects of behavioural enquiry concerning the patterning, determinants and expectations of intra-urban migration were reviewed. Chapter III focused on the creation of Winnipeg's ethnic neighbourhoods, and on change in the intensity of

their residential segregation. Six of the city's principal ethnic groups were selected for inclusion in the field survey. General aspects of Winnipeg's housing market during the 1970s were discussed. Chapter IV presented the study hypotheses. The design and administration of the field survey questionnaire were also discussed. Chapters V and VI presented the field survey data and the results of hypothesis testing. The threefold purpose of this chapter is to provide: 1) a brief restatement of the research objectives and study design; 2) a summary of the research findings; and, 3) a commentary on their implications for future research.

7.1 RESEARCH OBJECTIVE AND STUDY DESIGN

The major objective of this study has been to examine the past and prospective migration behaviour of selected ethnic groups residing in Winnipeg, Manitoba. Specific objectives and related hypotheses have investigated: 1) the spatial properties and determinants of past migration; 2) the designation of most and least preferred residential communities in prospective migration; 3) the estimation of migration intentions; 4) the evaluation of place attributes associated with prospective migration; and, 5) change in the intensity of ethnic residential segregation.

The fieldwork data were summarized to reflect the migration experiences and expectations of persons in: 1) a

citywide sampling of Winnipeg's principal ethnic groups; and, 2) a district level sampling of individuals residing in communities of distinct ethnic identity. Inferential statistical tests were applied to establish whether the observed between-group differences in ethnic migration behaviour were statistically significant. The significant differences were then compared to those predicted on the basis of inter-ethnic differences in segregation, income and urbanization. A series of fifteen inter-ethnic tests were conducted for most hypotheses involving the study's six principal ethnic groups. The district level analysis required a series of six intra-district tests for each hypothesis.

7.2 SUMMATION OF MAJOR RESEARCH FINDINGS

The following discussion presents the major findings of the analysis and comments on their general significance.

7.2.1 Spatial Bias in Ethnic Migration

Centrographic analysis was used to measure spatial bias characteristics in the migration of the principal ethnic groups. Analysis indicated that distance and directionally biased movements (towards the respective ethnic cores) typified migration between 1971-1979. However, pronounced sectorally-confined movement patterns were not identified. Distance bias was directly related to segregation status,

but less consistent relationships were observed between the directional and sectoral properties of migration and segregation status. Disaggregation of the data revealed that spatial bias among renters was generally greater than that among owners of the same ethnic group.

7.2.2 Distance of Last Move

Hypothesis I stated:

that distance bias in migration is greater for relatively segregated ethnic groups.

The mean migration distances of the principal ethnic groups ranged between 3.0 and 4.2 km. Extreme distance bias was indicated by low modal distance values, and by median distance values which were exceeded by the means. The mean ranks of the groups were compared. Clear support for Hypothesis I was identified in only one of fifteen tests, and was approached in three additional tests. The first of these tests contrasted the distance bias of the Chinese and German groups. Distance bias was also highly variable both within and between the ethnic districts. Despite this, support for Hypothesis I was evident in only the Chinese and French districts.

In view of the above, Hypothesis I was not generally supported. Consequently, any statement to the effect that distance bias is greater for more segregated groups should be expressed both cautiously and made for only selected ethnic pairings or ethnic districts.

7.2.3 Direction of Last Move

Hypothesis II stated:

that ethnic core directionality in migration is greater for relatively segregated ethnic groups.

Move angles ranging between 0° and 180° were classified into six 30° sectors. Directional bias towards the ethnic cores (the proportion of move angles between 0° and 30°) ranged between a low of 22.6% (British) and a high of 37.5% (Chinese) of the moves registered. With the addition of directional bias away from the ethnic cores (the proportion of move angles between 150° and 180°) this range increased to between 35.5% (British) and 57.8% (Chinese). Despite this variation, support for Hypothesis II was not recorded, although the test comparing the British and Chinese groups approached statistical significance. Directional biases both towards and away from the respective ethnic cores were also exhibited in each of the ethnic districts. The bias of the representative group exceeded that of the non-representative group in all districts except one. However, support for Hypothesis II was established in only the Chinese district. In addition, intra-district differences in directional bias were observed in the British, French and Italian districts, but these differences were not confirmed at the desired significance level.

In general, these findings suggest that ethnic core locations are highly influential in directing the migration

of their respective ethnic groups and ethnic district populations.⁹⁶ Because of this common experience, extreme caution should be adopted in contending that directional (ethnic core) bias is greater for more segregated ethnic groups.

7.2.4 Principal Move Determinants

Hypothesis III stated:

that move determinants differ between ethnic groups.

Inter-ethnic comparisons were based on a six-part typology of moves in which adjustment (housing, neighbourhood and accessibility), induced (life-cycle factors), forced (eviction or demolition) and other determinants were identified. Of these, housing adjustments accounted for the largest number of determinants in all ethnic groups. This finding corresponds with the housing adjustment model of migration presented by Clark and Onaka (1983). The identity of the second most numerous determinant tended to vary between the groups. This variation was noted in both the principal ethnic groups and in the representative and non-representative groups of the ethnic districts. Despite this, inter-ethnic and intra-district differences in move determinants were not identified, and Hypothesis III was not supported.

⁹⁶ Exploratory analysis conducted during the course of this research indicated that migration biases with respect to ethnic core locations were greater than those associated with the CBD.

This result is specific to the move typology employed in the study. Disaggregation of the move typology revealed important variations in the move determinants of the principal ethnic groups. Characteristic moves of these groups included: housing space adjustments among British, Chinese and French owner occupiers; home ownership motives among German, Italian and Ukrainian owners; forced moves among Chinese owners; life-cycle and housing cost adjustments among French renters; and, workplace accessibility considerations among Chinese renters. This variability contrasts with Simmons' (1968, p.633) view that:

the ethnic factor [in migration] acts as a constraint only on the number of possible alternatives, explaining 'where' people move rather than 'why' they move.

7.2.5 Residential Preference and Aversion Patterns

Hypothesis IV stated:

that home community residential preference bias is greater for relatively segregated ethnic groups.

Markedly different preference patterns were registered by each of the principal ethnic groups. These patterns were closely related to existing residential distributions, and were suggestive of inter-ethnic differences in preference structures. The data were grouped to reflect preferences for moves made: 1) within the home community; 2) to adjacent communities; or, 3) to distant communities of the city. Following this procedure, home community biases were

strongly evidenced in all ethnic response structures. Clear support for Hypothesis IV was evident in none of the tests, and was approached in only one. This test contrasted the residential preferences of the German and British groups. Considerable home community biases were also exhibited by the representative and non-representative response groups of each ethnic district. These biases were least typical of households in the inner city communities comprising the Chinese and Italian districts. Despite this, district-specific support for Hypothesis IV was not established.

Collectively, these findings suggest that distinctive ethnic preference patterns are founded upon structural similarities in preference bias. It seems likely that initial ethnic enclave locations have largely determined which neighbourhoods will be classified as the home community, adjacent community and distant community components of the preference structures. Similarly, persistently high levels of ethnic segregation can be related to structural similarities in preference bias.

Hypothesis V stated:

**that distant community residential aversion bias
is greater for relatively segregated ethnic groups.**

Irrespective of their segregation status, each of the principal ethnic groups expressed considerable aversion for distant communities, and particularly for residence in the inner city communities of Downtown and North Winnipeg, and

the suburban community of Transcona. Because of this agreement, clear support for Hypothesis V was evident in none of the tests, and was approached in only one. In addition, marked aversion for distant communities was expressed by the representative and non-representative groups within each of the ethnic districts. However, the extent of agreement within the individual districts was such that significant tests were not identified. In short, district-specific support for Hypothesis V was not established.

In sum, these findings suggest that all ethnic groups share a common aversion to residence in distant communities. Similarly, because residential aversion may slow processes of residential dispersal, sustained segregation patterns may be interpreted as a consequence of the aversion biases of all ethnic groups.

7.2.6 Place Attribute Appraisals

Hypotheses VI and VII stated respectively:

that more importance is attached to accessibility attributes by lower economic status ethnic groups;
and,
that less importance is attached to environmental attributes by lower economic status ethnic groups.

Positively biased assessments were indicated in most of the place attribute appraisals involving the principal ethnic groups. Closeness to place of work, shopping facilities, educational services, public transportation and the presence

of well-treed streets were seen as particularly important concerns in household relocation decision-making. Significantly different appraisals were established in only 5% of inter-ethnic tests (i.e., in 9 of 180 tests). Of the individual ethnic groups, the greatest number of significant tests involved the Chinese group (i.e., in 6 of 60 inter-ethnic tests involving the group), and fewest significant tests involved the French group (i.e., in 1 of 60 inter-ethnic tests). The directionality expressed in Hypotheses VI and VII was supported in just one-third of the significant tests (i.e., in 2%, or 3 of the 180 tests). In terms of the individual attributes, support for Hypothesis VI was restricted to one test involving the appraisal of medical/daycare services. In this case, the appraisals of the British and Ukrainian groups were contrasted. Support for Hypothesis VII was restricted to two tests involving the appraisal of treed streets. In these tests the appraisal of the German group was contrasted with those of the Chinese and Italian groups.

When intra-district variation in place attribute appraisals was examined, significantly different appraisals were established in only 16% (11 of 67) of tests. Of these, most differences involved the 'atypical' appraisals of the representative Chinese and Italian groups. Despite these differences, the directionality expressed in Hypotheses VI and VII was supported in only 4% (3 of 67) of tests.

Collectively, these results suggest that the accessibility and environmental attributes considered during household relocation are equally important to all ethnic groups irrespective of their income status. Alternatively, if income is a critical factor in determining differences in attribute appraisal, it would seem that there is insufficient variability in the income of Winnipeg's ethnic groups to cause differences in attribute appraisal.

7.2.7 Migration Intentions

Hypothesis VIII stated:

that the likelihood of moving is greater for more urbanized ethnic groups.

Migration intentions were assessed for one and five-year periods.

7.2.7.1 One-Year (Short-Term) Migration Intentions

A general disinclination to move within the year was expressed by each of the principal ethnic groups. However, the extent of this bias was quite variable. Thus, 70.0% of the Italian but only 33.7% of the Chinese indicated that they were 'certain not to move' within the year. Clear support for Hypothesis VIII was identified in two of the fifteen tests, and was approached in five additional tests. The former tests involved comparisons between: 1) the Chinese and Italian; and, 2) the Chinese and Ukrainian.

This same disinclination to move was also registered in the ethnic district response groups. Consequently, support for Hypothesis VIII was restricted to the Italian district.

7.2.7.2 Five-Year (Medium-Term) Migration Intentions

Whilst greater migration intentions were associated with the five-year time frame, a considerable proportion of each ethnic group still indicated that it was 'certain not to move'. Consequently, Hypothesis VIII was supported in only one of fifteen inter-ethnic tests. This test contrasted Chinese and Ukrainian migration intentions. The intra-district analysis also provided evidence of increased migration intentions. However, significantly different intra-district migration intentions were not recorded, and Hypothesis VIII was not supported.

Collectively, these findings suggest that short-term ethnic migration intentions are greatly influenced by differences in urbanization status. Conversely, medium-term intentions are much less influenced. The latter conclusion should be treated cautiously, however, as the medium-term time frame may disguise inter-ethnic differences in unrecorded multiple move prospects.

7.2.8 Change in Ethnic Residential Segregation

Hypothesis IX stated:

that prospective ethnic migration behaviour will not change the intensity of ethnic segregation.

Current ethnic residence patterns were compared to those which might prevail if respondents' migration intentions were fulfilled in accordance with their primary place preference selections (i.e., the selections assessed in Hypothesis IV). Indices of dissimilarity were used to compare current and expected levels of segregation. On this basis, decreased levels of segregation were forecast for eleven of the fifteen inter-ethnic pairings. Greatest decreases were forecast for pairings involving the Chinese group. In contrast, inter-ethnic pairings involving the French group exhibited increases in segregation. Because of these increases, the overall intensity of ethnic segregation in Winnipeg is not expected to decline. In view of this, Hypothesis IX was supported.

A cartographic summary of the expected net changes in the ethnic distributions was presented. Greatest net gains were observed in suburban communities of the British and French districts, whilst greatest net losses were recorded for the inner city communities of the Chinese and Italian districts. Expected net changes were also interpreted within the context of a modified social area analysis. On this basis, expected net gains tended to be greatest for communities of

high sociocultural rank (i.e., communities with high income and low immigrant status). These communities possessed low or intermediate levels of residential instability (i.e., high detached housing ratios and low mobility rates), and low indices of segregation (i.e., low non-British ethnic origin population). Conversely, greatest net losses were forecast for certain highly segregated communities of low or intermediate sociocultural rank.

7.3 IMPLICATIONS FOR FUTURE RELATED RESEARCH

The preceding research findings suggest that the experience and expectations of ethnic migration are characterized by relatively few inter-ethnic and intra-district differences in behaviour. In addition, the identification of inter-ethnic variation in segregation, income and urbanization status provides a poor basis for predicting differences in ethnic migration behaviour. Overall, the findings indicate that the behavioural attributes of ethnic migration activity are less variable than Winnipeg's sustained patterns of ethnic segregation might suggest. Such similarity in behavioural attributes in the absence of integration is consistent with Fromson's (1965) observation that Winnipeg's ethnic groups have experienced acculturation without assimilation. Based on this assessment one might also agree with Kantrowitz' (1981) view that segregation should be viewed as a natural and

often positive aspect of the urban environment. In his view, "segregation simply is" (Kantrowitz, 1981, p.54).

The preceding conclusions are less applicable in the case of ethnic groups with extreme status positions. In the present study, extreme status positions and related 'atypical' migration behaviour were most frequently associated with the recently arrived Italian and the visible Chinese groups. For this reason, future analysis might examine the migration characteristics of Winnipeg's other new immigrant and visible ethnic communities. The most prominent of these include the city's Chilean, Filipino, Vietnamese, Native Indian and West Indian communities.

Despite the general absence of inter-ethnic differences in migration behaviour, it would be erroneous to conclude that individual migration behaviour is unvarying, or that ethnic status/segregation is unable to explain some part of this variation. However, if ethnicity's part in this variation is to be elucidated, two additional lines of enquiry seem appropriate. In the first of these, a more direct investigation of the ethnic or cultural component in intra-urban migration might be sought. Respondents in the present study were not informed about the ethnic interest of the research. The concern with ethnicity was not mentioned in the phrasing of the questions. Consequently, respondents were unable to knowingly and openly declare the importance of ethnic or cultural elements in their migration behaviour.

Indeed, even the ethnic identity of each household head was only ascertained at the end of the interview - at a time when the confidence of the interviewee had been gained, and when information on ethnic status and other potentially sensitive issues, such as income and occupation, might be more readily divulged. This rather clandestine procedure may have provided reasonably representative and unbiased samples from each of the ethnic groups, but it may also have caused underestimation of the ethnic factor. For instance, whilst both the British and French groups made similar appraisals with respect to the importance of residing close to educational institutions, the present analysis is unable to indicate whether these assessments were dependent on preferences for ethnic institutions.

Resolution of the above problem might be achieved by employing an alternative research design in which the researcher's interest in the ethnic component is declared. This procedure might be especially useful where enquiry is linked to specific objectives such as the provision of housing services to ethnic communities. Nevertheless, this alternative approach also contains pitfalls. These include: 1) the possibility that individuals may be less willing to participate in the study; and, 2) the increased risk that individuals might unconsciously invent, deliberately falsify or otherwise bias the investigation. The biases introduced by these pitfalls would obviously reduce the investigation's

effectiveness as a vehicle for assessing the overall condition of ethnic migration behaviour.

Similarly, future research might focus on the experience and expectation of ethnic migration as viewed from the standpoint of ethnic institutions and ethnic community leaders. This type of analysis, however, begs a fundamental question, namely: does the exposure of ethnic residential conditions best serve the interests of harmonious inter-ethnic relations? It is entirely possible, for instance, that inter-ethnic differences in residential experience and expectation are better explained by non-ethnic factors. Consequently, if the observed experience or expectation of ethnic residence is considered undesirable, modification of the same might be better facilitated through urban policy and planning instruments which are not specifically ethnic in orientation. In short, a policy of 'positive (ethnic) discrimination' in the housing market might be as inappropriate as it is objectionable.

In the second line of enquiry, future research might be directed at assessing the comparative explanatory power of the ethnic component in migration. The present study was not conceived with this type of direct explanatory objective in mind. Such enquiry might take the form of a multivariate analysis in which migration behaviour (e.g., distance moved) is the dependent variable and ethnic status, income, urbanization status and ethnic core distance are listed

among the independent variables. The results of such analysis should merit comparison with the findings of social area and factor analytic studies for the same localities. In these macro-statistical analyses the ethnic status/segregation dimension has usually been assigned less explanatory power than the social status (income) and urbanization (familism) dimensions (Murdie, 1969; Hunter and Latif, 1972). The opportunity to compare the explanatory powers of these approaches should contribute to an improved understanding of ethnicity's role in determining urban social space.

In addition to the above, there are major aspects of ethnic migration which this study has not addressed, but which should be examined before making absolute judgements concerning the role of ethnicity in migration behaviour. Important areas requiring further clarification include: measurement of ethnic migration bias with respect to alternative orientation nodes (e.g., the CBD and the workplace); identification and measurement of ethnic awareness space; specification of spatial and temporal bias in ethnic search; and, assessment of the frequency of ethnic migration. More importantly still, the nature of institutional constraints on the determinants and patterning of ethnic migration should be determined. A reorientation of research in this direction would be in keeping with Kirby's (1983) recommendation that closer links be forged

between the behavioural and managerial approaches to the allocation of urban housing. Most recently, for instance, Clark and Onaka (1983, p.56) have suggested that the "complexities of relocation behavior" are inadequately understood by asking the question, 'Why did you move?'. Instead, they advocate that questions should address the nature of institutional constraints which impinge on search and the related ability of individuals to resolve their dissatisfaction with housing. This recommendation seems justified in the Canadian context insofar as the housing programmes of government and related institutions affect the ability of individuals to obtain suitable and affordable housing (Rose, 1980).⁹⁷

Finally, consideration should also be given to the suitability of the definition of ethnicity used in the present study. Ethnicity was defined according to the paternal ancestor model employed by the Canadian census prior to 1981. Acceptance of this definition permitted longitudinal analyses for the period 1951-1971 and provided a means of determining the sampling frame used in the field survey. Commencing in 1981, the census re-defined ethnic status to enable individuals to declare their maternal

⁹⁷ These programmes include: federal sponsorship of home ownership and rental assistance packages; provincial administration of property tax rebate schemes and socially assisted housing projects; municipal control of planning (residential development) by-laws and building permit allocation; and, tri-level participation in rail relocation and urban core revitalization plans.

ancestry groups and multiple ethnic origin status (Statistics Canada, 1982c). These changes and lesser alterations render the 1981 data incompatible with data for previous censuses, and will place interpretational restrictions on future longitudinal analyses. Changes in the definition, however, have been introduced to account more realistically for self-identification of the population, and, in this sense, they must be viewed as positive benchmarks for future ethnic research. Moreover, it may now be opportune to consider the merits of further redefining the basis of ethnicity. Thus, future research might benefit from distinguishing between native and foreign-born populations as is the practice in Australia and the United States (e.g., Burnley, 1976; Taeuber and Taeuber, 1964); by taking account of the extent of linguistic assimilation in the ethnic populations (Peach, 1983); by adopting some more suitable method of self-identification (Richmond, 1974; Driedger et al., 1982); and, by recognizing that ethnic groups are themselves internally differentiated along socio-economic and sociocultural lines (Lee, 1977; Nagata, 1979). By incorporating such considerations into the design of future migration research, a more sensitive appraisal of the ethnic component in past and prospective migration might be gained.

7.4 SUMMARY

The major substantive findings of the field survey are presented. Collectively, these disclose a general absence of inter-ethnic and intra-district differences in past and prospective migration behaviour. Nevertheless, the greater frequency of atypical migration behaviour among visible and recently arrived ethnic groups is identified as an area meriting additional research. The importance of adopting alternative definitions of ethnic status and of pursuing explicitly ethnic lines of enquiry is also recognized.

Appendix A

MIGRATION QUESTIONNAIRE

QUESTION 1

PLEASE STATE ALL PREVIOUS PLACES IN WINNIPEG WHERE YOU HAVE LIVED SINCE 1950 FOR A PERIOD OF AT LEAST ONE (1) YEAR. START WITH YOUR MOST RECENT ADDRESS AND WORK BACKWARDS. IF YOU MOVED TO WINNIPEG DURING THIS PERIOD, PLEASE INCLUDE YOUR FIRST ADDRESS EVEN IF YOU LIVED THERE FOR LESS THAN ONE (1) YEAR.

PLACE OF RESIDENCE (state nearest street) (junction or actual address)		LENGTH OF RESIDENCE (start and end dates)	
junction	address	start	end

QUESTION 2

WHAT WERE THE FIRST and SECOND MOST IMPORTANT REASONS FOR MOVING FROM YOUR OLD ADDRESS? PLEASE TICK THE TWO APPROPRIATE BOXES.

REASON	FIRST (most important)	SECOND (most important)
To be closer to friends		
To be closer to relatives		
To be closer to a shopping plaza		
To be closer to speciality foodstores		
To be nearer a park		
To be nearer a place of worship		
To be closer to my/spouse's work place		
To be closer to downtown		
To be closer to schools/college		
To be nearer public transportation		
To be nearer medical/daycare services		
To await more satisfactory accommodation elsewhere		
Change in personal affairs (e.g., birth, death, marriage, divorce)		

QUESTION 2 (continued)

Previous house/apartment too small		
Previous house/apartment too large		
To live in a better neighbourhood		
To live in better quality accommodation		
To increase personal privacy		
To reduce inconvenience from noise		
Eviction from previous address		
To reduce cost of accommodation		
Other (please specify)		
Other (please specify)		

QUESTION 3

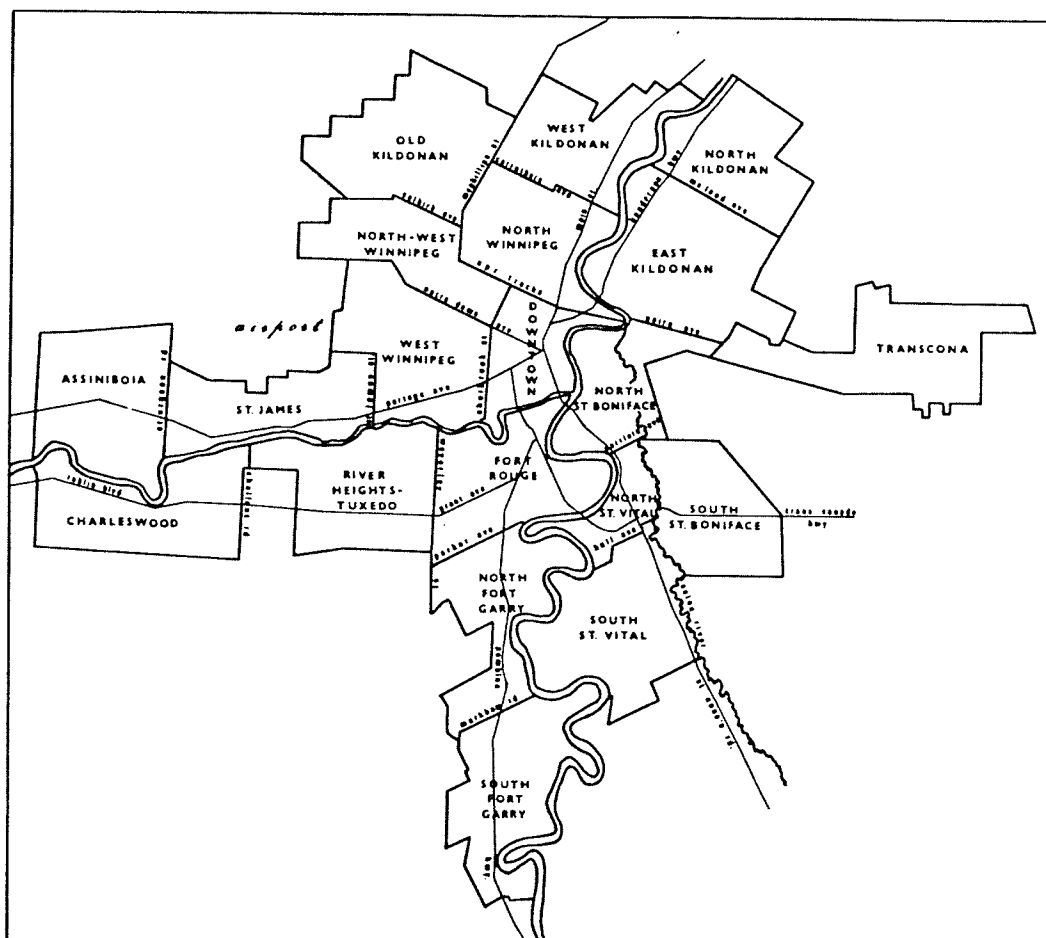
THE MAP DIVIDES THE CITY INTO TWENTY (20) AREAS. ASSUMING YOUR CURRENT INCOME LEVEL, AND PRESUMING YOU WISHED TO CHANGE YOUR PLACE OF RESIDENCE, WHICH THREE (3) AREAS OF WINNIPEG WOULD YOU MOST LIKE TO LIVE IN? ALSO, WHICH THREE (3) AREAS WOULD YOU LEAST LIKE TO LIVE IN? YOU MAY INCLUDE THE AREA YOU PRESENTLY LIVE IN AS ONE OF YOUR SELECTIONS.

PLEASE MARK THE MOST PREFERRED AREAS AS FOLLOWS:

First preference (most liked)	1
Second preference	2
Third preference	3

PLEASE MARK THE LEAST PREFERRED AREAS AS FOLLOWS:

Last preference (least liked)	Z
Second last preference	Y
Third last preference	X



QUESTION 4

USING A SCALE OF 1 TO 5, PLEASE INDICATE HOW IMPORTANT EACH OF THE FOLLOWING ITEMS WOULD BE IF YOU WERE CHOSING A NEW PLACE TO LIVE IN WINNIPEG.

- 1 - Of Absolutely No Importance
- 2 - Unimportant
- 3 - Neither Important Nor Unimportant
- 4 - Important
- 5 - Extremely Important

ITEM	LEVEL OF IMPORTANCE				
	1	2	3	4	5
Being close to relatives					
Being close to friends					
Being near a shopping plaza					
Being near a park					
Being near my/spouse's work place					
Being near a place of worship					
Being close to downtown					
Being near medical/daycare services					
Being close to schools/college					
Presence of a well-treed streets					
Newness of the neighbourhood					
Nearness to public transportation					
Other (please specify)					

QUESTION 5

HOW LIKELY ARE YOU TO MOVE ELSEWHERE IN WINNIPEG WITHIN a) THE NEXT YEAR, AND b) THE NEXT FIVE (5) YEARS? PLEASE TICK APPROPRIATE BOXES.

WITHIN NEXT YEAR

WITHIN NEXT FIVE (5) YEARS

<input type="checkbox"/>	certain not to move	<input type="checkbox"/>	certain not to move
<input type="checkbox"/>	unlikely to move	<input type="checkbox"/>	unlikely to move
<input type="checkbox"/>	less than even chance of moving	<input type="checkbox"/>	less than even chance of moving
<input type="checkbox"/>	better than even chance of moving	<input type="checkbox"/>	better than even chance of moving
<input type="checkbox"/>	almost certain to move	<input type="checkbox"/>	almost certain to move
<input type="checkbox"/>	certain to move	<input type="checkbox"/>	certain to move

QUESTION 6

IF YOU ARE IN PROCESS OF MOVING ELSEWHERE IN WINNIPEG COULD YOU PLEASE STATE THE PLACE TO WHICH YOU WILL BE MOVING?

<input type="checkbox"/>	nearest street junction	<input type="checkbox"/>	street address
--------------------------	-------------------------	--------------------------	----------------

SUPPLEMENTARY INFORMATION

PLEASE CIRCLE WHERE APPROPRIATE.

Respondent was:	MALE	FEMALE
Respondent was:	HOUSEHOLD HEAD	OTHER()
Household head lived in:	APARTMENT	HOUSE OTHER()
Household head was:	18-24yrs	25-34yrs 35-44yrs 45-64 yrs 65yr or over
Household head/ spouse was:	OWNER OCCUPIER	RENTER
Household head was a/ was one of a:	SINGLE PERSON COUPLE	GROUP OF SINGLES FAMILY
Ethnic origin of household head was:	BRITISH ISLES	CHINESE DUTCH GERMAN HUNGARIAN ITALIAN POLISH RUSSIAN SCANDINAVIAN UKRAINIAN WEST INDIAN OTHER()
Occupation of house- hold head was:		
Annual income of house- hold head was:	UNDER \$3,000	\$3,000-\$7,000 \$7,000-\$10,000 \$10,000-\$15,000 \$15,000-\$20,000 OVER \$20,000

Appendix B

CONFIDENCE LIMITS ASSOCIATED WITH THE BONFERRONI T TEST

The Bonferroni t test was employed in the multiple comparison of ethnic migration distances. The values presented in the following tables represent the simultaneous lower and upper confidence limits for each between-group comparison. Significant relationships are indicated where the range expressed by the lower and upper confidence limits does not include the value 0.00 (zero).

TABLE 24

BONFERRONI T TEST RESULTS FOR THE MIGRATION DISTANCES OF THE
PRINCIPAL ETHNIC GROUPS

BONFERRONI T TESTS FOR VARIABLE: DISTANCE MOVED ALPHA=0.05 CONFIDENCE=0.95 DF=460 MSE=17678 CRITICAL VALUE OF T=2.95061 COMPARISONS SIGNIFICANT AT THE 0.05 LEVEL ARE INDICATED BY '*'				
ETHNIC GROUP COMPARISON	SIMULTANEOUS LOWER CONFIDENCE LIMIT	DIFFERENCE BETWEEN MEANS	SIMULTANEOUS UPPER CONFIDENCE LIMIT	
BRITISH - GERMAN	-71.90	-13.14	45.62	
BRITISH - UKRAINAIN	-59.69	-3.35	53.00	
BRITISH - ITALIAN	-42.64	28.90	100.44	
BRITISH - FRENCH	-21.95	38.87	99.70	
BRITISH - CHINESE	-7.21	54.59	116.38	
CHINESE - GERMAN	-131.21	-67.72	-4.24 *	
CHINESE - UKRAINAIN	-119.20	-57.93	3.33	
CHINESE - BRITISH	-116.38	-54.59	7.21	
CHINESE - ITALIAN	-101.16	-25.69	49.79	
CHINESE - FRENCH	-81.12	-15.71	49.70	
FRENCH - GERMAN	-114.56	-52.01	10.53	
FRENCH - UKRAINAIN	-102.51	-42.22	18.07	
FRENCH - BRITISH	-99.70	-38.87	21.95	
FRENCH - ITALIAN	-84.66	-9.98	64.71	
FRENCH - CHINESE	-49.70	15.71	81.12	
GERMAN - UKRAINAIN	-48.40	9.79	67.99	
GERMAN - BRITISH	-45.62	13.14	71.90	
GERMAN - ITALIAN	-30.97	42.04	115.04	
GERMAN - FRENCH	-10.53	52.01	114.56	
GERMAN - CHINESE	4.24	67.72	131.21 *	
ITALIAN - GERMAN	-115.04	-42.04	30.97	
ITALIAN - UKRAINAIN	-103.32	-32.24	38.84	
ITALIAN - BRITISH	-100.44	-28.90	42.64	
ITALIAN - FRENCH	-64.71	9.98	84.66	
ITALIAN - CHINESE	-49.79	25.69	101.16	
UKRAINAIN - GERMAN	-67.99	-9.79	45.40	
UKRAINAIN - BRITISH	-53.00	3.35	59.69	
UKRAINAIN - ITALIAN	-38.84	32.24	103.32	
UKRAINAIN - FRENCH	-18.07	42.22	102.51	
UKRAINAIN - CHINESE	-3.33	57.93	119.20	

TABLE 25

BONFERRONI T TEST RESULTS FOR THE MIGRATION DISTANCES OF THE ETHNIC TENURE GROUPS

BONFERRONI T TESTS FOR VARIABLE: DISTANCE MOVED ALPHA=0.05 CONFIDENCE=0.95 DF=454 MSE=16762 CRITICAL VALUE OF T=3.39088 COMPARISONS SIGNIFICANT AT THE 0.05 LEVEL ARE INDICATED BY '*'								
ETHNIC TENURE GROUP COMPARISON	SIMULTANEOUS LOWER CONFIDENCE LIMIT	DIFFERENCE BETWEEN MEANS	SIMULTANEOUS UPPER CONFIDENCE LIMIT	ETHNIC TENURE GROUP COMPARISON	SIMULTANEOUS LOWER CONFIDENCE LIMIT	DIFFERENCE BETWEEN MEANS	SIMULTANEOUS UPPER CONFIDENCE LIMIT	
BRITRENT - BRITOWN	-179.80	-88.24	3.32	BRITOWN - UKRKNOWN	-64.46	25.84	116.14	
BRITRENT - UKRKNOWN	-143.98	-62.41	19.17	BRITOWN - CHINOWN	-73.28	34.37	142.01	
BRITRENT - CHINOWN	-154.31	-53.88	46.56	BRITOWN - GERMOWN	-61.65	35.96	133.60	
BRITRENT - GERMOWN	-141.88	-52.26	37.35	BRITOWN - GERMRENT	-55.85	41.78	139.40	
BRITRENT - GERMRENT	-136.08	-46.47	43.15	BRITOWN - ITALRENT	-62.67	77.92	218.52	
BRITRENT - ITALRENT	-145.48	-10.32	124.83	BRITOWN - FRNCHOWN	-29.09	80.82	190.73	
BRITRENT - FRNCHOWN	-110.29	-7.43	95.43	BRITOWN - ITALOWN	-23.47	82.17	187.80	
BRITRENT - ITALOWN	-104.36	-6.08	92.20	BRITOWN - UKRNRENT	-15.62	83.79	163.21	
BRITRENT - UKRNRENT	-96.01	-4.45	87.11	BRITOWN - BRITRENT	-3.32	88.24	179.80	
BRITRENT - FRNCHRENT	-78.41	8.43	95.28	BRITOWN - FRNCHRENT	1.59	96.68	191.77	*
BRITRENT - CHINRENT	-20.78	69.45	159.69	BRITOWN - CHINRENT	59.50	157.70	255.89	*
CHINRENT - BRITOWN	-255.89	-157.70	-59.50	CHINOWN - BRITOWN	-142.01	-34.37	73.28	
CHINRENT - UKRKNOWN	-220.81	-131.86	-42.90	CHINOWN - UKRKNOWN	-107.82	-8.53	90.76	
CHINRENT - CHINOWN	-229.85	-123.33	-16.81	CHINOWN - GERMOWN	-104.38	1.61	107.61	
CHINRENT - GERMOWN	-218.10	-121.72	-25.34	CHINOWN - GERMRENT	-96.58	7.41	113.40	
CHINRENT - GERMRENT	-212.30	-115.92	-19.54	CHINOWN - ITALRENT	-102.97	43.56	190.09	
CHINRENT - ITALRENT	-219.51	-79.77	59.96	CHINOWN - FRNCHOWN	-70.96	46.45	163.86	
CHINRENT - FRNCHOWN	-185.69	-76.88	31.93	CHINOWN - ITALOWN	-65.61	47.80	161.22	
CHINRENT - ITALOWN	-180.02	-75.53	28.96	CHINOWN - UKRNRENT	-58.22	49.43	157.07	
CHINRENT - UKRNRENT	-172.10	-73.90	24.29	CHINOWN - BRITRENT	-46.56	53.88	154.31	
CHINRENT - BRITRENT	-159.69	-69.45	20.78	CHINOWN - FRNCHRENT	-41.35	62.31	165.98	
CHINRENT - FRNCHRENT	-154.84	-61.02	32.80	CHINOWN - CHINRENT	16.81	123.33	225.85	*
FRNCHRENT - BRITOWN	-191.77	-96.68	-1.59	FRNCHOWN - BRITOWN	-190.73	-80.82	29.09	
FRNCHRENT - UKRKNOWN	-156.35	-70.84	14.68	FRNCHOWN - UKRKNOWN	-156.71	-54.98	46.76	
FRNCHRENT - CHINOWN	-165.98	-62.31	41.35	FRNCHOWN - CHINOWN	-163.86	-46.45	70.96	
FRNCHRENT - GERMOWN	-153.92	-60.70	32.52	FRNCHOWN - GERMOWN	-153.13	-44.84	63.45	
FRNCHRENT - GERMRENT	-148.12	-54.90	38.32	FRNCHOWN - GERMRENT	-147.33	-39.04	69.25	
FRNCHRENT - ITALRENT	-156.33	-18.75	118.82	FRNCHOWN - ITALRENT	-151.09	-2.89	145.31	
FRNCHRENT - FRNCHOWN	-121.87	-15.86	90.15	FRNCHOWN - ITALOWN	-114.21	1.35	116.92	
FRNCHRENT - ITALOWN	-116.09	-14.51	87.07	FRNCHOWN - UKRNRENT	-106.93	2.98	112.89	
FRNCHRENT - UKRNRENT	-107.97	-12.88	82.21	FRNCHOWN - BRITRENT	-95.43	7.43	110.29	
FRNCHRENT - BRITRENT	-95.28	-8.43	78.41	FRNCHOWN - FRNCHRENT	-90.15	15.86	121.87	
FRNCHRENT - CHINRENT	-32.80	61.02	154.84	FRNCHOWN - CHINRENT	-31.93	76.88	185.69	
GERMRENT - BRITOWN	-139.40	-41.78	55.85	GERMOWN - BRITOWN	-133.60	-35.96	61.65	
GERMRENT - UKRKNOWN	-104.26	-15.94	72.39	GERMOWN - UKRKNOWN	-98.46	-10.14	76.18	
GERMRENT - CHINOWN	-113.40	-7.41	98.58	GERMOWN - CHINOWN	-107.61	-1.61	104.38	
GERMRENT - GERMOWN	-101.60	-5.80	90.00	GERMOWN - GERMRENT	-90.00	5.80	101.60	
GERMRENT - ITALRENT	-103.19	36.15	175.48	GERMOWN - ITALRENT	-97.39	41.94	181.28	
GERMRENT - FRNCHOWN	-69.25	39.04	147.33	GERMOWN - FRNCHOWN	-63.45	44.84	153.13	
GERMRENT - ITALOWN	-63.56	40.39	144.34	GERMOWN - ITALOWN	-57.76	46.19	150.14	
GERMRENT - UKRNRENT	-55.61	42.02	139.64	GERMOWN - UKRNRENT	-49.81	47.82	145.44	
GERMRENT - BRITRENT	-43.15	46.47	136.08	GERMOWN - BRITRENT	-37.35	52.26	141.88	
GERMRENT - FRNCHRENT	-38.32	54.90	148.12	GERMOWN - FRNCHRENT	-32.52	60.70	153.92	
GERMRENT - CHINRENT	19.54	115.92	212.30	GERMOWN - CHINRENT	25.34	121.72	216.10	*
ITALRENT - BRITOWN	-218.52	-77.92	62.67	ITALOWN - BRITOWN	-187.80	-82.17	23.47	
ITALRENT - UKRKNOWN	-186.35	-52.08	82.22	ITALOWN - UKRKNOWN	-153.43	-56.33	40.78	
ITALRENT - CHINOWN	-190.09	-43.56	102.57	ITALOWN - CHINOWN	-161.22	-47.80	65.61	
ITALRENT - GERMOWN	-181.28	-41.94	97.39	ITALOWN - GERMOWN	-150.14	-46.15	57.76	
ITALRENT - GERMRENT	-175.48	-36.15	103.19	ITALOWN - GERMRENT	-144.34	-40.39	63.56	
ITALRENT - FRNCHOWN	-145.31	2.89	151.09	ITALOWN - ITALRENT	-149.30	-4.24	140.82	
ITALRENT - ITALOWN	-140.82	4.24	149.30	ITALOWN - FRNCHOWN	-116.92	-1.35	114.21	
ITALRENT - UKRNRENT	-134.72	5.87	146.47	ITALOWN - UKRNRENT	-104.01	1.63	107.26	
ITALRENT - BRITRENT	-124.83	10.32	145.48	ITALOWN - BRITRENT	-92.20	6.08	104.36	
ITALRENT - FRNCHRENT	-118.82	18.75	156.33	ITALOWN - FRNCHRENT	-87.07	14.51	116.09	
ITALRENT - CHINRENT	-59.96	79.77	219.51	ITALOWN - CHINRENT	-28.96	75.53	180.02	
UKRNRENT - BRITOWN	-183.21	-83.79	15.62	UKRKNOWN - BRITOWN	-116.14	-25.84	64.46	
UKRNRENT - UKRKNOWN	-148.26	-57.96	32.34	UKRKNOWN - CHINOWN	-90.76	8.53	107.82	
UKRNRENT - CHINOWN	-157.07	-49.43	58.22	UKRKNOWN - GERMOWN	-78.18	10.14	96.46	
UKRNRENT - GERMOWN	-145.44	-47.82	49.81	UKRKNOWN - GERMRENT	-72.39	15.94	104.26	
UKRNRENT - GERMRENT	-139.64	-42.02	55.61	UKRKNOWN - ITALRENT	-62.22	52.08	186.39	
UKRNRENT - ITALRENT	-146.47	-5.87	134.72	UKRKNOWN - FRNCHOWN	-46.76	54.98	156.71	
UKRNRENT - FRNCHOWN	-112.89	-2.98	106.93	UKRKNOWN - ITALOWN	-40.78	56.33	153.43	
UKRNRENT - ITALOWN	-107.26	-1.63	104.01	UKRKNOWN - UKRNRENT	-32.34	57.96	146.26	
UKRNRENT - BRITRENT	-87.11	4.45	96.01	UKRKNOWN - BRITRENT	-19.17	62.41	143.98	
UKRNRENT - FRNCHRENT	-82.21	12.88	107.97	UKRKNOWN - FRNCHRENT	-14.68	70.84	156.35	
UKRNRENT - CHINRENT	-24.29	73.90	172.10	UKRKNOWN - CHINRENT	42.90	131.86	220.81	*

Appendix C

COMMUNITIES IDENTIFIED IN ETHNIC DISTRICTS AND RESIDENTIAL SECTORS

The following list identifies the communities associated with each of the ethnic districts discussed in Chapter IV. Indices of concentration (C*) for the stated (representative) ethnic groups are shown in parentheses.

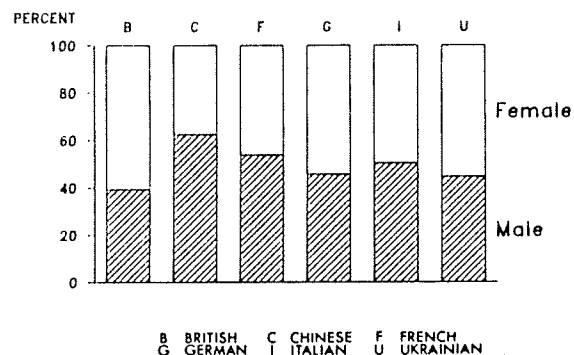
<u>ETHNIC DISTRICT</u>	<u>ETHNIC CORE COMMUNITY</u>	<u>ASSOCIATED COMMUNITIES</u>
BRITISH	ST.JAMES (1.55)	North Fort Garry (1.34), Assiniboia (1.32) and River Heights-Tuxedo (1.26)
CHINESE	DOWNTOWN (4.88)	South Fort Garry (2.52), West Winnipeg (1.67) and North Fort Garry (1.17)
FRENCH	NORTH ST.BONIFACE (5.75)	South St.Boniface (2.34), South St.Vital (1.73) and South Fort Garry (1.71)
GERMAN	NORTH KILDONAN (2.85)	East Kildonan (1.46), West Winnipeg (1.30) and Charleswood (1.28)
ITALIAN	WEST WINNIPEG (2.80)	Fort Rouge (2.09), Downtown (1.71) and Transcona (1.38)
UKRAINIAN	NORTH WINNIPEG (2.38)	Old Kildonan (1.98), West Kildonan (1.72) and Transcona (1.52)

The following list identifies the home and adjacent community combinations employed in the residential preference and aversion analyses of Chapter V.

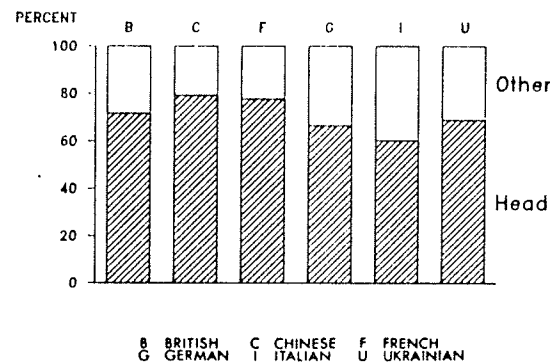
<u>HOME COMMUNITY</u>	<u>ADJACENT COMMUNITIES</u>
NORTH KILDONAN	West Kildonan and East Kildonan
EAST KILDONAN	West Kildonan, North Kildonan, Transcona, North St.Boniface, and North Winnipeg
TRANSCONA	East Kildonan and North St.Boniface
NORTH ST.BONIFACE	East Kildonan, Transcona and South St.Boniface, North St.Vital, Fort Rouge and Downtown
NORTH ST.VITAL	North St.Boniface, South St.Boniface, South St.Vital, North Fort Garry and Fort Rouge
SOUTH ST.BONIFACE	North St.Boniface, North St.Vital and South St.Vital
SOUTH ST.VITAL	North St.Vital, South St.Boniface, South Fort Garry and North Fort Garry
SOUTH FORT GARRY	South St.Vital and North Fort Garry
NORTH FORT GARRY	North St.Vital, South St.Vital, South Fort Garry and Fort Rouge
FORT ROUGE	North St.Boniface, North St.Vital, North Fort Garry, River Heights-Tuxedo, West Winnipeg and Downtown
RIVER HEIGHTS-TUXEDO	Fort Rouge, West Winnipeg, Charleswood St.James
CHARLESWOOD	River Heights-Tuxedo, Assiniboia and St.James
ASSINIBOIA	Charleswood and St.James
ST.JAMES	West Winnipeg, River Heights-Tuxedo, Charleswood and Assiniboia
WEST WINNIPEG	Downtown, Fort Rouge, River Heights-Tuxedo, St.James and Northwest Winnipeg
DOWNTOWN	North St.Boniface, Fort Rouge, West Winnipeg, Northwest Winnipeg and North Winnipeg
NORTHWEST WINNIPEG	Downtown, West Winnipeg, North Winnipeg and Old Kildonan
NORTH WINNIPEG	West Kildonan, East Kildonan, Downtown, Northwest Winnipeg and Old Kildonan
WEST KILDONAN	North Kildonan, East Kildonan, North Winnipeg and Old Kildonan
OLD KILDONAN	West Kildonan, Northwest Winnipeg, and North Winnipeg

Appendix D
SOCIO-ECONOMIC PROFILES OF RESPONDENTS AND
HOUSEHOLD HEADS

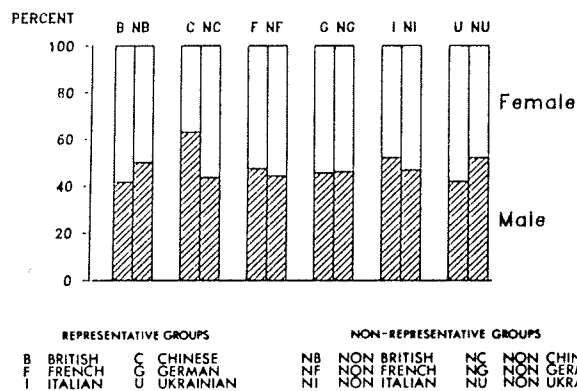
SEXUAL STATUS OF THE PRINCIPAL ETHNIC GROUPS



HOUSEHOLD STATUS OF THE PRINCIPAL ETHNIC GROUPS



SEXUAL STATUS OF THE ETHNIC DISTRICT GROUPS



HOUSEHOLD STATUS OF THE ETHNIC DISTRICT GROUPS

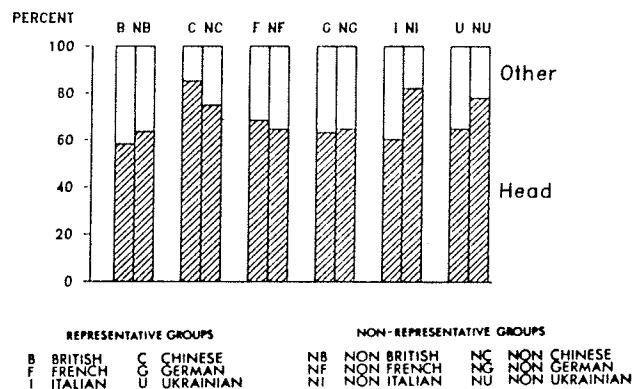
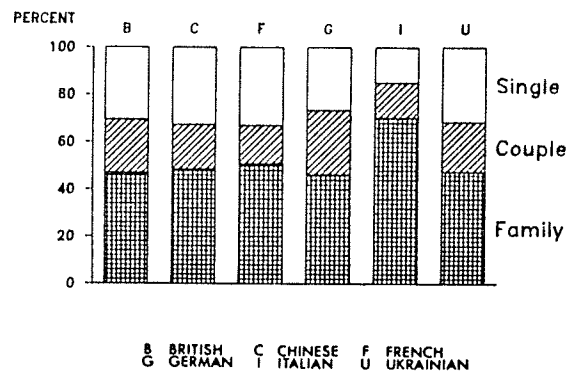


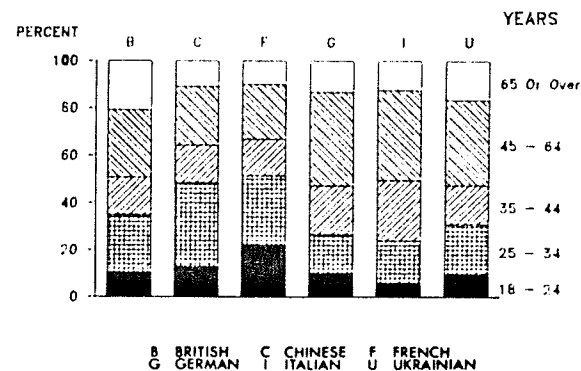
Figure 30: SEXUAL STATUS OF RESPONDENTS

Figure 31: HOUSEHOLD STATUS OF RESPONDENTS

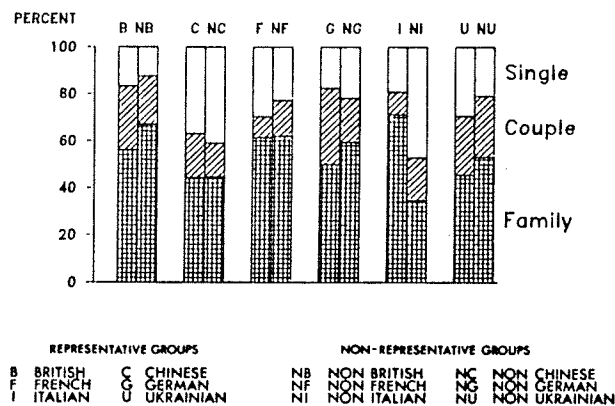
MARITAL STATUS OF THE PRINCIPAL ETHNIC GROUPS



AGE STRUCTURE OF THE PRINCIPAL ETHNIC GROUPS



MARITAL STATUS OF THE ETHNIC DISTRICT GROUPS



AGE STRUCTURE OF THE ETHNIC DISTRICT GROUPS

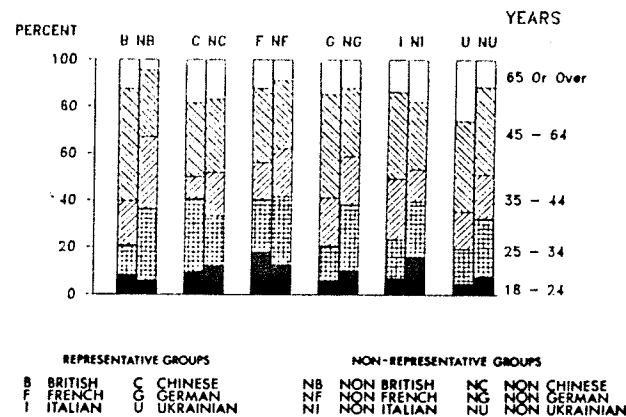


Figure 32: MARITAL STATUS OF HOUSEHOLD HEADS

Figure 33: AGE GROUP OF HOUSEHOLD HEADS

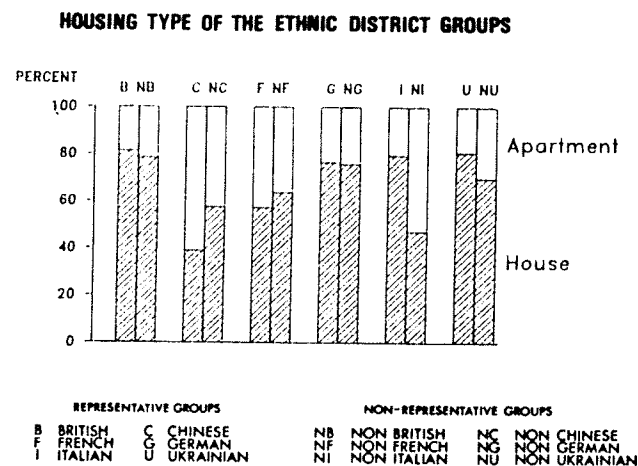
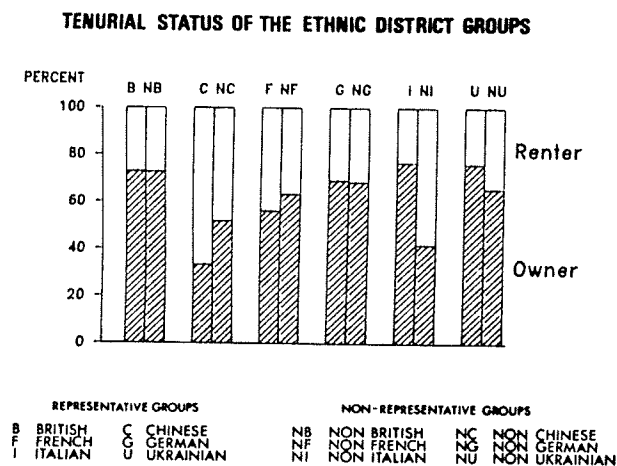
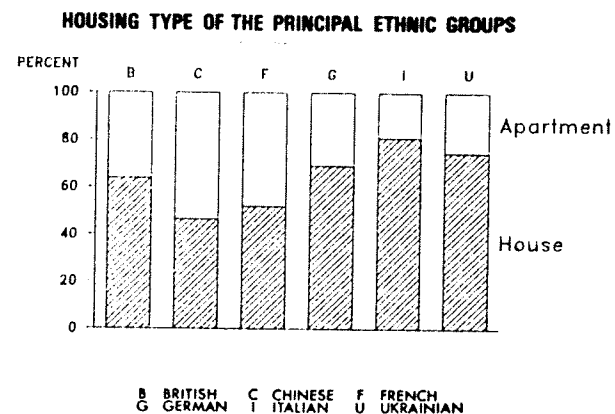
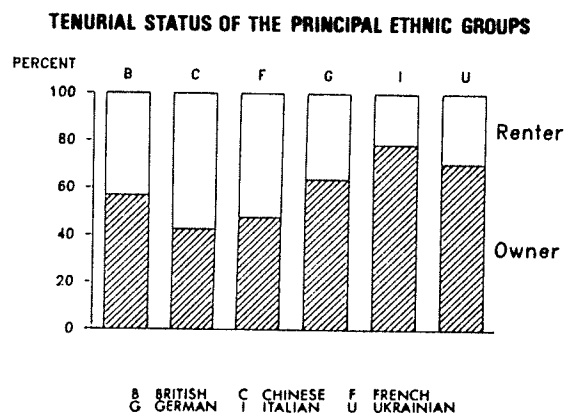
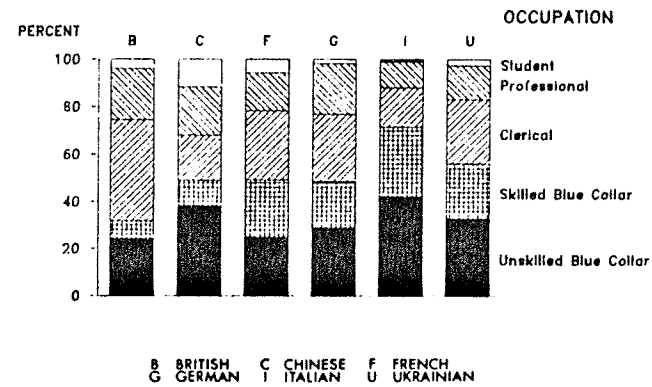


Figure 34: TENURIAL STATUS OF HOUSEHOLD HEADS

Figure 35: HOUSING TYPE OF HOUSEHOLD HEADS

OCCUPATIONAL STATUS OF THE PRINCIPAL ETHNIC GROUPS



OCCUPATIONAL STATUS OF THE ETHNIC DISTRICT GROUPS

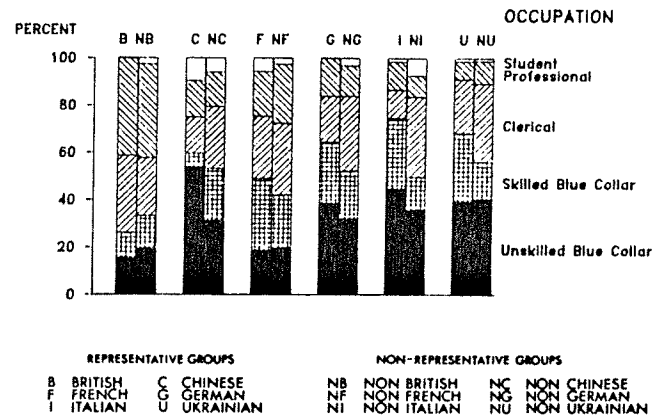


Figure 36: OCCUPATIONAL STATUS OF HOUSEHOLD HEADS

Appendix E
SOCIAL AREA ANALYSIS: WINNIPEG, 1981

TABLE 26
 RANK CORRELATION FOR SOCIAL AREA ANALYSIS VARIABLES:
 WINNIPEG, 1981

	HOUSEHOLD INCOME	DETACHED HOUSING	RESIDENTIAL MOBILITY
IMMIGRATION STATUS	.50*	-.21	-.19
HOUSEHOLD INCOME		-.28	.01
DETACHED HOUSING			.72*
* significant at .01			

Source: Computation based on Statistics Canada (1982b, 1983b)

The variables employed in the social area analysis are defined as follows:

- | | |
|----------------------|---|
| IMMIGRATION STATUS | - the ratio of non-immigrants to immigrants in the community population; |
| HOUSEHOLD INCOME | - average household income; |
| DETACHED HOUSING | - the ratio of attached to detached housing in each community; |
| RESIDENTIAL MOBILITY | - the ratio of movers to non-movers between 1976-1981 in the community population of 5 years and over; |
| ETHNIC SEGREGATION | - a segregated community is identified where the proportion of the non-British population exceeds the city average. |

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