FRANK HENRY WALKEY

SOME ASPECTS OF MAORI URBAN MIGRATION

A Psychological Study

Submitted for the degree of
Doctor of Philosophy in Psychology
at Victoria University of Wellington

1974

ABSTRACT

Following a discussion of some of the implications of urban migration and culture change, predictions were made about the comparative levels of the adjustment of Maori and European, urban and rural, migrant and non-migrant fourteen year old boys. Data for the study were gathered from 306 subjects in a survey of the Wellington and East Coast areas of New Zealand. Four objective measures were developed for the survey and these, together with a structured interview and data from school records were used to assess interpersonal adjustment, competence, and intrapersonal adjustment. Some additional measures related to Maoriness, migration contact and orientation, and educational attitudes.

It was observed during detailed analysis of the data, that contact with migrants and an orientation towards migration are significantly more frequently reported by Maori and rural than by European and urban groups, that there were no significant differences in the adjustment of rural and urban samples (though it was noted that on every measure the scores favoured the urban Maori over the rural Maori group), and that on all the measures of adjustment the European group scored higher than the Maori group.

A factor analysis provided some insights into the source and significance of "Maoriness", and aided the interpretation of scores obtained by the Maori sample on a number of variables.

Three major conclusions were drawn from the study. First that although differences between the separate groups were often small, there is a significant trend for urban Europeans to show the best adjustment, followed in order by the rural Europeans, urban Maoris and rural Maoris. Second, that the rural Maori group as potential migrants, obtained significantly lower scores than did the potential recipients, the urban European group, on all the measures of adjustment. Finally that rural-urban and inter-city migration appear to have no effect on the adjustment levels at fourteen years of age, of either Maori or European boys, a finding which raises questions about the specific effects of migration on the adjustment of individuals.

CONTENTS

<u>CHAPTER</u>		<u>PAGE</u>
I	BACKGROUND TO THE STUDY	1
	Introduction	1
	The Measurement of Adjustment	11
	Culture Contact and Adjustment	14
	Rural-Urban Differences in Adjustment .	16
	Urban Migration and Adjustment	19
	A Special Case: Early Identity	
	Achievement	23
II	THE DEVELOPMENT OF MEASURES USED IN THE STUDY	25
	Introduction	25
	Alienation	27
	Social Adequacy	46
	Semantic Differential Response Bias	58
	Self Impression	60
	Measures Related to Identity	
	Development	60
	Self Evaluation	67
	Psychosocial Health	69
	Identity Achievement	73

<u>CHAPTER</u>		<u>PAGE</u>
III	THE SURVEY	76
IV	RESULTS AND DISCUSSION	82
	Results of Analyses Related to	
	Predictions	82
	Detailed Analyses of Results from	
	Individual Measures	91
	Alienation	91
	Social Adequacy	93
	Education	96
	Occupation	104
	Migration	106
	Psychosocial Health	109
	Interpersonal Congruence	111
	Identity Achievement	113
	Maoriness	115
V	SUMMARY	
VI	FUTURE RESEARCH	137
	REFERENCES	144
	APPENDICES	158
	1 Alienation	158
	2 Social Adequacy	160

	<u>PAGE</u>
3 Interpersonal Congruence	164
4 Psychosocial Health	168
5 Identity Achievement	170
6 Interview Questions (Education, Occupation, and Migration)	171
7 Maoriness	172

ACKNOWLEDGEMENTS

In a field research, such as is described in this report, the number of people who contribute is inevitably very great. I must therefore acknowledge with sincere gratitude the personal contributions by way of suggestion, encouragement, and active cooperation, made by all those people who have at some time become involved.

Special thanks are due to my supervisors over the course of the study. A particular debt is owed to the late Professor Ernest Beaglehole under whose influence the project was conceived, to Professor C.J. Adcock and Dr. G.M. Vaughan who became my supervisors after the death of Professor Beaglehole, to Professor L.B. Brown, who took over the supervision of the project in conjunction with Professor Adcock, on his appointment as Head of the Department of Psychology, and finally to Professor A.J.W. Taylor, under whose supervision the project has been concluded.

Also within the University, my thanks must go to Dr. R.B. Payne of the Department of Information Science for advice on computer programming, and to the machine operators of that department for their rapid preparation of hundreds of thousands of responses for processing.

Beyond the University my thanks go out to the officers of the Departments of Education and Maori Affairs, whose formal authorizations so readily given, cleared the way of the survey towards the people I wished to contact.

My gratitude is also due to the Education Boards and to the many Head Teachers throughout the Wellington and East Coast areas, with whose permission the survey was undertaken in the schools, and whose help and cooperation were so readily available to make it a success.

Far out at the end of this long chain of authority and responsibility my thanks must go to the three hundred and eighty boys who participated in the interviews and testing sessions; thus providing me with the responses on which this report is essentially based and without which all the help and cooperation I received from so many authorities would have been void.

At a more mundane level, my thanks are due to the Internal Research Committee of this University for the considerable financial help accorded this research.

CHAPTER I

BACKGROUND TO THE STUDY

Introduction

The first psychological study of the Maori way of life, entitled "Some Modern Maoris", was published by the late Professor E. Beaglehole and his wife in 1946. This study of a Maori community near Wellington, was followed during the next decade by the intensive study of "Rakau", a remote, and at that time perhaps more typical Maori settlement. The Rakau study, which was carried out by a number of research students under the guidance of Professor Beaglehole, has remained the most authoritative psychological study of the way of life of rural Maoris.

More recently, the increasing growth of urban migration among Maoris has drawn interest away from the study of Maoris living in isolated communities and directed it towards the adjustment of the people from these communities who have migrated to the towns and cities of New Zealand. The move to cities between 1936 and 1961 has been described by McCreary (1968). More recent population changes may be illustrated from the New Zealand Census returns for the period 1956 to 1971, by comparing three remote East Coast counties (Waiapu, Waikohu and Cook) with the Greater Wellington and Auckland regions.

Figures from the four census returns are shown in Table 1.

During the three intercensus periods some substantial changes occurred. In the remote counties the slight growth in the total population (2%) over the first period, gave way to a substantial though apparently by now diminishing overall loss in the second and third periods. This trend is shown more clearly in the data for Maoris only, in that a small loss (3%) in the first period moves up to 16% loss in the second and down marginally to 14% in the third. There is also a reduction in the proportion of Maoris in the total population of the region with a drop from 57% to 47% over the fifteen years covered. In direct contrast to the country areas, Wellington and Auckland have shown sharp increases in their Maori populations. These increases average 58.2% for the three five year periods while there is an average increase of only 14.1% for the total populations of the two cities. An effect which is suggested by the figures given in Table 1 but which awaits verification in the 1976 census is that the great upsurge in urban growth, and particularly in Maori urban migration, may be beginning to decline.

The past decades have therefore seen considerable changes in the residential patterns of members of the Maori community, and with them, changes in reference groups, basic roles, and individual identity. Before urban migration began to build up to the level it achieved in the early nineteen sixties, the settlement pattern in the cities centred around established Maraes and Meeting Houses. With the growth in the cities of migrant populations having an orientation towards

TABLE 1

Population change returns
for three remote Counties and two Urban Regions
(from the New Zealand Census 1956-1971)

Area	Population							
	Total				Maori			
	1956	1961	1966	1971	1956	1961	1966	1971
Waiapu	7,903*	7,369	5,861	4,974	6,861*	5,741	4,324	3,447
Waikohu	3,735	3,518	3,302	3,247	1,543	1,603	1,500	1,469
Cook	8,903*	10,120	10,076	9,919	3,377*	3,451	3,249	2,901
TOTAL	20,541	21,007	19,239	18,140	11,113	10,795	9,073	7,817
Greater Wellington	232,881	260,313	296,156	320,915	3,547	6,322	11,017	16,072
Greater Auckland	429,362	502,483	601,778	685,210	15,029	24,514	38,725	50,184

Area	Population change					
	Total			Maori		
	1956-61	1961-66	1966-71	1956-61	1961-66	1966-71
Waiapu	-534	-1,508	-887	-452	-1,417	-877
Waikohu	-217	-216	-55	+60	-103	-31
Cook	+1,217	-44	-157	+74	-202	-348
TOTAL	+446	-1,768	-1,099	-318	-1,722	-1,256
Greater Wellington	27,432	35,843	24,759	2,775	4,695	5,055
Greater Auckland	73,121	99,295	83,432	9,485	14,211	11,459

* Due to undefined boundary changes in some counties approximate figures have been used.

home Maraes in rural areas perhaps hundreds of miles away, the urban centres became relatively though in no sense absolutely, less important. For the majority of migrants the home Marae remained an effective focus of Maori identity as they took up residence, first in the disintegrated inner city areas, then in time, in family housing in the new suburbs as these developed. This orientation towards home Maraes rather than established city centres was strengthened by the traditionally strong kinship ties which automatically turned the potential migrant in the direction of inner city or suburban lodgings already held by relatives from their local rural areas.

Some salient elements in the matrix of rewards and costs underlying the behaviour of these migrants are relatively easy to identify. The need for clear and constant confirmation of Maori identity was not felt to be strong or urgent since the ties to the home area were many and close. Return visits for important family and ceremonial occasions were made relatively frequently, particularly by the women, and for the majority, a fundamentally Maori identity was firmly established before migration occurred. Personal validation within the urban community on the other hand, was relatively more urgent, the rewards for success in integrating into the urban technology were most inviting (particularly for the men, who worked in the wider community) and many of those rewards were relatively easy to achieve. Jané Ritchie (1964) has given probably the best description of the effectiveness and adjustment of these people making their own way in

the city. Within the wider urban community, considerable encouragement was given to this form of adjustment. High wages, good housing, access to many of the material advantages of the urban technology, and the pursuit of such government policies as integrated residential areas, orientation courses, and special trade training programmes, all served to foster the ability of migrants to make their own way in the mainstream of urban life.

This general situation continued into the middle and late nineteen sixties and perhaps up to the present day. However, gradually at first, but with gathering strength over the past ten years a new group has emerged, and the Maori community is now divided into two sections. On the one hand there are the adherents of the traditional Maori ways, generally the older people and to some extent younger people who have spent their early years under traditional influences. These people are firmly anchored to their Maoritanga, validated by each other, and more importantly perhaps, by the elders, traditional authorities in the Maori community. On the other hand there is now a massive and growing group of urban born and urban raised adolescents and young adults who lack just those important elements of belief and behaviour, such as a working knowledge of the Maori language, history, mythology, ceremonial and genealogy, which will be validated by the "traditional" group. This sense of loss of ties to traditional Maori life, has led to a strong sense of frustration and considerable hostility, exacerbated by the sense of unfulfilled promise which has emerged in the years following migration. For, to the potential migrant, the

process of migration offers the promise of a solution to many of his most salient problems, and this reward is strong enough to clearly offset the quite considerable costs involved. A part of these costs is hidden here also in the inevitable distortion which arises from a tendency to undervalue possessions held by all members of a group, which they therefore appear to hold as of right. In this case too, the European community has traditionally reinforced the distortion by placing little value on Maoritanga and a relatively high premium on the acquisition of beliefs and behaviours relevant to the western technology. However with the attainment of major pre-migration goals, the individual does not simply sink back into a state of quiescence but tends rather to re-order his goal hierarchy and perhaps to include a number of new goals suggested by his recipient community. By forgetting the now fulfilled needs which drove him to the city in the first place, and concentrating his attention on the major needs in his current hierarchy the individual loses his sense of achievement and feels only a perpetual sense of need. Among the new goals in this instance, and particularly among the children of the migrants, has emerged the need for those cultural possessions of belief and behaviour which provide a link both with their past and with their wider contemporary group.

A number of national and international occurrences during the past ten to fifteen years appear to have affected the development of the strong movement towards the fulfilment of these particular needs. First, in response to their strength and frequency a strong political

movement has developed dedicated to their alleviation. Secondly, the development in New Zealand of a mass and popular medium in television has provided this movement with substantial public exposure. Finally, the development of a widespread international protest movement, emphasising the rights, particularly of young people, to a voice in the determination of their own destiny, has found its place in the New Zealand situation. The influence of these forces and frustrations has led to the development of an extremely strong social movement. This movement, which has been described in an Australian context by Wentworth (1973) and has its counterparts in many nations around the world, is characterized by a dramatic heightening of the values attached to pre-European and pre-technological cultural traditions.

The problem faced by social and political organisations in relating people to two or more active cultural traditions may be solved in a variety of ways which may perhaps be best related along a continuum of cultural complexity. At one end of this continuum lies assimilation. Essentially this position proposes that one culture - and in this case it is generally the dominant western technology - provides all the necessary belief and behavioural alternatives for normal adjustment. Behaviours and beliefs are therefore to be validated and otherwise reinforced only insofar as they are integrated within this dominant culture. The agents of the dominant group may impose their solution by presenting it within the context of an exchange matrix in which the impact of traditional rewards and costs are reduced to insignificance. It is important to see that even where

assimilation is neither the philosophy nor the goal of an agent, it may be the effective end product of his activity simply because of the high levels of reward and cost which he controls.

A short distance along the continuum from the monocultural assimilationist position lies the currently popular position of bi-cultural pluralism, usually involving the western technology and a traditional culture. For example, see Gallimore & Howard (1968). Essential to this position is the "separateness" of the two cultures, though the actual relationship may vary from one in which membership in the two cultures by the same individual is impossible, to that in which they are accessible to the same individual at closely related points in time, and as the occasion demands.

At a level of greater cultural complexity again is an integrationist position which suggests that from a wide range of choices available to the individual, a unique, integrated, "multi-cultural" identity may be developed. This position is pluralist in that it sees many cultures and subcultures offering alternative choices to the individual, but emphasises his personal role in the development of a unique integrated identity system, rather than seeing him operating within a limited number of essentially separate and predetermined cultures. Within this context the adjustment of the individual may be seen as an outcome of the totality of his experience. To the degree that his experiences provide him with a repertoire of behaviours and with a background of knowledge, which cover all the interpersonal

situations in which he finds himself and is likely to find himself, his current and potential social and personal adjustment should be positive. The tension experienced by young city born and city raised Maoris may be explained then in terms of restriction of experience. The urban society has offered some degree of flexibility in relating to the technology but has provided no effective medium of choice with respect to the belief and behaviour systems validated by adherents to the traditional Maori ways. Attempts to solve this problem have already been seen in the development of a Maori language movement in the growth of Maori studies of many kinds and in varying degrees throughout the educational system, in the growth of the "new" urban Maraes, and in an increasing exposure of Maori life and thought through the mass media. It may be expected that the immediate future will see a further considerable growth in this area, though it is likely that as the transmission of personal values is involved, some considerable increase in community and family responsibility for maintaining cultural traditions will have to replace the emphasis currently placed on adapting the state educational system for this purpose.

Studies of Maoris living in the city have been reported by Kawharu (1968), McCreary (1968), Metge (1964), and Vaughan (1964). The study most closely directed towards the psychological adjustment of city Maoris was made by Jane Ritchie (1964). That study provided the starting point for the present research. Jane Ritchie investigated the psychological status and background of city Maoris, as the Rakau studies by Earle (1958), Mulligan (1957), James E. Ritchie

(1956), and Jane Ritchie (1957), had studied Maoris in a rural community.

Although the psychological studies referred to above provide substantial information about the way of life of Maoris in Wellington and in a remote country area, they provide no comparative data for Maoris and Europeans, or for urban and rural samples. Comparative research on Maori and European school children has been largely devoted to their scholastic and intellectual attainment, e.g., Ball (undated), Smith (1956), McClew (1958), Walters (1958), Ausubel (1961), Benton (1965), Lovegrove (1966), McCreary (1966), and Harker (1971), though Ausubel did examine educational and vocational aspirations, and Lovegrove included a measure of attitude towards school. The urban-rural variable has been examined with varying degrees of thoroughness by Smith, Walters, Ausubel, Lovegrove and Harker. In order to identify variations in the levels of adjustment which may be related specifically to Maori urban migration, the present research extends the comparison made in the earlier studies to include a comparison of Maori and European samples from both rural and urban areas. In this way it becomes possible to draw conclusions about Maori-European and urban-rural differences in the adjustment of the groups examined. The effect of urban migration itself on the adjustment of migrants is also examined, by comparing urban migrant samples with non-migrant samples representing the migrants' originating groups, while comparing the sample of rural Maoris with the European urban sample leads to the possibility of

presenting some predictions about the nature and effects of differences between the originating and recipient groups involved in late adolescent Maori urban migration. While the present study does not attempt to investigate in detail the late adolescent and adult identity problem previously discussed, it is expected that the characteristics of the groups examined in early adolescence should give some useful evidence as to its nature and origins. In order to make the comparisons just described a survey was undertaken which included samples of Maoris and Europeans drawn from both urban and rural areas.

Previous studies of Maori social life and personality have examined adolescent identity achievement, the relationship of individual and group, and the sources and levels of anxiety observed in adolescence and adulthood. Two of these, identity achievement and the relationship between the individual and his group, provided points of focus for the study of personal and interpersonal adjustment in the present research. A questionnaire covering educational achievement and attitudes, and educational and occupational aspiration, provided measures of adjustment to the urban technology, and a measure of "Maoriness" based on the "Index of Maoriness" developed by Williams (1960) gave indications of adjustment within the traditional Maori context.

The Measurement of Adjustment

Adjustment is a core concept in studies of culture change and adaptation. In a study of migration of "stem families"¹ Brown,

-
1. A metaphorical description of the extended family system in migration, with a family homestead represented by the "stem", and with migrants' homes in distant towns represented by the branches.

Schwarzweiler and Mangalam (1963) have integrated the relation of the individual to his group, his aspirations and achievements, and his ability to achieve and maintain an integrated identity, into a global conception of adjustment, which they define as:

"a dynamic state in which individuals in a given society are able to live in relation to the members of their significant membership groups, satisfying their basic needs, fulfilling the responsibilities of their basic roles, and maintaining the identity and integrity of their individual selves" (1963, p.67).

This definition suggests both social and personal components of adjustment. The social component is divisible into two parts; an interpersonal area referred to as the relation of individuals "to the members to their significant membership groups", and an area which can be summarized as "competence" in relating to the social and physical environment, suggested by the reference to satisfaction of "basic needs" and fulfilment of the responsibilities of "basic roles". These quotations come very close to the general concept of "competence" discussed by White (1959), and it appears similar to what Inkeles (1966) meant in his definition of competence as "the ability to attain and perform in valued social roles" (1966, p.280). The personal component of adjustment is referred to in the foregoing definitions as the maintenance of "the identity and integrity" of the individual self.

Two measures were employed to assess the interpersonal area of the social component of adjustment. The first used the semantic differential technique, which Triandis and Osgood (1958), Rosen (1959), Tanaka, Oyama and Osgood (1963), Helper and Garfield (1965) and Jansen and Smolenaars (1967) have shown to be effective in cross cultural studies, and which has also been used to measure social adjustment by Soma (1962), Walkey (1964) and Masters and Tong (1968). The actual form used was developed from that earlier reported by Walkey (1964). In both the earlier and the present study, criterion groups of normal and delinquent boys were used to validate

the instrument. The difference between these boys was assumed to be one of an "ability to live in relation to the members of their significant membership groups".² The other interpersonal measure was a short scale of alienation developed from a longer, multifactor scale constructed by Elmore (1965). 'Alienation' has been discussed by Hajda (1961) in relation to acculturation, by Taft (1967) in relation to migration, by Marsh, Dolan and Riddick (1967) in relation to the use of public welfare facilities, and by Photiadis and Schweiker (1971) in relation to marginality, and is therefore clearly relevant in considering an effective social adjustment.

Investigation of the competence of an individual in relating to his social environment was subject in this study to the need to examine variables which were relevant to the behaviour of all the groups studied, and which were also related to what Inkeles (1966, p.265) has described as "the roles involved in the status which society might assign to the individual, the status he might aspire to, and such status as he might invent or elaborate for himself". To assess competence under these conditions, educational achievement and aspiration, and occupational aspiration were measured as indices of the "aptitudes", "skills", "information", and "motives

2. A detailed rationale for each measure used in this study is presented in Chapter II, where the development of the measures is also described.

and needs" which Inkeles discusses in his detailed elaboration of the meaning of competence. The Index of Maoriness, provided an index of the degree to which Maori subjects might be considered "competent" within the traditional Maori context.

The personal component of adjustment, with its orientation towards the "maintenance of identity and integrity" of the self, was investigated from the standpoint of E.H. Erikson (1959). For this purpose measures reported by Block (1961) and Rasmussen (1964) which had been developed on the basis of Erikson's theory, were modified for use with the samples of fourteen year old boys used in the present study.

Culture Contact and Adjustment

Variations in the problems encountered in the processes of culture contact and change have been described over a wide range of groups, including the Wisconsin Menomini Indians (Spindler, 1955), Alaskan Eskimos (Chance, 1960, 1965), Eskimos and Cree Indians (Chance and Trudeau, 1963), the Mistaasini Cree Indians of Canada (Sindell, 1968), (Wintrob, 1968), Eskimos and Indians of Canada's Great Whale River (Barger and Earl, 1971), and the Ainu of Northern Japan (Geiser, 1971). Strategies for resisting or adapting to the stress imposed by these processes have been discussed by Freed (1957) in a description of the Jewish Shtetl, and the Pennsylvania Amish, by Dowling (1968) who described the social organization of the Wisconsin Oneida, and by Spindler (1967) who outlined and illustrated a number of strategies which individuals and groups may use to counter the effects of culture contact and its pressures

towards change.

In a summary statement of the effects of culture contact Chance (1968) says:

"One of the more common forms of culturally induced stresses found among contemporary indigenous Canadian populations has to do with self identity and cognitive conflict brought on by increasing contact with modern Western society. Not infrequently, the cultural system appropriate to the traditional northern physical and social environment becomes maladaptive when applied to a Western oriented technological, social and cultural world. The clash of two or more technologically unequal cultural systems is a world wide phenomenon. And in the North, as elsewhere, the technologically less well equipped peoples are prone to feelings of inferiority and self discouragement. This attitude throws into question the worth of one's own identity, a questioning which is reinforced when the individual sees that others' estimates of himself are similar to his own." (1968, p.30).

By comparison with the adjustments required by the Indian population changing from a fur-trapping to an industrialized economy, a much less formidable task faces those involved with changes in the Maori way of life. Maori culture has already incorporated many of the elements of the industrial, technological systems of European society. To a large extent Maoris have seen the technology develop around them, and though they have lived in a world which may be somewhat marginal to the dominant, urban oriented and industrialized society, it is not surprising that the Rakau studies which showed some substantial levels of anxiety were far from pessimistic in their conclusions about the adjustment of the members of that rural

Maori community. However, notwithstanding the suggestion that there will be no extreme differences between the adjustment of Maori and European groups, a number of sources suggest that some differences favouring Europeans may be predicted. A number of studies of scholastic achievement in New Zealand have shown differences favouring Europeans. These include studies by Calvert (1950), McClew (1958) and Lovegrove (1966), with school age children, Forster and Ramsay (1969) on the comparative attainment of school leavers, and Harker (1970, 1971) on Maori and non-Maori representation among university students. Although the earlier studies of Maori social life and personality did not make comparisons with Europeans, Ritchie (1956) discussed differences (p.115) which may favour the European rather than the Maori. A conclusion to be drawn from the evidence which is available is that any differences in adjustment will favour the European samples.

Rural-Urban Differences in Adjustment

In an early study of the personal and social adjustment of rural and urban children, Mangus (1948) found a number of differences in favour of country children. Farm children, for example, showed a greater sense of personal worth, a greater sense of belonging, greater freedom from nervous symptoms, and better social skills. The generality of this attractive picture was questioned by Burchinal, Hawkes and Gardner (1957) who in a summary of three papers could find only one example of an apparent superiority in the adjustment of rural children. They explained the absence of differences between

urban and rural children in terms of an increasing social and cultural homogeneity of town and country, and predicted that differences between urban and rural children would diminish as social change spread from the cities. Such a suggestion is supported by Smith (1961), who in a study of 150 Negro children found no rural-urban differences on the California Test of Personality. Fugitt (1963) examined urban-rural differences in transport, communication, trade, institutional and social relationships, the nature and types of occupations, and population size and composition. A conclusion he draws from his analysis is that the differences between rural and urban living are disappearing. Burchinal et al. (1957) suggested that these differences are likely to be found only when comparing rural children with those from larger urban areas.

In spite of the apparent trend for differences between rural and urban groups to disappear, a number of studies using standardized tests have shown differences between them. Using the M.M.P.I., Hathaway, Monchesi and Young (1959) found differences between rural and urban samples in a study of fifteen thousand ninth grade children. Rural children were more shy, self depreciating, and suspicious, while city children tended to express more rebellion against authority, to be less self-critical, and less suspicious. In another study, Haller and Wolff (1962, 1965) concluded that farm, village, and urban residence exerts an influence on a variety of personality variables. Using several measures, including the 16 P.F. Test, they found that urban boys scored on

a number of personality variables in directions which, the authors suggest, may be related to performance in urban work situations. In addition, they found less certain evidence that the personalities of urban boys may be more attuned to the noneconomic aspects of city life. Reppen (1967) found differences between socioeconomic groups and not between rural and urban groups.

New Zealand evidence on urban-rural differences in adjustment is somewhat fragmentary. Ausubel (1961) found that urban-rural uniformities predominated over differences for both Maori and European secondary school pupils. However both Maori and European "typical" urban subjects strove for higher marks, were rated by their teachers as more highly motivated to succeed in university studies and scored higher on a test of occupational prestige needs,³ than "typical" rural subjects. In the field of educational achievement the evidence more clearly favours urban groups. In Lovegrove's (1966) study, the urban groups (both Maori and European) gained significantly higher scores ($p < .01$) on a measure of scholastic achievement in arithmetic, reading, and spelling as well as tests of intelligence, speed of performance and listening comprehension. The continuing effects of urban superiority are seen in Harker's (1970, 1971) study of Maori and European university students, in which it was found that the urban population is greatly over-represented in both the Maori and European student samples.

3. A portion of the Lee-Thorpe Occupational Interest Inventory.

The evidence outlined above suggests that differences in adjustment might be found between urban and rural groups, and that these differences should favour the urban groups. However it would appear that these differences should be somewhat less marked than those resulting from culture contact and change, and the following rank order is therefore predicted for the adjustment scores of the Maori and European, urban and rural samples.

Rural Maori < urban Maori < rural European < urban European

Urban Migration and Adjustment

An assumption has been made in this study that when an individual changes, whether by choice or from necessity, such important aspects of his way of life as his language, his economic system or his membership or reference groups, he may be expected to encounter, more or less permanently, situations in which such changes threaten his capacity to define and fulfil his basic roles, his relationships with significant groups, and his individual identity and integrity. Urban migration is an event which might be expected to lead to significant changes in an individual's way of life, yet in certain situations, one or more factors appear to operate to counter the expected adjustment difficulties.

The degree of difference between the natal and recipient societies, with its consequent variation in the degree of change demanded by the individual, is one such determining factor. An example of a relatively small adjustment requirement is described by Lewis (1952), who shows that through a combination of minimal

change and greater personal opportunity migration may even facilitate adjustment.

The amount of support received by the migrant in making the changes required is also likely to determine his adjustment. The support of the "stem family" which allows the individual to migrate in the sure knowledge that he has a place to which he may return should he experience excessive stress, is such a determinant. Another is the support received by the migrant from members of his family or other members of his group, in his recipient area. Such support may take the form of guiding him through a process of resocialization along a "role path" which will lead him into the roles appropriate to a member of the recipient community (Hanson and Simmons, 1968).

Support provided by an extended family has been examined by Schwarzweller and Seggar (1967) in a study of Kentucky mountain migrants to urban areas of Ohio. Though they conclude that "the newcomer who has access to a rather large branch family network during the early phases of migration is less likely to show signs of stress or instability" (1967, p.670), they also point out that lower status migrants are less likely than high status migrants to benefit from contact with a cohesive kin group. This accords with Rendon (1968) who found in a study of Spanish American migrants to Denver, Colorado, that under conditions of economic depression, contact with a complex kinship group in the city, together with considerable visiting by friends, was actually related to unsuccess-

ful adjustment (particularly more drinking). As an example of support from beyond the family group, Kurtz (1966) in another study of Spanish American migrants has shown how certain members of their communities come to act as "gatekeepers" who are particularly effective in providing migrants with access to urban society.

In the examples just given, the element which determines successful or unsuccessful urban migration appears to be the possession of appropriate information about the nature of the urban community and the roles required within it. This suggests that one way to make a successful adjustment after migration is to be adequately prepared. This preparation might result from learning the skills required in the recipient society as a set of special tasks, or it might simply result from the continuing experiences of the individual in an originating society that is essentially similar to the one to which he wishes to migrate. As an alternative to preparation before migration, the possession of information relevant to the recipient community appears to be fostered by the gatekeepers, who have special interests, knowledge and skills, which enable them to act as an interface between the migrant and the recipient society, or by the support of adequate membership groups in the new community acting as a combination of buffer against the problems which arise, and source of resocialization. In the event that the membership group is depressed, marginal, or openly anti-social, the activity of the group as a "buffer" and its ineffectiveness in appropriate

resocialization, may quite predictably lead to the unsuccessful adjustment reported by Schwarzweller and Seggar (1967) and by Rendon (1968).

New Zealand studies of the effects of urban migration on adjustment appear to be limited to studies of Maori migrants. In her study of Maori migrants to Auckland, Metge (1964) found no evidence of social breakdown. This she attributed to pride in being Maori, and the maintenance of stress on Maori values. Similarly, the description of the psychological adjustment of Maori migrants given by Jane Ritchie (1964) indicated no marked social breakdown among four Wellington Samples. While there were many high scores on a neuroticism inventory,⁴ no comparative data on other Maori or European samples were given, and her general conclusion was that:

"In spite of the absence of comparable non-Maori data, the assumption that these strains are no more frequent among city than among rural Maoris, among working class city Maoris than among working class city pakeha, is not especially challenged."
(1964, p.169)

In view of the similarity of many of the experiences of rural and urban groups, resulting from a uniform education system, uniformity in the mass media, and the ease of communication between the country dwellers and people in the city, it was anticipated that urban migrants should have a ready knowledge of city life.

4. The Maudsley Medical Questionnaire.

It was therefore anticipated that an interaction should occur between the rather slight adjustment problems related to urban migration and the greater potential for positive adjustment provided by the opportunities available to the city resident. The resulting prediction was that no systematic disadvantage in adjustment would be found to be related to urban migration.

A Special Case: Early Identity Achievement

Throughout the foregoing discussion the emphasis has been directed toward descriptions of adjustment difficulties associated with cultural and social changes. However, by contrast, Ritchie (1956) has provided an illustration of rapid and effective reorganization of identity in a remote village under conditions of psychocultural stability.

"Tahi is now for all practical purposes a child made into a man in the space of a year; he has made the transition from one sort of role to another one, quite different in form, though not actively discontinuous with the major trends of childhood, the departure is from the age scales of the middle years to the role structure associated with unmarried status." (Ritchie, 1956, pp.56-57)

This statement suggests a problem related not to the process of identity achievement itself, but to the appropriateness of the organization achieved. Ritchie points to the consequences of early identity achievement in rural surroundings for a young adult seeking to adjust to city life a few years later and hundreds of miles away, and comments upon the basic rigidity which may be associated with

such a rapid transition through the identity crises.

"In Rakau a lad can gain the emblems of membership within a short time, within a year in fact, and from this time on, provided he accepts the limitations resulting from so rapid a transition he is psychologically secure. He may be limited to a pattern of reaction which makes variety of intellectual and imaginative experience almost impossible, he may be tied to an egocentric superficiality in social relations, and deprived of deep affective experiences; he may be caught up in continual coping with a round of fads and fashions, a succession of frenzied adaptations; but so long as the group is there, so long as he limits his demands on it and meets its demands on him he need not be anxious."
(Ritchie, 1956, p.58)

This example suggests that a rapid and early achievement of identity may, under conditions of change, lead to maladjustment.

In order to obtain information which could be used to test this likelihood, Marcia's measure of identity achievement (1966) was modified for use with the present samples. This measure provides scores showing the level of identity achieved at fourteen years of age which can be used in a later follow-up study of the effect of a rapid identity achievement on later adjustment, particularly under conditions of culture change.

CHAPTER II

THE DEVELOPMENT OF MEASURES USED IN THE SURVEY

Introduction

In this chapter the development of each of the measures used in the study (except the Index of Maoriness) is described and evaluated. Those measures which proved suitable for use in the main study are treated in detail, and the remainder are only briefly described. The analysis of the Index of Maoriness was based solely on data obtained during the survey, so detailed discussion of it and the conclusions based on the data are together in Chapter III (see page 108).

As the instruments were developed to optimise their validity for the subjects used in the survey, the basic characteristics of these subjects requires definition. In the analysis of migration patterns, Jane Ritchie (1964, p.16) showed that 64% of her Maori sample had moved to Wellington between the ages of 16 and 25 years. In view of this it was decided to examine subjects below the age of 16 years, to obtain information about them before they had the opportunity to implement a decision to migrate. To maximize the homogeneity of the samples with respect to age and sex, boys

between the ages of 14 and 15 years were selected. This age group, it may be noted, has the additional advantage that it is the oldest group whose members are all available in the school system. All the subjects in this study were therefore fourteen year old boys.

The measures used, which were originally developed for college students, had to be modified for use with the fourteen year old boys in the present study. For this purpose an item selection procedure involving an analysis of item responses in relation to criterion group membership was used (see page 28).

For the item analysis, three criterion groups of 25, 27, and 72 "normal" fourteen year olds from city schools, and 22 delinquent (maladjusted) fourteen year olds from boys in that age group in the two institutions of the Child Welfare Division located in Levin, near Wellington, were drawn. The selection of the socially maladjusted group was made from the files of all fourteen year olds in the two Child Welfare Division institutions, to satisfy the following criteria:

- (a) a long history of court appearances, and
- (b) no suggestion in recent "periodic reports" written by housemasters in the institutions that transfer from the institution to the community might be expected in the near future.

Since the undertaking of all the item analyses with a single delinquent criterion group is to be justified by the nature

of the procedures used, a detailed rationale for the use of a single group will be given when these procedures have been discussed (see page 34). It is sufficient now to indicate that the development of the measures involved both rational and empirical procedures, with emphasis on items maximizing (a) levels of internal consistency, (b) relationship with the criterion measure, and (c) concurrent and construct validation where relevant.

Alienation

Hajda (1961), describes alienation as:

"an individual's feeling of uneasiness or discomfort which reflects his exclusion or self exclusion from social and cultural participation. It is an expression of non-belonging or non-sharing, an uneasy awareness of perception or unwelcome contrast with others."

(1961, pp. 758-759)

The relationship between alienation and anomie is somewhat clouded, and a survey of the literature shows that the two terms may in fact be interchangeable. This can be illustrated by referring to the "five characteristics of alienation" suggested by Seeman (1959). These terms (meaninglessness, isolation, normlessness, powerlessness and self-estrangement), have appeared frequently in reports and are sometimes referred to as characteristics of alienation and sometimes of anomie. Thus, Elmore (1965) referred to meaningless and isolation as characteristics of anomie. Cloward and Ohlin (1961) have described normlessness as an important concept in alienation while Rose (1966) relates it to anomie. Finally, Taylor (1968) regarded power-

lessness as a part of alienation while Elmore (1965) regards it as a factor in anomie. The evidence given by Seeman (1959) and Elmore (1965) suggest that there are a number of inter-correlated factors involved in a second order trait which has been given different names by those emphasizing different factors. The concept of anomie has been developed by a number of writers, including Srole (1956), Merton (1957), McClosky and Schaar (1965), and Wolfe (1968). Merton (1957) proposed the relatively simple model:

Social condition ———> Psychological state ———> Deviant behaviour

An alternative model was suggested by Srole (1956) who postulated on interactive relationship between psychological dysfunction and malintegration in the social system. This view was supported by McClosky and Schaar (1965), who were dissatisfied with the simple social basis proposed by Merton. They suggested that such factors as intelligence, hostility, anxiety, and inflexible defensiveness may contribute to the occurrence of anomie either independently or in combination with social influences. Their view was that a sense of alienation is learned, and that consequently anything that interferes with learning the norms of a society will lead to an increase in anomie among the members of that society. Impediments to this learning may arise from the individual's social setting, from his personal characteristics or from a combination of both. The model they proposed for the development of anomie is:

(McClosky & Schaar, 1965, p.20)

This model provides for the possibility of multiple causation and for a number of interaction effects which are absent from Merton's formulation.

The position taken by McClosky and Schaar has been questioned by Wolfe (1968), who applied a conceptual systems approach to the problem. Conceptual systems theory regards normlessness as a feature of conceptually concrete individuals, who use a relatively primitive mode of conceptual activity. The conceptual system of these individuals provides no clear distinction between "self" and "other", while at the same time both internal and external standards are poorly recognized and understood. Conceptually concrete individuals are distinguished by an inability to understand, incorporate or act in accordance with external standards. The origins of anomie therefore lie in the cognitive functioning of the individual rather than in the social norms by which he is influenced. If there are incongruities between the "means prescriptions" and "goal prescriptions" (Merton, 1957) of a society, a conceptually concrete individual will not recognize them.

Wolfe concludes that personal factors and social factors underlie two etiologically distinct forms of anomia, and that because these factors operate in ways which are mutually exclusive, they would not coexist in a single case. This conclusion is at

variance with that of McClosky and Schaar who suggested that personality and cognitive factors, social cultural factors, or a combination of these could underlie anomia. However, Wolfe's conclusion depends on a dichotomous rather than a continuous classification of "conceptual concreteness" and if a continuum is assumed the possibility of an interactive etiological basis re-emerges.

In a discussion of the development of a sense of alienation in an individual, Hajda (1961) has suggested that it may vary with a number of social factors:

- "1. The number of qualitatively different collectivities an individual belongs to and thus the number of subcultures he participates in;
2. The extent to which membership in these collectivities is concentrically co-ordinated with, grows out of, or is supported by the personal primary groups such as one's family and one's childhood, adolescent, and adult peer groups, as well as by the ties to one's birthplace, neighbourhood or community of residence;
3. The degree to which the ties to chronologically earlier membership groups are not discarded or attenuated in favour of a commitment or attachment to new and substantially different social ties, i.e., the extent of continuity of commitment during one's life cycle;
4. The extent to which the membership collectivities to which one belongs represents or symbolize the main body of the society and are infused with the prevalent values, norms, beliefs."

(1961, p.759)

Hajda's description provides a basis for predicting relationships between alienation, migration and acculturation. In addition, the second and third of Hajda's factors, with their emphasis on continuity with the individuals, groups, skills, roles, and situations of the early years, are related to social aspects of the identity crisis as Erikson (1950) has described it, so we may expect to find some relationship between the occurrence of alienation, and success in solving the problems of the identity crisis. This relationship between alienation and identity theory is substantiated by Erikson's description of a typical case of identity diffusion showing "a certain hopelessness regarding the chances of participation", and by King (1968), who pointed out that the concept of identity is central to that of anomie when the latter is defined as "estrangement from one's true self", or as "loss of identity".

Hajda's four-factor description of the social bases of alienation can be applied to the effects of migration reported by Lewis (1952), who discusses the effects of the relationship between natal and recipient cultures on post migration adjustment. He suggests six reasons for the lack of breakdown found in migrants from Tepotzlan, a rural village, to Mexico City.

- "1. The Tepozteicans, the group studied, have regarded Mexico City as an important political, economic and religious centre for hundreds of years.

2. Mexico City is a much more homogeneous city than most large urban centres in the U.S.A. This would include such characteristics as the religious and cultural backgrounds of the people.
3. Mexico City is essentially conservative in tradition.
4. Mexico City is not as highly industrialized as many American cities, and does not present the same conditions of life. (Note that living conditions are still extremely poor in many cases.)
5. Mexican farmers live in well organized villages that are more like cities and towns than like the open country settlement of American farmers.
6. Tepotzlan is close to Mexico City not only geographically but also culturally ... The similarities between the value systems of working class and lower middle class families in Mexico City and those of Tepotztecans are probably much greater than those between a family from the hill country of Arkansas and families from these classes in St. Louis and Detroit."

(Lewis, 1952, p.41)

The relationship between Lewis's reasons for the lack of breakdown and Hajda's determinants of alienation suggest that a measure of alienation may be a good indicator of post-migration adjustment. This view is supported by Taft (1967), who in a discussion of the assimilation of Australian immigrants, referring to mistrust, anomie and alienation, says:

"Almost every aspect of assimilation was related to one or more of these measures ... The results indicate that those subjects whose social integration is weakened by attitudes of mistrust, powerlessness, and feeling that life is meaningless, are not likely to take the risks necessary to become

assimilated to a new group -- if they were ever assimilated to the old one."

(1967, p.30)

Extending the early work of Srole (1956), Elmore (1965) developed a scale of anomie involving a six-factor structure closely resembling that described by Seeman (1959), with factors defined as meaningless (a general factor), valuelessness, hopelessness, powerlessness, aloneness and closed-mindedness. These factors were extracted from a study of 340 questions based on 17 sub-aspects or dimensions of anomie which had been culled from various writings and studies. High correlations among subtests based on the factors which emerged, together with the information that 57% of the total variance in the factor analysis was accounted for by the general factor, while only a further 18% was accounted for by the remaining 5 factors, suggested that a short measure could be derived from those items of Elmore's scale which were highly loaded on the general factor.

The ten items of Elmore's "general" subtest which were judged relevant to the experience of adolescents were presented to a group of undergraduate students together with ten positively biased items and ten negatively biased items which asked effectively the same questions but in simpler language. For example, Elmore's item, "People are too busy to help each other today", was matched with "No one is interested in helping me", and "There is always someone to help me when I need it". Each item was presented above

a five point scale on which the subjects were asked to indicate the extent of their agreement or disagreement. For example:

DEFINITELY	People keep pushing me to do things	DEFINITELY
AGREE	____:____:____:____:____	DISAGREE

Ten items with high correlations with Elmore's items were selected for the test. As a correction for acquiescent response bias, five of the items selected were positively biased and five were negatively biased. Though it was considered that a homogeneous scale should have been achieved through the close parallel between the selected items and Elmore's factorially clustered group, an item analysis was undertaken, employing a method for multiple point scale items.

Bettelheim (1952), Sykes (1958), Elkins (1961), and Lefcourt and Ladwig (1966) have all suggested that a delinquent population might be expected to show a high degree of alienation, and it was therefore considered acceptable to use a delinquent group as a "high alienation" criterion group for the item analysis. Groups of 27 "normal" (low alienation) and 22 delinquent (high alienation) fourteen year old boys completed the scale to provide the data for item analysis.

In developing most of the measures used in this research an item analysis method outlined by Gulliksen (1950), and by Magnusson (1967), was used. This method was originally developed for items with correct and incorrect, i.e., dichotomous answers,

however conversion to dichotomies reduces the power of multiple point scale items in which the subject's response lies on a continuum, so an extension of the method was developed to use all the information contained in each response. No specification of "correct" or "incorrect" answers was given for the items, and the assumption was made that subjects' responses would be normally distributed about their mean, at some point on the continuum.

The standard deviation of a test distribution (s_t) may be expressed in terms of the correlation between the test and the N individual items (r_{ti}), together with the standard deviation of the items (s_i) thus:

$$s_t = \sqrt{\sum_{i=1}^N r_{ti}^2 s_i^2} \quad (1)$$

The term $r_{ti} s_i$ is a measure of each item's contribution to the total test variance and therefore of its reliability. The standard deviation of the distribution of the test scores consists of the sum of the reliability indices of all the items.

In the original method, the reliability index, $r_{ti} s_i$, was found for each item, using the point biserial correlation coefficient to give r_{ti} , the correlation between the total test score and the score on the item; together with the term $\sqrt{pq}$, the standard deviation of the dichotomous item, where p denotes the proportion of subjects correct and q denotes the proportion incorrect. The formula for the index may therefore be written as:

$$r_{ti} s_i = (M_p - M_t) / s_t \sqrt{p/q} \sqrt{pq} \quad (2)$$

which simplifies to

$$r_{ti} s_i = p(M_p - M_t) / s_t \quad (3)$$

In deriving the validity coefficient, the expression for the correlation between a criterion measure and the test score, r_{tg} , is found from the variance - co-variance matrix for the relation between the test and the criterion:

$$r_{tg} = \frac{\sum_{i=1}^N r_{gi} s_i s_g}{s_t s_g} \quad (4)$$

This may be simplified and the term $\sum_{i=1}^N r_{ti} s_i$ substituted to give:

$$r_{tg} = \frac{\sum_{i=1}^N r_{gi} s_i}{\sum_{i=1}^N r_{ti} s_i} \quad (5)$$

The index of validity is given by the numerator $r_{gi} s_i$ which may be expressed for dichotomous items as:

$$r_{gi} s_i = p(M_{p(g)} - M_g) / s_i \quad (6)$$

To modify the method for multiple point scale items it is necessary to use the expression for parametric correlation. With n subjects

$$r_{ti} = \frac{\sum_{l=1}^n x_l x_t}{n s_i s_t} \quad (7)$$

In this way the reliability index becomes:

$$r_{ti}^{s_i} = \left(\sum_{l=1}^n x_{i,l} x_{t,l} / ns_{i,t} \right) s_i \quad (8)$$

This simplifies to:

$$r_{ti}^{s_i} = \sum_{l=1}^n x_{i,l} x_{t,l} / ns_t \quad (9)$$

while the validity coefficient derived under the same conditions may be expressed as

$$r_{gi}^{s_i} = \sum_{l=1}^n x_{i,l} x_{g,l} / ns_g \quad (10)$$

The validity coefficient for the total test is maximized when

$$\sum_{i=1}^N r_{gi}^{s_i} = \sum_{i=1}^N r_{ti}^{s_i} \quad \text{since the expression} \quad \sum_{i=1}^N r_{gi}^{s_i} / \sum_{i=1}^N r_{ti}^{s_i}$$

will then equal unity.

Through the use of the indices of reliability and validity, it is possible during the item selection process to maintain constant control over the levels of test validity, variance, and through the use of the Kuder-Richardson formula KR_{20} :

$$r_{tt} = \frac{n}{n-1} \frac{s_t^2 - \sum_{i=1}^n s_i^2}{s_t^2} \quad (11)$$

the reliability of the test. Using electronic data processing it is relatively simple to run the item selection procedure until a

required criterion level of reliability, validity, variance, or test length is achieved.

The value of this method may also be illustrated with specific reference to the development of the alienation scale.

In a preliminary analysis carried out before the method outlined above was developed, each five point scale was collapsed by the computer into a dichotomy prior to carrying out the analysis.¹ Responses above the mean were scored one and those below the mean were scored zero. A conventional Gulliksen item analysis was then carried out. Details of the ratio scores (validity index/reliability index) and the differences between them which result from the use of the two methods are set out in Table 2.

As might be expected there is little variation in the rank order of the items. Sixty per cent of the changes are of one place and the remainder are of two places. More important is the effect on the ratio scores for individual items. Using the conversion to dichotomies, item four would be rejected outright, while half the ratios would change by more than .10. Another important result is the change in the validity coefficient (for the total test) from .54 using the collapsed scales, to .66 using all the available information, with the newer method.

1. Throughout the study all electronic data processing was carried out on the Elliott 503 computer. The programmes used were written in Algol by the author with the exception of the factor analysis programme referred to on page 111.

TABLE 2

Results obtained on a measure of alienation,
using collapsed scale item analysis and
parametric item analysis

Item	Validity Index/Reliability Index Ratio			Rank Order of Items		
	Collapsed Scales Analysis	Para- metric Analysis	Differ- ence	Collapsed Scales Analysis	Para- metric Analysis	Differ- ence
1	.70	.69	-.01	5	4	-1
2	1.01	.75	-.26	1	2	+1
3	.75	.68	-.07	4	5	+1
4	-.22	.51	+.73	10	9	-1
5	.78	.98	+.20	3	1	-2
6	.41	.57	+.16	9	7	-2
7	.45	.44	-.01	8	10	+2
8	.62	.52	-.10	6	8	+2
9	.79	.72	-.07	2	3	+1
10	.58	.63	+.05	7	6	-1

To select items, Gulliksen (1950) proposed the use of a graph (Figure 1). Each item in the analysis is represented by a point x, y , such that x represents the reliability index, and y represents the validity index for the item. The best items appear in the upper right hand quadrant of the graph.

Magnusson (1967) suggested that a small number of items above the diagonal axis are acceptable, and that the remaining items for the final version of a scale should be chosen by rotating the axis in a clockwise direction until the required number of items has been included. The more closely the chosen items cluster around the diagonal axis the nearer the expression

$$\sum_{i=1}^N r_{gi}^{s_i} / \sum_{i=1}^N r_{ti}^{s_i},$$

and therefore the validity coefficient r_{tg} , tends towards unity.

Whereas validity indices do not change as items are removed, because the validity index expresses a relationship between each item and the criterion measure, reliability indices are subject to change since they are related to total test scores which alter as items are removed. It is therefore necessary to reject only a limited number of items before subjecting the remaining items to item analysis to provide corrected reliabilities.

In the light of the foregoing discussion it is now possible to clarify the rationale for the use of a single criterion

FIGURE 1

Results of item analysis of the
alienation scale

group for all the item selection procedures. Support for the use of this group is to be found both in the literature that is related to the various measures and in the nature of the item selection procedure.

For each of the measures used a number of theoretical and empirical papers may be found to support the use of a delinquent criterion group, and reference is made to the relevant papers for each measure at an appropriate point in the description of its development (see pages 28, 50, 63).

An effect of the item analysis procedures that were used is to indicate the degree to which item scores are correlated (a) with scores on a criterion measure, through the validity index $r_{gi}^{s_i}$, and (b) with scores obtained on all the other items in the analysis, through the reliability index $r_{ti}^{s_i}$. Because each item was usually selected either rationally or on the basis of a correlation coefficient to maximize relationship with an established measure, the reliability index is also an indicator of the convergence of the meaning of the items upon the original measure. This index may therefore act as an alternative validation measure for the items chosen. The assumption that the items in the emergent measure relate to the original measure was examined using the results of the analyses. In no case did the derived items depart markedly from their expected relation to each other or to the criterion. On the alienation measure, where the basis of selection

of the new item pool was a high correlation with original items, no items were rejected after analysis, while in the measure of social adequacy, of 36 items assessed on both the earlier (Walkey, 1964) and present occasions, only one item originally rejected was accepted in the present analysis.

The degree of interdependence of the measures is shown by the matrix of intercorrelations (Table 3) where it is evident that some degree of independence is present. A level of .32 is the highest correlation found.

Briefly then, the method of item analysis used may be said to produce a composite "rational-empirical" scale, drawing its usefulness from both these areas through the use of the index $r_{gi}^{s_i} / r_{ti}^{s_i}$ as the basis for item selection. In any given measure, construct and concurrent validation may then be discussed where it is relevant, following on from the basis established by the item selection procedure.

Specifically, the measure of alienation may be described as a rational-empirical scale, with items (a) related by correlation to a rationally established scale (Elmore, 1965), (b) tested for internal consistency ($r_{ti}^{s_i}$) and (c) validated against a criterion group ($r_{gi}^{s_i}$). Results of the item analysis are shown in Table 4.

A seven day test/retest reliability of .69 was found for the low alienation criterion group. This is acceptable in view of the relative homogeneity of the group. The validity coefficient for

TABLE 3

Intercorrelations of measures developed in the study

	Alienation	Social Adjustment	Psychosocial Health	Interpersonal Congruence	Identity Achievement
Alienation	.69				
Social Adjustment	.31**	.83			
Ego Identity	.32**	.14**	.75		
Interpersonal Congruence	.17**	.22**	.18**	.71	
Identity Achievement	.04	.03	.01	-.07	.81

** $p < .01$

TABLE 4

Results of item analysis of the
ten items of the alienation scale

Item	Validity Index	Reliability Index	<u>Validity Index</u> <u>Reliability Index</u>
1	.67	.97	.69
2	.70	.93	.75
3	.54	.79	.68
4	.21	.42	.51
5	.64	.65	.98
6	.43	.76	.57
7	.33	.73	.44
8	.31	.60	.52
9	.88	1.22	.72
10	.44	.69	.63

the test, based on comparisons of the scores of the two criterion groups is .66. Note that this validity measure provides some construct validation of Elmore's general factor.

Since the item analysis was not used to alter the test in any way, the capacity of the test to discriminate between the two criterion groups which have completed the scale may be examined. Considerable difference is seen between the control group ($M = 41.59$, $S.D. 4.56$) and the delinquent group ($M = 31.23$, $S.D. 7.06$). The value of 't' for the difference between these means is 6.08 (d.f. 47, $p < .001$). A full list of the items together with the instructions are given in Appendix I.

Social Adequacy

The semantic differential technique described by Osgood, Suci and Tannenbaum (1957) has been widely used in research on social adjustment, and in cross cultural studies. The use of this technique to measure attitudes towards complex, abstract stimuli, is illustrated by Triandis and Fishbein (1963), who used descriptions of people, and by Barclay and Thumin (1963) who used more concrete stimuli, and analyzed the responses of subjects to pictures of a "student" using stimulants. Though previous studies had concentrated on evaluative response, the conclusion of a study by Friedman and Gladden (1964) was that all three factors described by Osgood et al. (1957) were of value in making discriminations, thus suggesting that the potency and activity scales should also be .

used when attitudes are being measured.

In a cross cultural study, Triandis and Osgood, after analyzing the responses of monolingual Greeks and monolingual Americans, concluded that:

"the semantic differential would appear to be adaptable for the needs of cultural anthropology in the cross cultural studies of similarities and differences in non-material culture"
(1958, pp. 195-196).

In a similar study, involving American and Italian university students, Rosen (1959) showed that it is possible to predict differences between cultural groups. Earlier claims for the validity of this technique across cultures are supported in a study by Tanaka, Oyama and Osgood (1963) who compared Japanese and Americans, and in a study by Jansen and Smolenaars (1967) who described semantic differential scales standardized across English and nine continental European languages. Helper and Garfield (1965) used semantic differential scales to measure the attitudes of adolescents towards a set of concepts. Through the analysis of the responses these authors were able to differentiate between American Indian subgroups defined by varying degrees of acculturation, and between Indian and White groups.

In a study relating semantic differential responses to social adjustment, Soma (1962) found that groups of delinquents and controls rating 10 concepts related to interpersonal relationships indicated significantly different emotional meaning only to

the concept "women". However in a study in which the responses of socially and emotionally maladjusted and normal boys were compared, Walkey (1964) reported that when they rated each of 16 concepts on a series of 12 scales, the responses from the two groups were significantly different. Masters and Tong (1968), using borstal trainees (maladjusted) and Naval and Airforce trainees (adjusted) as subjects found differences in ratings on evaluative scales over a wide variety of concepts, although the differences on potency and activity scales were not significant.

As the studies reported by Soma (1962), Walkey (1964), and Masters and Tong (1968) show that by no means all concept scale combinations evoke responses which differentiate between socially adjusted and socially maladjusted groups, an item analysis was undertaken in order to identify any such combinations.

Twelve scales were chosen on the basis of their loadings on one of the three factors, evaluation, potency, and activity, described by Osgood et al. (1957, p.37), and on the judgement of the author that they were suitable for fourteen year olds. The scales chosen had been used in an earlier study (Walkey, 1964) and are given in Table 5 together with the loadings given by Osgood and his co-workers for each of their three factors.

The commonly accepted pattern for setting out the scales was used, and each concept was typed at the top of a page with the

TABLE 5

Semantic differential scales used, together
with their loadings on the major factors
(Osgood et al., 1957)

Scale	Factor Loading		
	Evaluation	Activity	Potency
Good-Bad	.88	.05	.09
Fair-Unfair	.83	.07	.08
Sweet-Sour	.83	.09	.14
Kind-Cruel	.82	.18	.10
Young-Old	.31	.32	.30
Sharp-Blunt	.23	.52	.07
Hot-Cold	.04	.46	.06
Fast-Slow	.01	.70	.00
Large-Small	.06	.34	.62
Hard-Soft	.48	.16	.55
Strong-Weak	.19	.62	.62
Heavy-Light	.36	.11	.62

semantic scales set out below, thus:

LEAVING HOME

GOOD	_____	:	_____	:	_____	:	_____	:	_____	BAD
HOT	_____	:	_____	:	_____	:	_____	:	_____	COLD
FAIR	_____	:	_____	:	_____	:	_____	:	_____	UNFAIR

For reasons given by Osgood et al. (1957), and in accordance with the opinion of Maltz (1963) who worked with a wide range of subjects from infants to university students, scales with five choice points were used.

In order to prevent contamination from position preferences and serial effects, the direction of the scales was alternated, and four different page layouts were used.

The concepts to be rated were selected on the basis of an assumed relevance to social adjustment. As a preliminary step those used earlier by Walkey (1964) were examined, and four that had proved unsuitable were eliminated. Those accepted were 'my mother', 'my father', 'my teacher', 'my friends', 'myself', 'home', 'school', 'a very poor person', 'someone sad', 'a kind person', 'telling the truth', and 'telling lies'. Four additional concepts were added: 'leaving home', 'looking for work', 'earning a living', and 'a man who likes his job'. The instructions were the same as those suggested by Osgood et al. (1957), modified by simplification of the vocabulary and the use of five rather than seven point scales. Full details are given in Appendix 2.

In scoring the semantic differential, responses were given a value from one to five, and the responses on the scales for each factor were totalled for each concept, to give 48 scores for each subject.

The reliability and validity indices² for the initial set of 48 item scores are given in Table 6, and graphed in Figure 2. Seven further analyses were performed, rejecting the least desirable items between each analysis. The number of items was reduced to 20 and the validity coefficient of the test was increased from .52 for 48 items, to .78 for the 20 best items. The reliability indices for the 20 best items are also given in Table 6 and the result is shown graphically in Figure 3. A seven day test/retest reliability from the "normal" criterion group was .83.

Another measure of the validity of the factor-concept combinations selected, as discriminators between normal and socially maladjusted boys, which was referred to briefly on page 42 is found by comparing these combinations with the list that had earlier been found worthy of inclusion in further studies of maladjustment (Walkey, 1964). Table 7 shows that of those items selected for the present study, 15 were used in the 1964

2. The formulae used to calculate the validity and reliability indices were those for multiple point scale items (9 and 10) given on page 31.

TABLE 6

Results of item analyses for the measure of
social adequacy

Item			Validity Index	48 Items		20 Items	
Concepts	Factors	Reliability Index		<u>Validity</u> Reliability	Reliability Index	<u>Validity</u> Reliability	
1	My Mother	P	.66	.35	1.89	.76	.87
2		E	1.22	1.04	1.17	1.43	.86
3		A	.16	.86	.19	-	-
4	My Father	P	.76	-.43	1.76	.89	.85
5		E	1.25	1.34	.94	1.50	.84
6		A	-.02	.44	-.30	-	-
7	My Self	P	1.22	1.29	.95	-	-
8		E	.96	1.39	.69	1.03	.93
9		A	-.09	.50	-.18	-	-
10	My Teacher	P	.74	1.51	.49	-	-
11		E	2.15	2.58	.83	3.32	.65
12		A	1.35	1.87	.72	1.97	.69
13	My Friends	P	1.11	.53	2.09	1.17	.95
14		E	1.33	1.74	.76	1.97	.67
15		A	.26	.95	.27	-	-
16	My Home	P	-.63	.56	-1.13	-	-
17		E	.74	1.05	.70	1.02	.73
18		A	-.57	.55	-1.03	-	-
19	A Sad Person	P	.34	.27	1.25	-	-
20		E	1.48	1.68	.88	1.99	.74
21		A	-.37	.89	-.41	-	-
22	A sick	P	-.56	-.18	3.07	-	-
23	Person	E	.99	.94	1.05	.95	1.04
24		A	-.18	.59	-.30	-	-
25	A kind	P	1.43	.70	2.04	1.73	.83
26	Person	E	1.29	1.51	.86	1.61	.80
27		A	-.20	1.57	-.12	-	-

Contd.

TABLE 6 CONTD.

Item	Concepts	Factors	Validity Index	48 Items		20 Items	
				Reliability Index	<u>Validity</u> Reliability	Reliability Index	<u>Validity</u> Reliability
28 A poor	P		1.12	1.50	.75	-	-
29 Person	E		.69	.79	.87	-	-
30	A		-.76	-.67	1.13	-	-
31 A Man	P		.93	-.20	-4.64	.72	1.28
32 Looking	E		-.37	.57	-.65	-	-
33 for Work	A		.16	.78	.20	-	-
34 A Man	P		-.40	-.02	21.29	-	-
35 who Likes	E		.49	1.15	.43	-	-
36 his Job	A		.87	-.11	-8.15	.75	1.17
37 Telling	P		-.58	.82	-.71	-	-
38 the	E		1.28	1.82	.70	2.04	.63
39 Truth	A		-.27	.95	-.29	-	-
40 Telling	P		.27	1.00	.27	-	-
41 Lies	E		1.65	2.29	.72	2.58	.64
42	A		-.68	.20	-3.38	-	-
43 Earning a	P		-.12	.23	-.51	-	-
44 Living	E		.86	1.33	.64	1.39	.62
45	A		.90	.02	39.70	.86	1.05
46 Leaving	P		.14	.26	.54	-	-
47 Home	E		-.40	.35	-1.13	-	-
48	A		-.72	-.28	2.63	-	-

FIGURE 2

Results of item analysis of 48 items
of the measure of social adequacy

FIGURE 3

Graphed results of the item analysis of best
20 items of the measure of social adequacy

TABLE 7

Factor - concept combinations suggested by
Walkey (1964), compared with those used in
the present study

Concept	Factors*		
My Mother	(P)	(E)	A
My Father	(P)	(E)	
My Teacher	P	(E)	(A)
My Friends	(P)	(E)	
Myself	P	(E)	
Home	P	(E)	A
A very poor person		E	
Someone sad		(E)	
A sick person		(E)	
A kind person	()	(E)	
Telling the Truth	P	(E)	A
Telling Lies		(E)	A

* P, (potency), E, (evaluation), or A, (activity), indicate factor concept combinations suggested by Walkey (1964). () indicates factor concept combinations selected in the present study.

study (in which 100 normal boys were compared with 42 delinquents), and only 1 item was rejected. The four remaining items are derived from the concepts not included in the 1964 study. In addition, of the 12 items rejected in the 1964 study only one was accepted by the present item analysis procedure. There is therefore considerable stability in the capacity of the items that were chosen to discriminate between socially adjusted and maladjusted boys.

The use of the term "social adequacy" to describe the measure derived from the semantic differential scales is based on the nature of the delinquent criterion group which is by definition drawn from a population whose behaviour does not conform to the norms and expectations of society, and which may therefore be described as socially inadequate. Though social inadequacy was the basis for the selection of this criterion group, an alternative explanation for the consistent difference between the responses of this group and a group of normal boys from the community is that of institutionalization. It is accepted that such an alternative explanation suggests a limitation to the use of the term "socially inadequate" to describe this group, and that a comparison with a matched sample of delinquents in the community is indicated. However, a truly equivalent group is not available, since retention within the community or return to it would occur only where symptoms of maladjustment were less obvious than in the present criterion group.

The use of the term "social adequacy" to describe the phenomenon measured is therefore supported on two counts. First, the items used were drawn from a pool of "socially" significant items with no attempt at rational evaluation, but on the bases of (a) differences in the responses of socially adequate and inadequate criterion groups, and (b) inter-item response consistency. Second, the items were validated against the results of an earlier study (Walkey, 1964), in which a selection of items including many of those used in the present study was examined for differential response tendencies using different normal and "socially inadequate" samples.

The measure of social adequacy is therefore an empirical scale depending on the item analysis procedures to maximise both its internal consistency and its relation to the criterion, with concurrent validation against an earlier scale.

Semantic Differential Response Bias

Semantic differential scales have been used to provide an index of the relationship between response characteristics and personality by Neuringer (1961, 1967), Zax Gardiner and Lowy (1964), Arthur (1966), Norman (1969) and Walkey and Boshier (1969). Two important bodies of evidence have emerged in these studies. The first is related to response bias patterns. Normal subjects appear to spread their responses more or less evenly across the available choices (Walkey and Boshier, 1969), an impression

supported by analysis of responses of the normal criterion group in the present study. There were 43% of the responses in the extreme category, 41% in the intermediate category, and 16% in the neutral category. In groups classified as "maladjusted" the response pattern is marked by a greater number of extreme than intermediate responses. The tendency to make extreme responses appears to be directly related to the degree of maladjustment, with delinquents responding most similarly to normal subjects (Walkey and Boshier, 1969), a finding also supported by data from the present criterion (delinquent) group.³ Neurotics (Arthur, 1966), show a slightly greater difference between extreme and intermediate scores, with psychotics (Zax, Gardiner and Lowy, 1964; and Arthur, 1966) showing still greater differences.

The second body of evidence on response bias relates to the variance observed in the distribution of scores across categories. In all the studies reported, this variance is sufficient to limit significant differences to those observed between grossly dissimilar groups.

An assumption that differences in adjustment between the groups being studied in the present research are only minor was upheld in preliminary analyses of the data and it was decided that the low level of sensitivity of the response bias measure made it

3. Forty-seven per cent of the responses of the delinquent group were in the extreme category, 31% in the intermediate category and 22% neutral.

unsuitable for use in the present study.

Self Impression

Measures Related to Identity Development

An aspect of development which Erikson has described on a number of occasions (1950, 1959), is the reaction of an adolescent to the relationship between his own developing identity in the past, the present, and the future.

"The growing and developing youths ... are now primarily concerned with what they appear to be in the eyes of others as compared with what they feel they are, and with the question of how to connect the roles and skills cultivated earlier with the occupational prototypes of the day ... The sense of ego identity, then, is the accrued confidence that the inner sameness and continuity prepared in the past are matched by the sameness and continuity of one's meaning for others."
(1950, pp. 227-228)

Later in his discussion of the psychosocial moratorium of adolescence, Erikson explains more of what is involved.

"... the young adult gains an assured sense of inner continuity and social sameness which will bridge what he was as a child and what he is about to become, and will reconcile his conception of himself and his community's recognition of him."
(1959, p.111)

From these statements three elements may be abstracted to form a description of adequate identity development:

- (i) the individual must have a sense of "sameness",
that is to say, he must see himself as the same

person from one situation to another (role variability);

- (ii) he must have a "sense of continuity", a feeling that he is the same person he was in the past (personal continuity);
- (iii) he must be confident that the way he sees himself is congruent with the way that others see him (interpersonal congruence).

The first of these elements of self impression, "role variability", has been studied by Block (1961), who clarified its meaning by a detailed description of the extremes. At one extreme he describes an "interpersonal chameleon", an individual with no inner core of identity, reacting in totally different ways to different people. At the other end of the scale is the characteristic "role rigidity", in which the individual behaves uniformly in all situations, regardless of the variation in reaction which different situations actually demand (see Block, 1961, p.392).

As an index of the degree to which they felt "different" in different situations, Block's subjects were asked to rank twenty adjectives as descriptions of themselves when in the company of each of eight significant other people. For the present study, role variability, personal continuity and interpersonal congruence were measured using an adjective checklist developed to suit the age group studied. Alterations to Block's measure included using

the adjectives given in Table 8 which it was considered would be more certainly a part of the vocabulary of early adolescents, and using a dichotomous response to each adjective, instead of ranking them all.

The adjectives were evaluated using a sample of 28 normal fourteen year old boys. A summary of reliability and acceptability of the adjectives is given in Table 8. On the basis of, seven day test-retest reliability, the proportion of choices in which each adjective was accepted in ideal self description, and the proportion of choices in which each adjective was shown to fit the subjects' self-ideal, six adjectives were eliminated from the final analysis. In the checklist booklet the adjectives were set out on separate leaves beside an instruction for the subject to describe himself under a defined condition. Adjective order was reversed on successive pages to reduce response sets.

The first five instructions were related to the way the subject felt when talking to significant other people, e.g.:

"Tick the words which describe the way you feel when you are talking to your mother, and put a cross beside the ones which do not describe the way you feel."

Similar instructions were used for "your father", "your best friend", "a girl you like", and "your head teacher".

The sixth and seventh instructions referred to descriptions of (a) the subject as a child, and (b) his ideal self.

TABLE 8

Item selection data for all initial adjectives

	Adjective	Reliability	% Accepted in Ideal Self Des- cription	% Accepted throughout Checklist
Favourable	Serious	.36	75.00	69.35
	Happy	.40	96.43	29.76
	Friendly*	.28	98.21	58.78
	Manly	.44	91.07	22.62
	Goodlooking	.53	94.64	89.73
	Careful	.41	89.29	35.57
	Helpful	.45	96.43	30.80
	Kind*	.41	98.21	15.48
	Tidy	.50	96.43	67.11
Unfavourable	Foolish*	.32	1.79	73.81
	Cold	.43	3.57	18.90
	Quiet	.51	21.43	77.08
	Small	.55	7.14	64.58
	Lonely	.41	5.36	16.07
	Uneasy	.50	5.36	60.57
	Dirty*	.47	0.00	8.78
	Slow	.49	3.57	22.62
	Selfish	.36	3.57	11.16
	Silly*	.36	1.79	16.52
	Afraid*	.25	1.79	6.99
	Awkward	.44	10.71	83.18

* Rejected.

- (a) "Tick the words which describe what you were like as a child, and put a cross beside the words which do not describe the way you were as a child."
- (b) "Tick the words which describe the way you would most like to be, and put a cross beside the words which do not describe the way you would like to be."

The five remaining instructions referred to the same "significant people" as the first five. However, in the later instructions, the subject was asked to indicate what the person referred to thought he was like. Thus the statement for "mother" was:

"Tick the words which describe what your mother thinks you are like and put a cross beside the words which do not describe what she thinks you are like."

For analysis, the responses of each subject were converted into a matrix of twelve columns of fifteen digits, with a one to indicate a tick and a zero to indicate a cross. This matrix was read into the computer and the three measures of self impression were derived as follows:

(i) Role Variability

The degree of variation found in the subject's descriptions of himself when talking to each of the five other people;

(ii) Personal Continuity

The degree of similarity between the subject's description of himself as a child, and his descriptions of himself talking to the five other people;

(iii) Interpersonal Congruence

The degree to which the subject's description of himself talking to the five other people are similar to his descriptions of what he believes those people think he is like.

In addition to using the relevant correlation technique for finding scores, a simple arithmetic total was computed by giving a score of one for each instance of similarity found when making the comparisons outlined for each measure. As no important differences were found when comparing scores obtained by the two techniques (correlations ranged between .87 and .93) the arithmetic score was discarded. The correlation score is independent of the number of comparisons made and is therefore immediately comparable with scores which may be obtained in similar studies. It may be observed that since the measures were calculated from differences in response to the same adjective within subjects, the social desirability of adjectives was held constant within each calculation.

In order to obtain some measure of the capacity of the checklists to detect any lack of integration in self description, a comparison was made of the scores of the 22 delinquent boys among whom such disintegration might be expected, and a group of 72 normal boys. Of the three sets of scores only interpersonal congruence scores were significantly different in the two groups.

(Normal group $\bar{X} = .43$, S.D. = .19, delinquent group $\bar{X} = .30$, S.D. = .21, $t = 2.64$, $df = 92$, $p < .01$). The measure of interpersonal congruence was therefore the only one retained for the main analysis. Further discussion on this point is given on page 60.

Details of computation of Interpersonal Congruence Scores

Each subject's responses to each adjective in the two referent situations relating to each "other person" were compared. The results were gathered into 4 outcome groups, and expressed as a fourfold table, thus:

		What S believes the other person thinks S is like	
		1	0
What S feels like when talking to the other person	1	A	B
	0	C	D

For each subject $A + B + C + D = 75$, the total number of comparisons made. The phi coefficient was computed from the fourfold table by the formula:

$$r_{\phi} = \frac{(BC - AD)}{\sqrt{(A + B)(C + D)(A + C)(B + D)}}$$

Possible outcomes and their interpretations are as follows:

$r_{\text{phi}}^{\text{High} +}$ = High degree of similarity between perception of self and perception of other's opinion of self.

$r_{\text{phi}}^{\text{Zero}}$ = No relationship between perception of self and perception of other's opinion of self.

$r_{\text{phi}}^{\text{High} -}$ = Considerable dissimilarity between perception of self and perception of other's opinion of self.

Full details of the adjectives, referents and instructions for this measure are given in Appendix 3.

Self Evaluation

Measures of self evaluation were based on the extent to which each subject described himself in terms congruent with (a) his description of his ideal-self, and (b) the ideal-self descriptions of the normal group used in the original evaluation of the adjectives. These measures did not discriminate between the delinquent group and a group of 72 normal boys and were therefore not included in the final analysis.

It was observed that of the five measures of self description, only interpersonal congruence showed the presence of any anticipated lack of integration, and that this measure relied on socially as well as personally relevant description. Images of the self at the present time, as a child, and as the subject would like it to be, appear to be held substantially, even

defensively, uniform, as Butler and Haig (1954) and Block and Thomas (1955) have suggested, whereas the images which rely on social validation appear to be more readily subject to variation across the sets of instructions. The suggestion that social validation may be an important contributing factor in increasing the sensitivity of self descriptive techniques is supported by examination of the other measures developed in the study, in which capacity to discriminate between normal and maladjusted boys was found, since these are seen to involve considerable interpersonally relevant content.

It is therefore suggested that whereas it may be possible under stress to retain an impression of integration in relation to internal needs and standards, the constant invalidation of such images in a social context makes this a much more sensitive area in which to seek signs of disintegration. The comparative insensitivity of the measures of role variability, personal continuity, and self evaluation, to variation in adjustment therefore appear to be based on the nature of the comparisons made within them, an observation which supports their elimination from the final analysis.

A more parsimonious interpretation of the data is that the group of delinquents is not susceptible to a disintegration of self image at the personal level, but only in the interpersonal sphere. If this more restricted interpretation of the data (which was not considered at the outset), is valid, then some doubt

may be cast on the present rationale for the rejection of measures.

Psychosocial Health

An objectively scored measure of ego identity has been reported by Rasmussen (1964), who examined the relationship of scores on a scale he had developed with scores on a measure of psychosocial effectiveness in daily living. As the basis for his scale, Rasmussen used derivatives of Erikson's criteria of health and ill-health over the first six psychosocial stages. These derivatives are set out for each stage in specific terms (Erikson, 1959, pp. 140-148), and provide a means to study the resolution of earlier crises through presently manifested attitudes and behaviour, rather than by reconstructing psychological relationships from infancy through adolescence. In the present study the term "psychosocial health" has been chosen to replace Rasmussen's "ego identity", since Erikson's concept of ego identity is global in nature, while the measure developed by Rasmussen on which the present measure is based is designed to assess just one major area within the total process of identity achievement.

For the present research, twenty of Rasmussen's items relating to the first five developmental stages were changed to suit fourteen year old subjects. The items chosen were subjected to an item analysis using the method given by Magnusson (1967)

with formulae for reliability (3) and validity (6) indices given on page 30.

The criterion groups used for the item analysis were the same 27 normal and 22 delinquent boys used for the previously described analysis. It was considered that the fact that the delinquents were inmates of Child Welfare institutions was an indication of a lack of "psychosocial effectiveness" (Rasmussen, 1964), and that on the basis of Rasmussen's results this was an acceptable criterion of ego identity.

Three successive analyses were made, reducing the number of items used in the final analysis from twenty to fourteen. Table 9 shows that the amount of movement in the reliability indices was relatively small, and the items rejected were the least useful in the first analysis. Results of the first analysis are shown graphically in Figure 4 and details of the reliability and validity indices are given in Table 9.

In this instance the choice of items relating to aspects of Erikson's criteria of health and ill-health, and their close relation to items which had proved satisfactory in Rasmussen's measure, provide the link between the response clustering of the criterion groups and the variable under discussion. This measure may therefore be regarded as a rational-empirical scale of "psychosocial health".

A list of the items used in the survey is given in

TABLE 9

Results of item analysis for the psychosocial
health items

Item	Validity Index	20 Items		14 Items	
		Reliability Index	<u>Validity</u> Reliability	Reliability Index	<u>Validity</u> Reliability
1	.07	.13	.54	.13	.54
2	.06	.19	.32	.17	.35
3	-.09	.17	.53	-	-
4	.13	.19	.68	.25	.52
5	-.06	.01	-6.00	-	-
6	.08	.05	1.60	.08	1.60
7	.01	.13	.08	-	-
8	.02	.14	.14	-	-
9	.05	.16	.38	.18	.33
10	.15	.19	.79	.18	.83
11	.11	.09	1.22	.11	1.00
12	-.03	.19	-.16	-	-
13	.13	.22	.59	.23	.57
14	.28	.30	.93	.29	.97
15	.08	.08	1.00	.12	.67
16	.09	.09	1.00	.15	.60
17	.13	.15	.87	.19	.68
18	.12	.22	.55	.23	.52
19	.17	.23	.74	.26	.65
20	-.03	.07	-.43	-	-

FIGURE 4

Graphed results of first item analysis
of psychosocial health items

Appendix 4.

Identity Achievement

Marcia (1966) developed an instrument to assess the degree to which an adolescent has progressed from the initial adolescent state of identity diffusion towards identity achievement. An individual's position in this progression is based on two criteria. These are "crisis", the period of involvement in choosing among meaningful alternatives in political and religious ideologies and in occupation, and "commitment", referring to the degree of personal investment which an individual exhibits in the choice he has made. Marcia uses these criteria to fix the individual in one of four status divisions from identity diffusion through to identity achievement. He illustrates these divisions by showing how a person changes in his vocational and ideological outlook.

The identity diffusion period, which is encountered at the onset of adolescence, is marked by a lack of both vocational and ideological interest or commitment. At a later stage (foreclosure) the adolescent begins to express a form of commitment, but to his parents' rather than to his own beliefs and aspirations. In that situation the individual is marked by a certain rigidity since he has no "rational" basis for his convictions at this point and may feel threatened if they are questioned in any way. The next stage in adolescent development is the crisis period (moratorium) itself. Here is the true "adolescent", engaged in an active struggle to

come to terms with the demands of society in general, his parents, his own interests, and with his own capabilities. Finally the individual comes to a conclusion about his vocational aspirations and interests and the nature of his ideology. His former beliefs and aspirations have been examined, evaluated, and reorganized, leaving him free to act in a coherent manner and without an undue sense of threat if his newly organized systems are questioned.

The measure of identity achievement differs from the other measures of adjustment and ego identity used in the research in that no expectation is held that groups of fourteen year old boys should differ at this stage in the scores they achieve. Any group of fourteen year olds may be expected to contain boys showing a wide range of occupational choice and commitment. The boys may vary from those who look forward to a further six or more years of education, with no firm commitment to any career, to those with the imminent prospect of leaving school who must make decisions which may have considerable consequences for their whole working life. This raises an issue not covered by Marcia, who was concerned with a university student sample. Some degree of commitment to an occupational choice may be regarded as realistic and positive in a fourteen year old boy who will leave school in the near future, whereas in a boy with many years of education in front of him such commitment may be completely unnecessary, and may in fact provide an undesirable restriction on later choices.

The question of whether boys who make early commitments

are in a strong position to make the later adjustments required, as when a rural Maori moves to a city, has been discussed in relation to Maori adolescents by Ritchie (1956) who pointed out that early identity achievement may be related to limitations in intellectual and imaginative experience, and to superficial social and affective relations.⁴ To be most effective, scores from this measure should be used longitudinally, when and if individuals do move to a city.

The procedure used by Marcia was altered in two respects. First his semi-structured interview was replaced by a structured interview with the majority of answers required being simply "Yes" or "No". Interpretations of answers were standardized and the score was obtained from an answer summary sheet by means of a template. Also, the specific questions on religious and political ideology were replaced by questions designed to investigate the extent to which the subject was thinking independently of his parents' code.

This measure has been given only face validation at this time, though it is anticipated that more detailed rational-empirical, and construct validation would be possible in follow up studies.

The questions used are given in Appendix 5.

4. See the discussion on pages 17 and 18.

CHAPTER III

THE SURVEY

Prior to the main survey that was carried out in 1968, the complete battery of interview questions and questionnaires was administered to five Form II boys from a Wellington primary school. The need for a number of minor changes in instructions and test booklet layout became apparent at that time and these changes were introduced into the main study. The approximate time requirements for administration which were to be used in later planning in the schools were also obtained at this time. These approximate time requirements were:

1. For the interview, approximately twenty minutes, with variations from fifteen to thirty minutes.
2. For the questionnaires, (read aloud) approximately fifty minutes. (During the main survey this part of the programme was administered in each school in one session during a double period.)

It was decided that as far as was possible, interviews should precede group testing to establish rapport and to involve the subjects personally in the study before introducing the group tests.

The principal consideration determining the choice of a rural area for the study was the need to obtain an adequate sample of fourteen year old Maori boys whose natal area was both relatively homogeneous in its social characteristics and reasonably well defined geographically. A further consideration was that the area should be one from which there has been some migration to Wellington so that the rural and urban populations from which the samples were to be drawn might reasonably be regarded as originating and recipient groups respectively in the study of migration. Two major regions, Taranaki and the East Coast, were suggested by the data given by Jane Ritchie (1964, p.16) since these areas account for more than fifty per cent of the migrants in her study. It was decided to draw the rural samples from the East Coast area north of Gisborne. This area is generally rural, with a series of small country townships, each of which has a secondary school drawing its pupils from the surrounding district. The region is well defined geographically, its boundaries to the south being the Gisborne-Opotiki highway, to the west the Raukumara Range, and to the north and east, the Pacific Ocean.

When preliminary information from the East Coast area was analyzed, it became apparent that although an adequate sample of Maori boys was available in the area, there were few Europeans. The survey was therefore extended to European boys attending the secondary school at Wairoa. The catchment area for this college extends from Mahia in the east, along the coast to Mohaka, and

north to Lake Waikaremoana.

The boundaries of the urban area surveyed enclose the Greater Wellington area, from Upper Hutt and Plimmerton in the north to Island Bay in the south. These survey areas are indicated on the map (Figure 5).

As it was planned to gather data at schools, approval for the programme was first obtained from the Superintendent of the Northern and Central Regions of the Department of Education, and the Chief Inspector of Maori Schools. The Controller of Maori Affairs, the Chief Psychologist of the Department of Education and the Superintendent of Child Welfare were also advised of the nature and aims of the study at this time. When Departmental approval was obtained, the Wellington, South Auckland, and Hawkes Bay Education Boards were approached for permission to request the co-operation of their schools in the study.

In each case, the survey itself was initiated by a circular letter sent to all schools in the areas selected for the survey.

Of the 10 urban public secondary schools approached, 6 indicated that they were both willing and able to participate in the study. From the fourteen year old Europeans in each school, between 20 and 25 were randomly chosen to participate in the study. All Maori fourteen year olds (identified on the basis of their own recognition of themselves as Maoris) were included. The overwhelming majority of fourteen year old boys are in secondary schools and

FIGURE 5

North Island, New Zealand
Showing the areas covered by
the Survey

----- Boundary of survey area

only 4 primary or intermediate schools indicated that they had more than one on their rolls. All these schools were visited and all their fourteen year olds were included in the sample.

In the rural survey 6 secondary and four primary schools were visited. All available subjects were included, with the exception that Europeans only were included in the survey at Wairoa. Full details of the numbers of subjects in all categories are shown in Table 10.

TABLE 10

Numbers of subjects in each group

Maoris = 104

Rural = 75

Stayers* = 24

Leavers** = 51

Urban = 29

Migrants from Country = 14

Migrants from City = 7

Non-Migrants = 8

Europeans = 202

Rural = 58

Stayers* = 24

Leavers** = 34

Urban = 144

Migrants from Country = 26

Migrants from City = 30

Non-Migrants = 88

* Intending to remain at home in the country after leaving school.

** Intending to move to some other part of New Zealand after leaving school.

CHAPTER IV

RESULTS AND DISCUSSION

Analyses that relate to the Predictions

An examination of the literature on urban migration and acculturation led to the suggestion (p.13) that differences between Maori and European cultural background and between urban and rural residence might produce a predictable pattern of scores on the various measures of adjustment. The specific prediction was that the scores would be ranked as follows:

Rural Maoris < Urban Maoris < Rural Europeans < Urban Europeans

The table of ranked scores for the groups on the seven adjustment variables (Table 11), shows considerable support for the prediction. Page's L test for linear ranks (Page, 1963) shows that the prediction is supported beyond the .001 level.

Though ranking of the groups on the adjustment measures shows a high level of consistency, it does not indicate the magnitude of differences between the scores obtained by the groups. The mean scores of all groups are in fact very similar and on only three of the seven measures does one way analysis of variance show differences that are both in the predicted direction and signifi-

TABLE 11

Ranks of Maori and European, Rural and Urban Groups,
in relation to Adjustment Variables*

Variable	Ranks			
	Rural Maori	Urban Maori	Rural European	Urban European
Educational Achievement	1	2	3	4
Educational Aspiration	1	2	3	4
Occupational Aspiration	1	2	4	3
Social Adequacy	1	2	4	3
Psychosocial Health	1	2	3	4
Interpersonal Congruence	1	2	3	4
Alienation	1	2	4	3
Predicted Rank	1	2	3	4

L = 207, $p < .001$

* These ranks have been derived from Tables 14, 16, 18, 19, 21, 23 and 25.

cant beyond the .05 level. This result is consistent with the conclusions of Burchinal, Hawkes and Gardner (1957) and Fugitt (1963) that differences between urban and rural children are relatively small, but the consistency of the actual rankings lends support to the contention of Schmore (1966) that urban-rural differences have not disappeared and are still worth studying as variables influencing behaviour.

Results which were not in accord with the prediction were the ranks for occupational aspiration, alienation and social adequacy of the European groups, where it was found that the rural scores were higher than urban scores. Although these unexpected differences were not significant it is felt that they fit together in a manner which may be related systematically to the differences between Maori urban and rural groups on the same measures. Merton (1957) has suggested that high anomia is associated with differences between culturally prescribed aspirations and socially structured avenues for realizing these aspirations. Meier and Bell (1959) on the other hand have suggested that it is "subjective perception" of the social situation which determines the level of anomia, a combination of social and individual factors which is in accord with the theory of McClosky and Schaar (1965) discussed in detail on page 22. When the initial predictions were made, it was suggested that urban residence offers greater social and occupational opportunities than rural residence and this was used in predicting the ranks for all the groups. However it may be that the urban

European boys' perception of their goals is less optimistic than is that of the rural European samples, and that this curbed optimism may be reflected in the restrained occupational aspirations and greater alienation of urban as compared with the rural European samples. Such an interpretation accords with the contention of Kuvlesky and Ohlendorf (1968) who have suggested that when asking for occupational aspirations it is common to receive responses which relate not to the real desires of subjects but rather to the results of tempering these desires in the light of perceived reality. By comparison with his European counterpart the urban Maori boy is more likely to be a member of a migrant family which has moved to the city in search of upward mobility. Smelser (1963) has shown that the adolescent children of migrant families are high on aspiration and self appraisal, and Burchinal and Jacobsen (1963) and Balan (1968) have shown that while migrants from rural areas are themselves likely to hold lower status positions, their sons' upward mobility is promoted by the opportunity to grow up in the city. It may therefore be expected that urban Maori boys should show lower levels of alienation than the rural Maori boys.

A similar pattern of results to that found here has been found in the United States by Killian and Grigg (1962) who used different theoretical bases to interpret the differences between Negro and White, rural and urban groups; however in the present instance, the subjective perception of socially structured avenues for achieving culturally prescribed goals, appears to be sufficient

to account for the different levels of occupational aspiration and alienation between both Maori and European, rural and urban groups.

The measure of social adequacy, which showed the same pattern as the measures of alienation and occupational aspiration, is significantly related to alienation ($r = .31$, $p > .01$), and it is felt that there may be a common element of "social disenchantment" in individuals who either "subjectively perceive" or have actually encountered in the social environment barriers to the achievement of their goals.

A prediction made on page 17, was that the interaction between the effects of migration and urban residence would not lead to disadvantage systematically associated with urban migration. In order to examine the effect of urban migration, comparisons were made between the rural samples and those boys who were known to have moved from the country to the city. Comparing Maori and European samples separately on the seven adjustment variables produced the results in Table 12. In 5 of the 14 comparisons made, migration to the city was associated with lower scores, and in 9 instances with higher scores. In no case was the difference between the migrant and non-migrant groups significant. No significant difference was found between the Maori and European samples.

It is possible that the results found are not produced by the interaction of minimal migration problems with a degree of increased opportunity, but rather by the interaction of high levels

TABLE 12

Differences between scores of comparable migrant
and non-migrant groups*

Variable	Maori		European	
	Rural Samples	Urban Migrants from the country	Rural Samples	Urban Migrants from the country
Educational achievement	31.04 $t = 0.43, df = 87, NS$	32.29	39.03 $t = 0.03, df = 82, NS$	38.96
Educational aspiration	Low 40	5	Low 15	4
	High 35 $Chi^2 = 1.47, df = 1, NS$	9	High 43 $Chi^2 = 1.13, df = 1, NS$	22
Occupational aspiration	Low 55	8	Low 33	14
	High 20 $Chi^2 = 1.50, df = 1, NS$	6	High 25 $Chi^2 = 0.07, df = 1, NS$	12
Social adequacy	265.59 $t = 0.47, df = 87, NS$	263.36	271.47 $t = 0.22, df = 82, NS$	272.35
Psychosocial health	9.69 $t = 0.05, df = 87, NS$	9.71	10.60 $t = 0.90, df = 82, NS$	10.96
Interpersonal congruence	.37 $t = 0.65, df = 87, NS$	.34	.42 $t = 0.30, df = 82, NS$	.40
Alienation	35.68 $t = 0.94, df = 87, NS$	37.50	38.62 $t = 0.07, df = 82, NS$	38.54

* With the exception of data on Educational Aspiration and Occupational Aspiration, all comparisons are between group mean scores. SDs are to be found in Tables 14, 16, 19, 23 and 25.

of adjustment (of a selected group who migrate) with substantial migration problems. Schnore (1966, p.139) maintains that evidence for selective effects in migration is "somewhat sketchy" for the United States; however he discusses some Swedish data from Neymark (1963) which indicates that higher intelligence is associated with frequency of migration while the information given on United States samples by Sewell, Haller, and Portes (1969) clearly suggests the presence of such effects. As New Zealand data on this effect are not available it is suggested that there is no clear evidence that the present sample of urban migrants (who are in fact, more accurately described as "the country-born children of urban migrants") are not typical of the rural samples, and that the absence of any apparent reduction in adjustment levels following migration may be attributed to the interaction of minimal problems with increased opportunities. This interpretation accords with that of Lewis (1952) who found that his indicators of personal and social adjustment showed higher scores for urban migrants than for rural samples.¹ Lewis was able to point to a number of

-
1. Indices of breakdown used by Lewis (1952) are related to the strength of family life. He reports that: (a) Family cohesiveness and extended family ties increase in the city; (b) fewer cases of separation and divorce occur; (c) no cases of abandoned mothers and children were found; (d) no cases of persons living alone or of unrelated families living together were found; (e) household composition is similar to village patterns, except that more extended families live together in the city; (f) there is a general rise in the standard of living in the city; (g) religious life in the city becomes more catholic and disciplined.

characteristics of the migration situation² which tended to minimize the extent of the discontinuity experienced by migrants in moving from the rural into the urban community. The results are also supported by Jane Ritchie's conclusion after studying Maori migrants to Wellington that the process of urbanization appeared to be proceeding without the occurrence of substantial personal and social breakdown (1964, p.169).

It remains for future study to show whether selection processes in migration are in fact leading to the better adjusted members of the rural groups moving to the city. The operation of such processes would result in minimizing adjustment problems of migrants, and also in the accentuation of rural-urban differences by lowering mean adjustment levels in the rural areas.

It was also suggested in the introduction that some assessment of a potential problem might be made by comparing the rural Maori with the urban European group since a large proportion of the rural Maori sample may be expected to migrate later to communities in which urban Europeans are dominant. It was suggested that the indication of potential maladjustment would lie in the difference between the potential migrant and recipient groups. In order to obtain some information about the nature of such differences the rural Maori and urban European groups were compared (see Table 13) on the seven adjustment variables. The results show that

2. See page 25.

TABLE 13

Differences between the rural Maori and
urban European Groups on measures of adjustment

Variable	Rural Maori		Urban European		df	t
	Mean	SD	Mean	SD		
Educational achievement	31.04	13.64	41.84	11.14	217	5.91**
Social adequacy	265.59	17.38	270.90	17.96	217	2.12*
Psychosocial health	9.69	2.07	11.10	1.62	217	5.13**
Interpersonal congruence	.37	.21	.44	.19	217	2.16*
Alienation	35.68	7.12	37.70	5.33	217	2.16*
						Chi ²
Educational aspiration	High	13		69	2	39.85**
	Medium	22		54		
	Low	40		21		
Occupational aspiration	High	14		46	1	4.37*
	Low	61		98		

* p < .05

** p < .001

on every measure the rural Maori group falls significantly below the urban European sample.

As potential migrants in later adolescence or adulthood, members of the rural Maori sample (more than two thirds of whom indicated an intention to migrate) are significantly disadvantaged when compared with the urban European group in terms of their competence in educational achievement and aspiration, occupational aspiration, and in personal and interpersonal adjustment. The evidence suggests that problems involved in Maori urban migration may stem not so much from the actual movement to the city as from the disadvantages that develop from a combination of Maori cultural backgrounds and rural education and upbringing.

Detailed Analyses of Results from Individual Measures

Alienation

The results are summarized in Table 14. The Maori sample ($\bar{X} = 36.34$, $SD = 6.99$) shows a higher level of alienation than does the European sample ($\bar{X} = 37.97$, $SD = 5.28$). With $t = 2.09$ and $df = 304$ the difference between these scores is significant beyond the .05 level. As the rank order table (Table 11) shows, the predicted order of scores for the Maori and European, rural and urban groups on the alienation measure was not found. A rationale to account for the observed rank order has been given on page 77.

TABLE 14

Group scores on the measure of alienation

	Mean	S.D.
Maori Sample	36.34	6.99
Rural Maoris	35.68	7.12
Stayers	34.33	6.51
Leavers	36.31	7.30
Urban Maoris	38.03	6.36
Migrants from Country	37.50	6.59
Migrants from City	39.71	6.80
Non-Migrants	37.50	5.20
European Sample	37.97	5.28
Rural Europeans	38.62	5.12
Stayers	38.33	5.30
Leavers	38.82	4.97
Urban Europeans	37.70	5.33
Migrants from Country	38.54	5.15
Migrants from City	36.23	5.21
Non-Migrants	37.95	5.32

A one way analysis of variance (Table 15) shows that the observed differences between the groups are significant beyond the .05 level.

TABLE 15
Summary of analysis of variance of data
on alienation

Source	df	MS	F
Between groups	3	111.01	3.17*
Within groups	302	35.02	
Total	305		

*p < .05

To test the significance of the Maori-European Urban Rural interaction suggested by these ranks and shown in detail by the data summarized in Table 14, a two way analysis of variance was undertaken, using the harmonic mean of the cell frequencies, in the procedure outlined in detail by Winer (1962) to correct for the unequal cell frequencies. With $F(1, 302) = 4.25$, this interaction is significant beyond the .05 level.

Social Adequacy

Group scores derived from this measure are summarized in Table 16. The total Maori sample ($\bar{X} = 266.43$, $SD = 18.46$), has a lower mean score on social adequacy than does the European sample ($\bar{X} = 271.06$, $SD = 18.25$). With $t = 2.08$ and $df = 304$ this difference is significant beyond the .05 level. The prediction (page 13) that the scores on social adequacy should rise from rural Maoris through to urban Europeans is not supported by the data as the rural European score is slightly above that for urban Europeans and a one way analysis of variance (Table 17)

TABLE 16

Group scores on the measure of Social Adequacy

	Mean	S.D.
Maori Sample	266.43	18.46
Rural Maoris	265.59	17.38
Stayers	267.12	17.71
Leavers	264.84	17.16
Urban Maoris	268.62	20.85
Migrants from Country	263.36	15.91
Migrants from City	272.29	9.84
Non-Migrants	274.63	30.86
European Sample	271.06	18.25
Rural Europeans	271.47	18.95
Stayers	273.25	16.38
Leavers	270.21	20.47
Urban Europeans	270.90	17.96
Migrants from Country	272.35	16.44
Migrants from City	271.67	16.01
Non-Migrants	270.20	18.96

shows that the difference between the groups is not significant.

A two way analysis of variance to test the Maori-European, Urban-Rural interaction showed that it too was not significant.

TABLE 17

Summary of analysis of variance of data
on social adequacy

Source	df	MS	F
Between groups	3	558.53	1.65 (N.S.)
Within groups	302		
Total	305		

The mean scores of the subgroups within the Maori sample fall consistently below 270 with the exception of the two groups of boys who have lived in the city at least since commencing school. The scores for these groups (migrants from other cities, $\bar{X} = 272.29$, $SD = 9.84$, and non-migrants, $\bar{X} = 274.63$, $SD = 30.86$) contrast with that of urban migrants from the country ($\bar{X} = 263.36$, $SD = 15.91$) whose mean score on social adequacy is the lowest of the groups studied. A pattern is therefore discernable within the Maori sample, in which movement to the city is associated with low scores on social adequacy but in which protracted and life long residence in the city is associated with higher scores.

Education

Data about the education of subjects were obtained from a number of sources. The interview sought information on attitudes towards the school, satisfaction with school progress, and the school subjects which the boys considered to be the weakest and strongest (see Appendix 6). During the group testing sessions the boys were also asked to indicate their educational aspirations. To express these aspirations they chose one of three alternatives, the age at which they intended to leave school, the number of years they planned to spend at secondary school or the highest qualification they hoped to obtain before leaving. It was hoped at the outset that the grades reported on school progress cards would indicate the strengths and weaknesses of the various groups. Unfortunately, the wide range of systems used to maintain these records made detailed comparisons impossible. In some cases only a few academic subjects had been rated while in others there was a rating on almost every activity undertaken by the boy in his schooling. The practice in some secondary schools of not completing these cards each year also hampered attempts to obtain comparable scores throughout the groups. Finally, the unfavourable attitude shown by secondary school staff towards the validity of the ratings on the cards further reduced confidence in them. Despite this, a score was derived from these records. It is a composite or 'halo' score reflecting teacher attitudes towards the

educational achievement of each boy when he was last rated at a primary or intermediate school (where the cards were consistently completed). The first eight ratings from the Form II section of the card were summed to give an initial total. This total was converted to a percentage after being subtracted from 40 to reverse the direction of the original ratings in which 1 is regarded as high and 5 is low. Details of the results of these questions on education are set out below.

School attitudes

(1) Attitude toward the institution (Table 18, Column 1)¹

There were few differences between the groups when responses to the question "Do you like school?" were analyzed, though more rural than urban European boys express negative feelings (chi square = 4.63, $p < .05$). These results are in accord with those of Lovegrove (1966) who in fact found no significant differences between any of the groups compared in his study.

(2) Attitude toward school progress (Table 18, Column 2)

There is a substantially greater tendency for Maori boys to express satisfaction with their school progress than was observed among the Europeans (chi square = 5.16,

1. In the discussions in this section, where chi square values are used in the comparison of small groups, Yate's correction for continuity has been applied to the chi square computation. Except where otherwise indicated, df in these computations is 2.

TABLE 18

Analysis of data related to education

School Attitudes		(3) Educational Aspiration			(4) Best Subject		(5) Weakest Subject				
(1) Towards the Institution		(2) Towards Personal Progress		High	Med	Low	Academic	Other			
Positive		Negative									
Maori	93	11	86	18	35	51	81	23	98	6	
European	179	23	143	59	70	36	157	45	189	13	
Chi Square	(ns)		5.16*		40.38***			(ns)		(ns)	
Urban Maori	24	5	18	11	5	13	11	19	10	28	1
Rural Maori	69	6	68	7	13	22	40	62	13	70	5
Chi Square	(ns)		11.95***		(ns)			(ns)		(ns)	
Urban European	132	12	97	47	69	54	21	113	31	133	11
Rural European	47	11	46	12	27	16	15	44	14	56	2
Chi Square	4.63*		(ns)		(ns)			(ns)		(ns)	
Rural Maori	69	6	68	7	13	22	40	62	13	70	5
Urban European	132	12	97	47	69	54	21	113	31	133	11
Chi Square	(ns)		14.42**		39.85***			(ns)		(ns)	

* p < .05

** p < .01

*** p < .001

$p < .05$), but this difference is largely due to the country Maori boys, 90% of whom indicated a feeling of satisfaction with their progress, whereas almost one third of the urban European boys expressed a general feeling of dissatisfaction.

Educational aspiration (Table 18, Column 3)²

As might be expected from the data on comparative levels of educational attainment of Maoris and Europeans (Forster and Ramsay, 1969), the European group aims for a higher level than does the Maori group (chi square = 40.38, df = 2, $p < .001$). There is also a tendency for urban boys to show higher educational aspirations than the country boys though it does not reach a significant level in either the Maori or the European samples.

Best and weakest subjects (Table 18, Columns 4, 5)

No significant differences were found between any of the groups in their nomination of subjects of greatest strength and weakness. Academic subjects were nominated in a majority of instances, while technical and other subjects (e.g., art, music, physical education) appear considerably more often as areas of strength than of weakness.

-
2. High level aspiration = leaving school at 18 yrs. or with U.E. or higher qualification.
Medium level aspiration = leaving school at 17 yrs. with School Certificate, or after 4 years.
Low level aspiration = leaving school at 16 yrs. or under, after 3 yrs. or less, or without formal qualifications.

Educational achievement (Table 19)

Comparison of the scores on the measure of educational achievement derived from teacher ratings shows a clear difference between the Maori ($\bar{X} = 31.76$, $SD = 12.69$) and the European samples ($\bar{X} = 41.03$, $SD = 12.37$). With $t = 6.11$ and $df = 304$ the difference between these means is significant beyond the .001 level. Examination of the subgroups within the Maori sample shows a range of mean scores from those of the rural "stayers" ($\bar{X} = 28.67$, $SD = 12.35$) through to the non-migrant urban group ($\bar{X} = 35.50$, $SD = 9.31$). The boys who indicated an intention to leave home ($\bar{X} = 32.16$, $SD = 14.06$) scored just above the "stayers", and at the same level as the members of the urban groups who had moved from the country ($\bar{X} = 32.29$, $SD = 9.22$). Very slightly above this group and just below the non-migrant city dwellers came the group of migrants from other cities ($\bar{X} = 34.14$, $SD = 10.09$). No clear pattern is visible among the European samples; but the trend suggested by the results from the Maori sample, for high achievers to be those considering moving from the country to the city, is also found in the rural European groups, where the differences between those intending to stay, ($\bar{X} = 33.83$, $SD = 14.01$) and those intending to leave ($\bar{X} = 42.71$, $SD = 14.24$) is significant beyond the .05 level ($t = 2.36$, $df = 56$).

The predicted rank order of the urban and rural Maori and European groups is clearly observed in Table 19. A one way analysis of variance (Table 20) shows that the differences between

TABLE 19

Group scores on the measure of educational achievement

	Mean	S.D.
Maori Sample	31.76	12.69
Rural Maoris	31.04	13.64
Stayers	28.67	12.35
Leavers	32.16	14.06
Urban Maoris	33.62	9.56
Migrants from Country	32.29	9.22
Migrants from City	34.14	10.09
Non-Migrants	35.50	9.31
European Sample	41.03	12.37
Rural Europeans	39.03	14.81
Stayers	33.83	14.01
Leavers	42.71	14.24
Urban Europeans	41.84	11.14
Migrants from Country	38.96	8.16
Migrants from City	44.80	11.79
Non-Migrants	41.68	11.43

the groups are significant beyond the .001 level..

TABLE 20

Summary of analysis of variance of data
on educational achievement

Source	df	MS	F
Between groups	3	2123.60	13.59***
Within groups	302	156.29	
Total	305		

*** $p < .001$

Examination of the differences between the groups taken in pairs in the order predicted shows that while the total predicted pattern is found at a high level of confidence, only the urban Maori-rural European difference is significant ($t = 2.06$, $df = 85$, $p < .05$).

The results related to educational achievement and aspiration indicate that the rural Maori group is well satisfied with its educational progress, though the actual level of achievement, and the level desired are substantially below that of the European boys with whom they would compete in an urban environment. By contrast members of the urban Maori group are higher in educational achievement and aspiration than are members of the rural Maori group, and much lower in expressed satisfaction with school progress. This suggests that whereas the rural Maori boys may be satisfied

with a low level of attainment, and have matched it with a low level of aspiration, the urban Maori group is characterized by high levels of aspiration, high achievement, suggesting perhaps an attempt to reach the levels aspired to, and a general sense of dissatisfaction with school progress which may relate to limited success in reaching the achievement levels desired. The pattern of satisfaction in relation to achievement and aspiration may be interpreted in terms of higher "comparison levels" among the urban than among the rural Maori samples. Dawson (1969) quoted from the discussion of exchange theories of attraction in Secord and Backman (1964), to define the comparison level as:

"some minimum level of expectation or deserts ... This level is influenced by his past experience in this relation, his past experience in comparable relations, his judgement of what outcomes others like himself are receiving, and his perceptions of outcomes available to him in alternative relations."
(Secord & Backman, 1964, p.253)

Dawson applied the concepts of comparison level to a study of Aboriginal Australians, producing evidence that increasing exposure to urban influences results in the comparison level rising, with a consequent increase in dissatisfaction with the disadvantaged position held by Aborigines in Australian society. There appear to be some similarities between the position of Aboriginal Australians and Maoris as they move into the city and a longitudinal study designed to examine the relationship between urban migration, changes in comparison levels, and patterns of achievement, aspiration, and

satisfaction is indicated.

Occupation

Occupational commitment (Table 21, Column 1)

During the interview each subject was asked what occupation he intended to take up on leaving school. Of the total sample, 70 per cent named an intended occupation. There were no differences between any of the groups studied with regard to their being able to name an occupation.

Occupational aspirations (Table 21, Column 2)

In contrast to educational aspiration there were only small differences between the groups when their choice of occupation was classified into one of two status levels ("higher status" including professional and clerical, and "lower status" including trades and labouring). The product moment correlation between culture and aspiration is .11 which with $n = 306$ is just significant at the .05 level (see Table 30), and it is only when rural Maoris and urban Europeans are compared that a significant difference in aspirations appears.

Occupational aspirations of friends (Table 21, Column 3)

The knowledge of the boys about the occupations of their friends was sought to provide some indication of its influence on differences in the boys' own occupational aspirations. No relationship was found between the occupational aspiration of boys,

TABLE 21

Analysis of data related to occupational orientation

	Occupational Commitment		Occupational Aspiration		Occupational Aspiration of Friends	
	Yes	No	High	Low	High	Low
Maori	77	27	22	82	36	68
European	138	64	65	137	92	110
Chi Square	(ns)		(ns)		(ns)	
Urban Maori	21	8	8	21	16	13
Rural Maori	56	19	14	61	20	55
Chi Square	(ns)		(ns)		7.51**	
Urban European	98	46	46	98	67	77
Rural European	40	18	19	39	25	33
Chi Square	(ns)		(ns)		(ns)	
Rural Maori	56	19	14	61	20	55
Urban European	98	46	46	98	67	77
Chi Square	(ns)		4.37*		8.12**	

* p < .05
 ** p < .01
 *** p < .001

and the occupational aspirations they attribute to their friends ($r = .01$). Though the result of the chi square computation shows no significant difference between Maoris and Europeans, a barely significant correlation ($r = .12$, $p < .05$) is found between culture and the occupational aspiration attributed to friends. In comparing urban and rural Maoris it is seen that the urban group more frequently attribute higher occupational aspirations to their friends (chi square = 7.51, $p < .01$).

Migration

Contact with migrants (Table 22, Columns 1 and 2)

Though the proportions of Maoris and Europeans who report having friends of the same age who have moved away are almost equal, a greater proportion of members of the Maori than of the European sample refer to older friends who have done so (chi square = 3.87, $p < .05$). When rural and urban samples are compared, differences in migration contact are very marked, with the rural samples, both Maori and European, indicating a significantly higher number of migrant friends than is shown by their city counterparts.

Migration intentions

The high level of migration contact indicated by the rural samples, is clearly reflected in the frequency with which (when compared with the urban groups), they indicate their own orientation towards migration. The attitude currently held by each boy

TABLE 22

Analysis of responses to questions on migration

Contact with Migrants				Intentions on completing Schooling								
Contemporaries Migrated	Older Friends Migrated	Intends to leave Home		Intends to break school friendships		Main Centre	Other	Strength of intention to Leave				
		No	Yes	No	Yes			Low	High			
Maoris	55	49	76	28	45	59	83	21	51	53	35	69
Europeans	119	83	167	35	135	67	181	21	91	111	113	89
Chi Square	(ns)		3.87*		15.74***		6.58*		(ns)		13.65***	
Urban Maoris	20	9	25	4	21	8	24	5	18	11	14	15
Rural Maoris	35	40	51	24	24	51	59	16	33	42	21	54
Chi Square	4.17*		(ns)		13.92***		(ns)		(ns)		3.85*	
Urban Europeans	93	51	125	19	111	33	127	17	71	73	91	53
Rural Europeans	26	32	42	16	24	34	54	4	20	38	22	36
Chi Square	6.67**		5.98*		23.78***		(ns)		(ns)		10.71**	
Rural Maoris	35	40	51	24	24	51	59	16	33	42	21	54
Rural Europeans	26	32	42	16	24	34	54	4	20	38	22	36
Chi Square	(ns)		(ns)		(ns)		5.36*		(ns)		(ns)	

* p < .05

** p < .01

*** p < .001

A much greater proportion of country boys than city boys expressed an intention to leave home, a tendency common to both Maori boys (chi square 13.92, $p < .001$) and European boys (chi square 23.78, $p < .001$). No differences were found between country and city dwellers with regard to the proportion indicating an intention to maintain contact with school friends after leaving school.

Probable destination (Table 22, Column 5)

Analysis of probable destinations in the event of migration after leaving school shows no differences between any of the groups with regard to the proportion who would move to main centres (Auckland, Hamilton, Wellington, Christchurch, Dunedin, and Invercargill) rather than to other areas, but an interaction effect is suggested in that a larger proportion of rural than urban Maoris are oriented towards the main centres (chi square 2.73, $p < .10$) while the converse is true for Europeans (chi square, 3.67, $p < .10$).

Psychosocial Health

The results in Table 23 show that the Maori sample ($\bar{X} = 9.74$, $SD = 1.99$) scores lower in this measure than the European sample ($\bar{X} = 10.96$, $SD = 1.69$). With $t = 5.35$ and $df = 304$, this difference is significant beyond the .001 level. Examination of the mean scores for the rural and urban Maori and European groups shows the predicted ranking. A one way analysis of variance (Table 24) supports the predicted ordering at a highly significant

TABLE 23

Group scores on the measure of psychosocial health

	Mean	S.D.
Maori Sample	9.74	1.99
Rural Maoris	9.69	2.07
Stayers	9.29	1.93
Leavers	9.88	2.11
Urban Maoris	9.86	1.74
Migrants from Country	9.71	1.48
Migrants from City	9.86	1.55
Non-Migrants	10.13	2.20
European Sample	10.96	1.69
Rural Europeans	10.60	1.79
Stayers	11.04	1.57
Leavers	10.29	1.87
Urban Europeans	11.10	1.62
Migrants from Country	10.96	1.63
Migrants from City	11.27	1.59
Non-Migrants	11.09	1.63

level ($p < .001$).

TABLE 24

Summary of analysis of variance of data
on Psychosocial Health

Source	df	MS	F
Between groups	3	37.72	11.69***
Within groups	302	3.23	
Total	305		

*** $p < .001$

Examination of the significance of differences between the groups taken in pairs in the order predicted shows that the high level of confidence at which the predicted pattern is found as a whole is not reflected in the differences between all the pairs, though in two comparisons (urban Maori-rural European, and rural European-urban European), the level of confidence rises beyond the .01 level.

Interpersonal Congruence

Examination of the data given in Table 25 shows that Maoris ($\bar{X} = .38$, $SD = .21$) score slightly lower on this measure than do Europeans ($\bar{X} = .43$, $SD = .20$). With $t = 2.29$ and $df = 302$ this difference is significant beyond the .05 level. Though the mean interpersonal congruence scores follow the sequence suggested

TABLE 25

Group scores on the measure of interpersonal congruence

	Mean	S.D.
Maori Sample	.38	.21
Rural Maoris	.37	.21
Stayers	.39	.21
Leavers	.37	.22
Urban Maoris	.38	.19
Migrants from Country	.34	.17
Migrants from City	.45	.12
Non-Migrants	.39	.24
European Sample	.43	.20
Rural Europeans	.42	.21
Stayers	.43	.19
Leavers	.41	.21
Urban Europeans	.44	.19
Migrants from Country	.40	.20
Migrants from City	.47	.18
Non-Migrants	.44	.19

by the prediction given on page 13, the differences between the four groups are too small to be statistically significant. (See Table 26 for the summary of a one way analysis of variance of these data.)

TABLE 26

Summary of analysis of variance of data
on interpersonal congruence

Source	df	MS	F
Between groups	3	.08	1.93 (N.S.)
Within groups	302	.04	
Total	305		

Identity Achievement

The results given in Table 27 show no significant differences between the Maori and European samples. This accords with the prediction (page 67) that the earlier school leaving age and consequent earlier occupational commitment would be confounded with other aspects of identity achievement discussed by Marcia such as ideological development. There appear to be no substantial differences between any of the subgroups in the survey and it is therefore left to a follow-up study of these subjects to assess the effects of early identity achievement on their later adjustment.

TABLE 27

Group scores on the measure of identity achievement

	Mean	S.D.
Maori Sample	11.84	4.82
Rural Maoris	11.76	4.72
Stayers	11.63	4.39
Leavers	11.82	4.87
Urban Maoris	12.03	5.05
Migrants from Country	13.07	5.42
Migrants from City	13.43	3.16
Non-Migrants	9.00	4.42
European Sample	11.84	4.91
Rural Europeans	11.71	4.82
Stayers	11.29	4.83
Leavers	12.00	4.79
Urban Europeans	11.90	4.95
Migrants from Country	12.54	5.55
Migrants from City	12.10	4.60
Non-Migrants	11.64	4.85

Maoriness³

The Maori sociocultural questionnaire developed by Jane Ritchie (1957) was subjected to factor analysis by Williams (1960), who produced an "Index of Maoriness" using ten of Jane Ritchie's items.⁴

In the present study, two changes were made to the items that Williams used. Item 7 (Genealogy) was changed from "Name your iwi, Name your hapu, Name your whanau", to "Name your tribe". Hohepa (1964) suggests that the older terms are becoming less significant and that the newer concept of whamare is gaining importance. In order to avoid any problem associated with terms in transition, and to avoid penalizing boys with little knowledge of Maori but with some knowledge of their genealogical background, the simple, English item was inserted. The second item to be changed was Item 10 (Tohunga), which was changed from "Would you use the services of a Tohunga, Maori faith healer, or other Maori health practitioner?" to "Do you know a Tohunga, or Maori faith healer?" to present it in a manner which would be more concrete, since a fourteen year old would not normally be in a position to make the decision which the

-
3. Though this section constitutes a small research project relatively independent of the major survey, it has been reported here so that the results may be included in the general discussion.
 4. Items used in the present study for the Index of Maoriness are given in Appendix 7. Throughout this discussion the items will be referred to by their numbers (See Appendix 7) and by the short titles used by Williams (1960).

original question implies.

The changes just described also point up a major difference between the study reported by Williams and the present research. Whereas Williams' factor structure was derived from the responses of a highly selected educational elite⁵ among Maoris in late adolescence and early adulthood, the present study was concerned with the factor structure obtained from a sample representing fourteen year olds.

Using a centroid factor analysis, Williams identified two factors. One of these he interpreted as Maoriness by cognitive choice (M_c), and the other as Maoriness by enculturation (M_e), (Williams, 1960, pp. 39-40). The loadings of each item on these factors are shown in Table 28. The essential element of factor M_c appears to be a knowledge of Maori culture symbols.

A person indicating high M_c does not live in a pa, he may not use the services of a Tohunga, may seldom visit the Marae, and may not look distinctively a Maori because he may have little Maori blood, but he will have a knowledge of the Maori culture, in that he can name his canoe, knows his genealogy and the name of his meeting house, and speaks Maori as a member of a family in which Maori is frequently spoken. The Maori by enculturation (M_e) on the other hand appears to have been born into the Maori culture.

5. At least 95% of Williams' group would have held school certificate, whereas less than 5% of Maori school leavers at that time would have done so. (See Forster and Ramsay, 1969, p.210.)

TABLE 28

Index of Maoriness - Factor loadings
given by Williams, (1960)

Item	Factor I (M _e)	Factor III (M _c)
(1) Maori Name	.40	.35
(2) Blood	.48	.07
(3) Language (Subject)	.86	.61
(4) Language (Home)	.90	.89
(5) <u>Marae</u>	.55	.28
(6) Canoe	.23	.58
(7) Genealogy	.26	.72
(8) Meeting House	.03	.62
(9) Home in <u>pa</u>	.08	-.36
(10) <u>Tohunga</u>	.38	.03

Though he may not be able to provide abstract details such as the name of his ancestral canoe or his meeting house, or to indicate any knowledge of his genealogy, he has a Maori name, a high percentage of Maori blood, speaks Maori in a Maori speaking home, visits the Marae frequently, and would use the services of a Tohunga.

A study of the Index of Maoriness to extend Williams' results was undertaken by analysis of the responses of the 104 Maori subjects interviewed in the present study. Responses of each subject to the 10 items of the Index were intercorrelated and the matrix of intercorrelations was factor analyzed by the principal components method, then rotated to achieve oblique structure according to the criterion of Hendrikson and White (1964).⁶

Loadings of each item on each of the four factors identified by the analysis are given in Table 29. These results indicate a clear division into three factors (two of which, I and III, are found to be significantly correlated), together with one independent item (Pa).

A general impression is that Williams' Maoriness by enculturation (M_e) is present, represented for the present sample by two factors, I and II. The second of these factors, which is not

6. A factor analysis programme written by Mr. D.V. Kinniburgh, and held in the programme library of the Computer Services section of the Applied Mathematics Division of the Department of Scientific and Industrial Research was used with the Elliott 503 computer for this analysis.

TABLE 29

Index of Maoriness

A. Factor loadings after oblique rotation

Item	Factor I	Factor II	Factor III	Factor IV
1. Maori name	-.11	.84	-.03	.03
2. Blood	.19	.72	.01	-.11
3. Language (Subject)	.48	.09	.25	-.13
4. Language (Home)	.70	-.01	.10	-.29
5. <u>Marae</u>	.80	.03	-.25	.01
6. Canoe	.20	-.17	.72	.06
7. Genealogy	.05	.24	.73	.25
8. Meeting House	.60	-.06	.08	.39
9. Home in <u>Pa</u>	.11	.04	-.10	-.83
10. <u>Tohunga</u>	.21	-.07	.70	-.28
Correlations between approximate and exact factor scores	.90	.96	.92	.83

B. Second order factor loadings

Variable	Factor I _h	Factor II _h
Factor I	.79	.17
Factor II	-.14	.79
Factor III	.82	-.14
Factor IV	.18	.63
Correlations between approximate and exact factor scores	.89	.80

correlated with the first in this analysis, is supported by the two items 1 (Maori name), and 2 (Maori Blood). In view of the heavy loading by item 2, it is suggested that this should be interpreted as Maoriness by parentage (M_p). The first factor contains references to aspects of socialization within the Maori culture. Boys scoring highly on the items loading highest on this factor visit the Marae frequently, know the name of the Meeting House, regard themselves as competent in conversational Maori, and come from homes in which the Maori language is frequently used. This factor may be interpreted as Maoriness by enculturation but, it is suggested, should also be subscripted to indicate the source of its unity in the family. It has accordingly been named Maoriness by enculturation through the family (M_{ef}).

Factor III, which is significantly correlated with M_{ef} ($r = .32, p < .01$) results not so much from being involved in Maori life, but from having a special knowledge of one's Maori background. This is illustrated by knowing the name of the ancestral canoe, knowing the name of one's tribe and knowing someone who is a Tohunga or Maori faith healer. This appears at least very similar to the Maoriness by cognitive choice (M_c) identified by Williams. However the term 'cognitive choice' implies some selective process on the part of the individual, and it would appear more satisfactory to regard the factor as enculturation from beyond the family or enculturation by the community. Enculturation by the community (including the education system) is represented

by the symbol M_{ec} . This term also suggests a cause of the correlation between factors I and III by regarding them as products of related aspects of the enculturation process.

Factor IV is highly specific to item 9 (Pa) with none of the other items loading as heavily as .40.

In order to investigate the relationships between the factors found in analysis, and other variables, it is necessary to find factor scores for each subject on each factor. That is to say, each factor is itself to be regarded as a variable and a score obtained for each subject on each of these new variables. Weights which reflect each factor loading on each of the original variables may be multiplied by the subjects' scores on those variables and summed to give exact factor scores. Alternatively, subjects' scores on the variables loading highly on each factor may simply be summed to give approximate factor scores.

Exact factor scores were derived using the procedure outlined by Gorsuch (1974). This procedure involved the computation of a factor score weight matrix by post multiplying the inverse of the correlation matrix derived from the original data, by the factor structure. The standard score matrix derived from the original data was then multiplied by this weight matrix to give the matrix of subjects' exact scores on each of the factors. Two higher order factors and their factor scores were derived from these first order factor scores. As this procedure involves the multiplication of substantial matrices

TABLE 30

Correlations of measures of Maoriness
with other related variables

Variables	M _{ef} ⁷	M _{ec} ⁸	M _E ⁹	M _I ¹⁰
Rural-urban residence	.51****	.20*	.48****	.49****
Rural stayer - urban non-migrant	.47****	.16	.33***	.35***
Leaving home	.21*	.22*	.37***	.31**
Commitment to an area of migration	.14	.06	.20*	.19*
Older friends migrating	.20*	.07	.24*	.20*
Contemporary friends migrating	.07	.17	.24*	.18
Occupational commitment	.14	.22*	.19*	.11
Occupational aspiration	.02	.22*	.20*	.17
Identity achievement	.03	.35***	.31**	.22*
Educational achievement	-.07	.35***	.29**	.24*
Educational aspiration	.09	.16	.23*	.19*

7. Maoriness by enculturation through the family. (Factor I)
8. Maoriness by enculturation through the community. (Factor II)
9. Maoriness by enculturation. (Factor I_h)
10. Williams's Index of Maoriness.

* p<.05, ** p<.01, *** p<.001, **** p<.0001.

(in the present instance for example the factor score matrix is the product of 10×10 and 10×102 matrices) a general purpose computer programme was written to give both first and higher order factor scores.

As Gorsuch points out, the use of approximate factor scores has typically been practised by researchers in preference to more accurate scores on the basis of "common sense". There are, however, at least two reasons for including approximations in a factorial study. First, as Wackwitz and Horn (1971) have shown, the approximate procedures give less opportunity for capitalizing on chance variations in the original responses. Second, one purpose of including groups of variables in a study such as this, is to suggest factors which may be further investigated in later studies in which all of the present variables may not be included. If items are not included in later studies their contributions to scores on factors under examination will be eliminated and the factor scores will therefore not be strictly comparable. These problems are avoided if approximations are used in which zero weights are given to variables with insignificant effects on the factor scores and obtained scores used as weights for the salient variables. Gorsuch (1974) has described two methods by which the salient variables may be identified.

1. For each variable, examine all of its salient loadings on all factors to find that factor with which the variable has its strongest relationship. The variable is then used to measure only that factor; it is treated as a non-salient variable on all other factors.
2. For any given factor, all of the salient variables of interest are identified. These salient variables are then used to measure the factor. (p.238)

In order to compare exact and approximate factor scores in the present study, a minimum loading of .40 was used to place the items in their first order factor clusters, the scores obtained on the items within each cluster were added to give the approximate factor scores. Items 3, 4, 5, and 8 were therefore included in Factor I (M_{ef}) items 1 and 2 were included in Factor II (M_p), items 6, 7, and 10, in Factor III (M_{ec}) and Item 9 in Factor IV. Correlations between subjects exact and approximate factor scores are given in Table 29. These correlations are highest for the major first order factors and for the second order factor II_h on which the two enculturation factors loaded heavily which has therefore been named Maoriness by enculturation (M_E). The lowest correlations are found between the "one item" approximations (Factor IV) and their exact scores, and between the exact and approximate scores for the "three item" higher order factor II_h .

Following the factor analysis, the exact and approximate scores on each of the four first order and the two higher order factors, together with the modified Williams Index of Maoriness as a whole, were examined in relation to the other variables studied in the survey.

As the relationship between the exact and approximate scores are very close, the correlations between them and the other variables are substantially similar, so exact scores only are used in the correlations discussed in the remainder of this section.

The most outstanding characteristics of the M_p scale is

that it is unrelated to either the other Maoriness scales, or to any of the other variables. This may be due in part to the low reliability inherent in a two item scale; but it is clear that in this study M_p is not related to educational achievement or aspiration, nor to occupational aspiration, or to personal or social adjustment. The independence between this (M_p) scale and the M_{ef} scale with which it was linked in the study by Williams (1960) requires some consideration. There appear to be two principal processes involved. The first is the integration which occurs as one of the processes in identity achievement later in adolescence. (Note that Williams' subjects were teachers' college students, on average five years older than the present sample.¹¹) Through this integration a person who has solved the problem set by the identity crisis may have linked his knowledge of his genetic (family) background, with aspects of enculturation which have their roots in family life. The second and closely related force is the selection process which leads to the teachers' colleges. This may be expected to pick out for training those people who have made the $M_p - M_{ef}$ integration just described. These are bright young people with high educational and occupational aspirations, which tend to be crystallized at a point in adolescence somewhat later than fourteen years of age (i.e., the age of the present sample). It is probable too that people who are to make such an integration may be those who have made least

11. Williams (1960, p.24) reports the following characteristics of the age distribution of his Maori sample: range = 17.4 - 26.5; mean = 19.5; S.D. = 1.9.

headway in identity achievement at fourteen years of age, with the result that the association found by Williams does not appear in the present analysis.

The factor interpreted as Maoriness by enculturation through the family (M_{ef}) is related at a significant level to four variables other than those involving Maoriness. Levels of M_{ef} are related to probability that one has seen older friends leave the community to find work, and to being able to name a most probable destination on leaving home. This association of M_{ef} and variables indicating orientation towards migration, suggests that problems may arise in the process of enculturation of Maoriness through the family since it is also very closely related to rural rather than urban residence, ($r = .51$, $p < .0001$) and to a hypothesized sequence of urbanization and acculturation which begins with rural stayers then covers rural leavers, urban migrants from rural areas, urban migrants from urban areas and on to urban non-migrants ($r = .47$, $p < .0001$). The results also indicate that people who score highly on M_{ef} are not only oriented towards migration but are as likely as not to move into one of the main centres (Auckland, Hamilton, Wellington, Christchurch, Dunedin and Invercargill). It may therefore be concluded that the process of enculturation of Maoriness through the family (M_{ef}) is currently subject to clearly disintegrative influences.

The scale formed about the factor M_{ec} is related to rather more variables than is M_{ef} , and only two of these, (urban-rural residence and intention to leave home after finishing school) are significantly

related to both the enculturation scales. The effect of urbanization on M_{ec} appears to be relatively slight when compared with its effect on M_{ef} . Urban-rural residence is related to M_{ec} scores at a barely significant level ($r = .20$, $p < .05$) while the urbanization, acculturation sequence is unrelated to M_{ec} scores ($r = .16$). Significant correlations are found between M_{ec} and occupational commitment and aspiration and educational achievement. Scores on M_{ec} are related to the intention to leave home after finishing school ($r = .22$, $p < .05$), however high scores on M_{ec} are related to contact with migrant friends of one's own age rather than with the older migrants the high scorers on M_{ef} frequently reported. There is a significant correlation between scores on M_{ec} and identity achievement ($r = .35$, $p < .001$), and on the related question of occupational commitment ($r = .22$, $p < .01$). Scores on M_{ec} are also related to scores on educational achievement ($r = .35$, $p < .001$) and at a lower, though still significant level to occupational aspiration ($r = .22$, $p < .05$). It may be concluded that Maoriness by enculturation through the community (M_{ec}), far from being endangered by urbanization, appears to transcend the migration and urbanization processes and to be related moreover to a high level of educational achievement and occupational aspiration.

The fourth factor is defined only by item i (Home in a pa). Williams has cast doubt on the value of this item (1960, p.41) and the result of this study confirms his doubt. Not only does the item appear unrelated to any of the other items on the Maoriness scale, but it is related at a significant level to only one of the other variables

studied (lack of occupational commitment). Part of the decline in the usefulness of this item may be accounted for by the accelerating processes of acculturation and urbanization, for only 4 of the 104 boys interviewed reported living in a pa.

The Index of Maoriness (M_I) follows the general pattern suggested by the two indices of enculturation; however because of the high proportion of extraneous variance arising from the M_P and pa items it is no more reliable than the second order factor scale of enculturation (M_E), ($r_{M_E M_E} = .62$, $r_{M_I M_I} = .61$).¹² The extraneous variance is also reflected in lower power in the measure, with M_I related to 8 other measures and M_E related to 11. Almost without exception the correlations of M_E with the other variables were higher than were the M_I correlations.

Urban-rural residence is related to both M_I ($r = .49$), and M_E ($r = .48$), at beyond the .0001 level and the sequence of urbanization and acculturation is related to both M_I ($r = .35$) and to M_E ($r = .32$) at beyond the .001 level. Apart from this, the relationships are quite predictable from the discussion of M_{ef} and M_{ec} , with scores on the composite measures related to migration contact, to educational achievement, to identity achievement and to educational and occupational aspirations.

The second higher order factor, (II_h) was found, like the first order factors on which it was substantially based, to be unrelated to any of the other variables studied.

12 Calculated using the Kuder Richardson formula (20) described by Horst (1966, p.273).

None of the measures of personal and social adjustment were found to be related to the Maoriness subscales, with the exception of identity achievement which was significantly correlated with M_{ec} scores ($r = .35, p < .001$). Scores on the composite scales M_I and M_E were also predictably found to be related only to identity achievement.

CHAPTER V

SUMMARY AND CONCLUSIONS

This research has been directed towards an assessment of the adjustment of groups of fourteen year old boys in New Zealand. The aim of the study was to construct an appropriate set of measures and to show the nature and extent of any differences between Maori and European, rural and urban, migrant and non-migrant groups, that may be relevant to the increasing trend for Maoris to move into urban areas. The conception of adjustment used in the selection of measures was developed from a definition by Brown, Schwarzweller and Mangalam (1963) with three components; interpersonal adjustment, competence and intra-personal adjustment.

To assess the inter- and intra-personal aspects of adjustment, four formally constructed, objectively scored measures were developed, while the area of competence was assessed by measures of educational achievement and aspiration, and occupational aspiration. A further group of measures was not directly concerned with adjustment as defined, but appeared to complement the adjustment measures. This group of measures included attitudes

towards school and school progress, migration contact and orientation. Competence within a traditional Maori context was measured by an Index of Maoriness.

Among the groups of boys studied it was predicted that the urban Europeans would occupy the highest ranks on all the adjustment measures followed in order by the rural Europeans, urban Maoris and rural Maoris. This predicted ranking was observed consistently, at a probability beyond the .001 level. It was therefore concluded that higher levels of adjustment are related to urban residence and European cultural background.

A second major goal of the study was to compare urban migrants with samples representing their originating groups. It was predicted that no consistent disadvantage would be associated with urban migration as a result of a probable interaction between any disadvantages due to discontinuity in social and personal development and the advantages of increased opportunities that might be experienced in moving into the urban environment. Examination of the results from both the Maori and the European groups showed that there were in fact no differences between urban migrants from rural areas and their rural non-migrant counterparts. It was therefore concluded that urban migration at or before the age of fourteen years is not associated with any consistent or significant impairment in the adjustment of Maori or European boys.

A third goal of the study was to investigate potential sources of maladjustment in adult Maori urban migrants by examining

the differences between the rural Maori (potential migrant) sample and the urban European (potential recipient) sample. It was found that the urban European group scored significantly higher than the rural Maori group on all the measures of adjustment. It would therefore appear that if the members of the rural Maori group who migrate after leaving school are not to be significantly disadvantaged in relation to the urban European group, one of three possible alternatives is necessary. First, a massive bridging programme, providing special information, models, and support for the migrant group as they enter the cities might help to reduce adjustment problems. Alternatively the occurrence of migration may be accompanied by increased opportunities and a sense of centrality to the main stream of New Zealand society such that the adjustment levels of migrants may rise spontaneously. And third, selective processes may be at work in migration, such that an elite may be moving to the city, thereby minimizing differences between the migrant and recipient populations. Though some headway has been made in New Zealand with courses introducing young Maoris to the urban life, and with special trade training schemes, the other alternatives have not yet been examined and an important aspect of any follow up study of the subjects of the present research should include an examination of these possibilities.

In addition to examining the major goals, the results from all the measures used in the study were analyzed separately.

It was found that differences between the Maori and European groups favoured the Europeans at a significant level on all the measures of adjustment except occupational aspiration, and where they were not significant, the difference was in the same direction. The data on migration contact and orientation showed that the Maori groups had significantly more older friends who had moved away to live in another locality, and that they were also more likely to indicate an intention to leave home and to break school friendships after completing their education. This is in agreement with other findings that educational competence favours the Europeans. The extensive migration contact and orientation of the Maori sample suggests that bridging programmes aimed to ease the adjustment of adolescent migrants to the city would be relevant to a considerable proportion of this group, and need not necessarily be restricted to those making the move to the city after leaving school.

No significant differences were found between the adjustment of urban and rural groups on the seven measures used, though in the Maori samples the direction of the differences in every case favoured the urban group. In the case of the European groups three of the differences favoured the rural sample. These findings support the suggestion that members of the Maori urban group may treat the city as a place of opportunity whereas the European boys may be more conscious of its limitations. For Maoris, rural residence was found to be associated with significantly higher scores

on the Index of Maoriness and there is clear evidence that Maoriness scores from this general index are lower for the Maori groups who have moved into the city. The Index of Maoriness was itself subjected to factor analysis and on the basis of the results obtained from one hundred and four Maori boys, four conclusions appear to be warranted. First, that item 9 (Home in a pa) appears to be unrelated to any other items and generally lacks usefulness. Second, that items 1 (Maori name), and 2 (Blood) constitute a third factor (Maoriness by parentage, M_p), unrelated in early adolescence to the factor Maoriness by enculturation (M_e) with which Williams found it integrated. Third, that interpretations of the two principal factors identified by Williams should be changed from Maoriness by enculturation (M_e) and Maoriness by cognitive choice (M_c) to Maoriness by enculturation from the family (M_{ef}) and Maoriness by enculturation from the community (M_{ec}), to indicate their place in the general process of enculturation, with different - though related - social origins. Fourth, that the composite scale of Maoriness by enculturation (M_E) derived from the subscales related to factors M_{ef} and M_{ec} , is a more powerful scale of Maoriness than is the Index of Maoriness developed by Williams and that this scale should be expanded in future work on Maoriness. There is evidence that scores on the Index of Maoriness by enculturation from the community (M_{ec}), may be somewhat less affected by the move to the city than are scores on the other indices, and

it may be assumed that the recent increase in interest in teaching Maori language and other aspects of the culture in schools, is an expression of the growing consciousness of community responsibility for the enculturation of Maoriness which was referred to earlier in the study. The emerging identity problem discussed in the background to the research, can be seen to have clear roots in pre-adolescent experience, with migration to the city associated, as was expected, with some substantial (though not adequate) increase in competence in relation to the technology, but associated also, with a clear reduction in competence in relation to traditional Maori beliefs and behaviours. In view of the severe deficit involved, it appears unlikely that any real impact will be made by the sporadic efforts currently being made to compensate for this loss.

Among both Maori and European subjects it was found that rural samples showed significantly higher levels of migration contact and intention to leave home after finishing school than did urban samples. This clearly suggests that the use of a term such as "urban drift" to describe the process of urban migration, may give an erroneous impression of a process which, in many instances, far from being a chance outcome of a capricious decision, may be rooted in childhood or early adolescent experience and aspiration.

Urban migrants from rural areas were compared with rural non-migrant samples, and no significant differences were found. Complementary to this, differences between urban non-migrants and migrants from other urban areas were examined. It was found that

for neither Maori nor European samples were there any significant differences between these groups, with the exception that identity achievement was higher for the Maori migrant group than for the Maori non-migrant group. When these results were considered together, the total of twenty-eight comparisons revealed no evidence of lower adjustment levels among migrants, and it is concluded that migration is not itself a source of maladjustment.

Comparisons were also made between the boys in rural areas who intended to stay at home after leaving school (stayers) and those who intended to leave (leavers). The European 'leavers' scored significantly higher than the European 'stayers' on the measure of educational achievement, but no other differences were found between either Maori or European 'stayers' and 'leavers'. It is therefore concluded that while there are more scholars among the European boys who, at fourteen years of age, report an intention to migrate after finishing their education, no other characteristics distinguished between those boys with that intention and those without.

CHAPTER VI

FUTURE RESEARCH

At a number of points in the preceding analysis and discussion, reference has been made to the need for further work to be undertaken on specific problems. However, as the problem areas indicated appear collectively to suggest only a somewhat unsystematic series of research projects, it appears that rather than simply to reiterate them, or to discuss each in turn in some greater detail, it may be more useful to concentrate in this chapter on a unified project which emerges logically from the position achieved in the present study and in the course of which it may in fact be expected that the majority of the questions raised in the preceding chapters could be answered. In addition to this logical successor to the present study, it is also proposed to discuss a second project which is not strictly a logical outcome of the present one but is based on evidence that has been published during the period of the present study, and which appears to be of sufficient importance to justify its inclusion at this time.

The importance of antecedent influences in determining observed adjustment levels has been emphasised both in the theor-

etical discussion and in the analysis of the results of the present study. Continuing this emphasis it is now proposed that all the experiences and characteristics measured in the present study should be used as a baseline of antecedent conditions and influences in a follow up study aimed to investigate the relationships between early experiences and personal characteristics, and the comparative adjustment of Maori and European urban migrants. A system which might be used as a starting point in the development of the proposed study is the path model of Sewell, Haller and Portes (1969). The path model outlined by Sewell and his associates suggests attention to multiple determinants of adjustments, beginning with a broad general base and moving forward in time through a series of significant paths (i.e. situations where antecedent conditions were both expected and observed to exert a significant influence on later scores) to an adjustment level found on contemporary measures. Thus their illustration includes seven conditions which appear to influence each other in a predictable manner and ultimately to determine the level of occupational attainment of an individual. Beginning with the mental ability of an individual and the socioeconomic status of his family, the model then moves on to academic performance (at high school), the influence of significant others (parents, teachers and friends), educational and occupational aspiration levels, educational attainment, and finally occupational attainment.

In order to use such a model effectively to provide information about the relationships between antecedent conditions and the later adjustment of Maori urban migrants, a number of modifications and extensions would be required, including an expansion to include a broad conception of adjustment rather than only the "occupational attainment" with which the model of Sewell and his associates was concerned. Elements that would be added to identify the determinants of competence, and both inter- and intrapersonal adjustment, include migration contact, attitudes and experience, specific educational and other experiences including those relevant to life in the recipient rather than the originating society, earlier personal adjustment levels and any experiences of discrimination. In view of the growing demands for competence with respect to traditional Maori beliefs and behaviours, this area too should be included in the design, though a more general index than that used in the present study would be of value, particularly if Europeans are to be included in the study. Attitudes towards society, special groups, personal responsibility and perhaps marriage would also be required in order to identify the most important determinants of post migration adjustment.

It is also expected that a modification of the approach of Sewell and his collaborators which would enable the model to treat interactions, would be necessary. For example, in dealing with occupational and educational satisfaction, the results may be expected to appear as an interaction between aspirations and attainments, with the result that the linear multiple correlation analyses of their original study would be inadequate.

A further modification which might be found necessary in the expanded model is related to the use of "critical levels" in

the determination of influences on later adjustment. For example, socioeconomic status was shown to be virtually unrelated to academic performance, but if a critical level of social and physical poverty had been used as the pivot for dividing scores instead of a range of steps, only one of which may have fallen below the critical level, a somewhat different assessment of the influence of socioeconomic status on educational achievement might have been both expected and obtained.

In their model, the influence of significant others was treated as an essentially unitary effect, however it is clear that there is in fact a constellation of influences including those of parents, teachers and peers, which should all be included. Smelser (1963) and Balan (1968) have shown that children of urban migrants show better adjustment and greater upward mobility than their parents. The source of this superiority is suggested by the evidence in the present study which has shown that urban Maori boys attribute much higher occupational aspiration to their friends than do members of the rural sample. If the high attributed aspiration suggested by these data is associated with a substantial superiority in occupational aspiration and later occupational attainment of the subjects, then the occupational aspiration of friends should be included as an example of "significant others influence" in the path model.

Another important influence, particularly in the context

of migration, appears to be relatives who live at a distance. It was noted during the interviews for the present study that a large number of subjects gave the presence of relatives as a reason for their choice of migratory destination. It is not known if migration in late adolescence or adulthood is actually directed towards these relatives, but in view of the evidence of Kurtz (1966) and Schwarzweller and Seggar (1967) that under some conditions contact with relatives may produce negative effects on adjustment, this is clearly an important field of study in defining the paths of the migrants.

The 'significant others influence' is in fact the total product of the interface between the individual and his social world, and is the source of the information, the models, and the support, which are crucial antecedents of post migration adjustment. It might therefore be expected that future work would see a substantial refinement of these influences.

It is suggested that the second study proposed might also use the path model, though in a more restricted manner, similarly in fact to the way in which it was used by Sewell and his associates. The study would consist essentially of an examination of determinants of the apparent decline in the academic achievement of rural Maoris (by comparison with their European counterparts) suggested by McCreary's report (1966) from his study of reading skills. This decline, which is also illustrated by Benton's

(1966) study of the English language difficulties of Maori school children, may well be interpreted as the beginning of the process which leads to marked underachievement of Maori pupils in national examinations (Forster and Ramsay 1969), and a substantial underrepresentation of Maori students at the University (Harker, 1970, 1971). There appears to be a parallel between the decline in performance found in Maori pupils and that found among American Indian children by Saslow and Harrover (1968) who relate the decline to the onset of the adolescent identity crisis, and suggest the need for educational programmes emphasising the development of adequate psychosocial adjustment. It has been suggested that this problem is susceptible to examination through a path model, however as it appears to be established by adolescence its roots may be expected to lie in Erikson's fourth stage of development (Industry vs Inferiority), and the characteristics of subjects at a point when they may generally be expected to be in the fourth stage (say ten years of age), would be required as a baseline for such a study. There is little point at this stage in suggesting in detail the variables that might be used in this proposed study, though a broadly based set of measures of the "industry-inferiority" dimension is of obvious interest. It should perhaps be stressed however that, as with the first study proposed, the strength of the path model concept lies not so much in its use of the longitudinal approach, but rather in its emphasis on a broad base

providing a wide range of variables which may be related first theoretically, then empirically to characteristics being examined at a later stage of development.

REFERENCES

- Archer, D. & Archer, M. Maoris in cities. Race, 1971, 13 (2), 179-185.
- Arthur, A.Z. Response bias in the semantic differential. British Journal of Social and Clinical Psychology, 1966, 5, 103-107.
- Ansabel, D.P. Maori Youth. Wellington: Price Milburn, 1961.
- Balan, G. Are farmers' sons handicapped in the city. Rural Sociology, 1968, 33(2), 160-174.
- Ball, D. The Education of the Maori. Unpublished M.A. Thesis. Victoria University College, Wellington (undated).
- Barclay, A., & Thumin, F.J. A modified semantic differential approach to attitudinal assessment. Journal of Clinical Psychology, 1963, 19, 376-378.
- Barger, K., & Earl, D. Differential adaptation to northern town life by Eskimos and Indians of Great Whale River. Human Organization, 1971, 30, 25-30.
- Beaglehole, E., & Beaglehole, P. Some Modern Maoris. Wellington: New Zealand Council for Educational Research, 1946.
- Benton, R.A. Research into the English Language Difficulties of Maori School Children. Wellington: Maori Education Foundation, 1965.
- Bettleheim, B. Individual and mass behaviour in extreme situations. In G.E. Swanson, T.M. Newcomb, & E.L. Hartley (Eds.) Readings in Social Psychology. New York: Holt, 1952.

Block, J. Ego identity, role variability and adjustment.

Journal of Consulting Psychology, 1961, 25, 392-397.

Block, J., & Thomas, H. Is satisfaction with the self a measure of adjustment? Journal of Abnormal and Social Psychology, 1955, 51, 254-259.

Brown, J.S., Schwarzweller, H.K., & Mangalam, J.J. Kentucky mountain migration and the stem-family: An American variation on a theme by Le Play. Rural Sociology, 1963, 28, 48-69.

Burchinal, L.G., Hawkes, G.R., & Gardner, B. Adjustment characteristics of rural and urban children. American Sociological Review, 1957, 22, 81-87.

Burchinal, L.G., & Jacobsen, P.E. Migration and adjustments of farm and urban families and adolescents in Cedar Rapids Iowa. Rural Sociology, 1963, 28(4), 364-378.

Butler, J.M., & Haig, G.V. Changes in the relation between self concepts and ideal concepts consequent upon client centred counselling. In C.R. Rogers & R.F. Dymond (Eds.) Psychotherapy and Personality Change. Chicago: University of Chicago Press, 1954.

Calvert, C. 1950. Reported in M.N. Lovegrove, Scholastic achievement of European and Maori children. New Zealand Journal of Educational Studies, 1966, 1, 15-39.

- Chance, N.A. Culture change and integration, an Eskimo example.
American Anthropologist, 1960, 62, 1028-1044.
- Chance, N.A. Acculturation, self identification, and personality adjustment. American Anthropologist, 1965, 67, 372-393.
- Chance, N.A. Implications of environmental stress for strategies of developmental change among the Cree. In N.A. Chance (Ed.) Conflict in Culture: Problems of Developmental Change among the Cree. Working papers of the Cree Developmental Change Project, McGill University Department of Sociology and Anthropology, 1968.
- Chance, N.A., & Trudeau, J. Social organization, acculturation and integration among the Eskimo and Cree: a comparative study. Anthropologica, 1963, 5(1), 47-56.
- Cloward, R.A., & Ohlin, L.E. Delinquency and Opportunity. London: Routledge and Kegan Paul, 1961.
- Cohen, H.A., & Miller, R. Mobility as a factor in adolescent identity problems. Psychological Reports, 1969, 25, 775-778.
- Dawson, J.L. Exchange theory and comparison level changes among Australian Aborigines. British Journal of Social and Clinical Psychology, 1969, 8(2), 133-140.
- Dowling, J.H. A "rural" Indian community in an urban setting. Human Organization, 1968, 27(3), 236-240.

- Earle, M.J. Rakau Children. Victoria University of Wellington
Publications in Psychology No. 11. Victoria University of
Wellington Department of Psychology, 1958.
- Elkins, S. Slavery and personality. In B. Kaplan (Ed.) Studying
Personality Cross Culturally. Evanston, Ill.: Row
Peterson, 1961.
- Elmore, T.M. The development of a scale to measure psychological
anomie and its implications for counselling psychology.
Proceedings of the 73rd Annual Convention of the American
Psychological Association, 1965, 359-360.
- Erikson, E.H. Childhood and Society. New York: Norton, 1950.
- Erikson, E.H. Identity and the Life Cycle. New York: International
University Press, 1959.
- Forster, J., & Ramsay, D.K. Migration, education and occupation.
In J. Forster (Ed.) Social Process in New Zealand.
Auckland; Longman Paul, 1969.
- Freed, S.A. Suggested type societies in acculturation studies.
American Anthropologist, 1957, 59, 55-68.
- Friedman, C.J., & Gladden, J.W. Objective measurement of social
role concepts via the semantic differential.
Psychological Reports, 1964, 14, 239-247.
- Fugitt, G.V. The city and countryside. Rural Sociology, 1963,
28(3), 246-261.
- Gallimore, R., & Howard, A. (Eds.) Introduction Studies in a Hawaiian
Community; Na Makamaka o Nanakuli. Honolulu: Dept.
of Anthropology, Bernice P. Bishop Museum, 1968.

- Geiser, P. The Contemporary Ainu. A people in search of society. Human Organization, 1971, 30(1), 31-38.
- Gorsuch, R.L. Factor Analysis. Philadelphia PA: W.B. Saunders Company, 1974.
- Gulliksen, H. Theory of Mental Tests. New York: John Wiley, 1950.
- Hajda, J. Alienation and integration of student intellectuals. American Sociological Review, 1961, 26(5), 758-777.
- Haller, A.O., & Wolff, C.E. Personality orientations of farm, village and urban boys. Rural Sociology, 1962, 27(3), 275-293.
- Haller, A.O., & Wolff, C.E. A note on "Personality orientations of farm, village and urban boys". Rural Sociology, 1965, 30(3), 338-340.
- Hanson, R.C., & Simmons, O.G. The role path: a concept for studying migration to urban communities. Human Organization, 1968, 27(2), 152-158.
- Harker, R.K. Some Aspects of Maori University Education in New Zealand. Victoria University of Wellington, unpublished M.A. Thesis, 1970.
- Harker, R.K. Maori education and research. Australian and New Zealand Journal of Sociology, 1971, 7, 46-57.
- Hathaway, S.R., Monachesi, E.D., & Young, L.A. Rural-urban adolescent personality. Rural Sociology, 1959, 24, 331-336.
- Helper, M.M., & Garfield, S.L. Use of the semantic differential to study acculturation in American Indian adolescents. Journal of Personality and Social Psychology, 1965, 2(6), 817-822.

- Hendrikson, A.E., & White, P.O. Promax: A quick method for rotation to oblique simple structure. British Journal of Statistical Psychology, 1964, 17(1), 65-70.
- Hohepa, P. A Maori Community in Northland. University of Auckland, Department of Anthropology, 1964.
- Horst, P. Psychological Measurement and Prediction. Belmont, California: Wadsworth, 1966.
- Inkeles, A. Social structure and the socialization of competence. Harvard Educational Review, 1966, 36, 265-283.
- Jansen, M.J., & Smolenaars, A.J. A short report on an interculturally standardized semantic differential: European results. Acta Psychologica, 1967, 26, 209-215.
- Kawharu, I.H. Urban immigrants and Tangata Whenua. In E. Schwimmer (Ed.) The Maori People in the Nineteen Sixties. Auckland: Blackwood and Janet Paul, 1968.
- Killian, L.M., & Grigg, C.M. Urbanism, race and anomia. American Journal of Sociology, 1962, 67, 661-665.
- King, P. Alienation and the individual. British Journal of Social and Clinical Psychology, 1968, 7, 81-92.
- Kurtz, N.R. Gatekeepers in the Process of Acculturation. University of Colorado Doctoral Dissertation, 1966.
- Kuvlesky, W.P., & Ohlendorf, G.W. A rural-urban comparison of the occupational status orientations of Negro boys. Rural Sociology, 1968, 33(2), 141-152.

- Lefcourt, H.M., & Ladwig, G.W. Alienation in Negro and white reformatory inmates. Journal of Social Psychology, 1966, 68(1), 153-157.
- Lewis, O. Urbanization without breakdown. Scientific Monthly, 1952, 75(1), 31-41.
- Lovegrove, M.N. The scholastic achievement of European and Maori children. New Zealand Journal of Educational Studies, 1966, 1, 15-39.
- McClew, A. A Comparative Study of the Reading Achievement of Maori and European Children in an Urban School. Unpublished M.A. Thesis, Auckland University College, 1958.
- McClosky, H., & Schaar, J.H. Psychological dimensions of anomy. American Sociological Review, 1965, 30, 14-40.
- McCreary, J.R. Reading tests with Maori children. New Zealand Journal of Educational Studies, 1966, 1, 40-50.
- McCreary, J.R. Population growth and urbanization. In E. Schwimmer (Ed.) The Maori People in the Nineteen Sixties. Auckland: Blackwood and Janet Paul, 1968.
- Magnusson, D. Test Theory. Reading, Massachusetts: Addison Wesley, 1967.
- Maltz, H.E. Ontogenetic change in the meaning of concepts as measured by the semantic differential. Child Development, 1963, 34, 667-674.

- Mangus, A.R. Personality and adjustment of rural and urban children. American Sociological Review, 1948, 13, 566-575.
- Marcia, J.E. Development and validation of ego-identity status. Journal of Personality and Social Psychology, 1966, 3(5), 551-558.
- Marsh, C.P., Dolan, R.J., & Riddick, W.L. Anomia and communication behaviour: the relationship between anomia and the utilization of three public bureaucracies. Rural Sociology, 1967, 32, 435-445.
- Masters, F.G., & Tong, J.E. The semantic differential test with borstal subjects. British Journal of Criminology, 1968, 8, 20-31.
- Meier, D.L., & Bell, W. Anomia and the achievement of life goals. American Sociological Review, 1959, 24, 189-202.
- Merton, R.K. Social Theory and Social Structure. Glencoe, Illinois: Free Press, 1957.
- Metge, A.J. A New Maori Migration. Melbourne: University Press, 1964.
- Mulligan, D.G. Maori Adolescence in Rakau. Victoria University of Wellington Publications in Psychology, No. 9. Victoria University of Wellington, Department of Psychology, 1957.
- Neuringer, C. Dichotomous evaluations in suicidal individuals. Journal of Consulting Psychology, 1961, 25, 445-449.

- Neuringer, C. The cognitive organization of meaning in suicidal individuals. Journal of General Psychology, 1967, 76, 91-100.
- Neymark, E. Migration differentials in education, intelligence and social background: analysis of a cohort of Swedish males. Bulletin of the International Statistical Institute, 1963, 40. Reported in L.F. Schnore, The rural urban variable: an urbanite's perspective. Rural Sociology, 1966, 31, 131-143.
- Norman, R.P. Extreme response tendency as a function of emotional adjustment and stimulus ambiguity. Journal of Consulting and Clinical Psychology, 1969, 33(4), 406-410.
- Osgood, C.E., Suci, G.J., & Tannenbaum, P.H. The Measurement of Meaning. Illinois: University of Illinois Press, 1957.
- Page, E.B. Ordered hypotheses for multiple treatments: a significance test for linear ranks. American Statistical Association Journal, 1963, 58, 216-230.
- Photiadis, J.D., & Schweiker, W.F. Correlaries of alienation: the marginal businessman. Rural Sociology, 1971, 36(1), 20-30.
- Rasmussen, J.E. The relationship of ego identity to psychosocial effectiveness. Psychological Reports, 1964, 15, 815-825.
- Rendon, G. Prediction of Adjustment Outcomes of Rural Migrants to the City. University of Colorado Doctoral Dissertation, 1968.

- Reppen, J. Field Articulation and Socioeconomic and Rural-urban Variables. Unpublished Ph.D. Thesis. Yeshiva University, New York, 1966.
- Ritchie, J. Childhood in Rakau. Victoria University of Wellington Publications in Psychology, No. 10. Victoria University of Wellington, Department of Psychology, 1957.
- Ritchie, J. Maori Families. Victoria University of Wellington Publications in Psychology, No. 18. Victoria University of Wellington, Department of Psychology, 1964.
- Ritchie, J.E. Basic Personality in Rakau. Victoria University of Wellington Publications in Psychology, No. 8. Victoria University of Wellington, Department of Psychology, 1956.
- Rose, G. Anomie and deviation. A conceptual framework for empirical studies. British Journal of Sociology, 1966, 17, 29-45.
- Rosen, E. A cross cultural study of semantic profiles and attitude differences. Journal of Social Psychology, 1959, 49, 137-144.
- Saslow, H.L., & Harrover, M.J. Research on psychosocial adjustment of Indian youth. American Journal of Psychiatry, 1968, 125(2), 224-231.
- Schnore, L.F. The rural urban variable: an urbanite's perspective. Rural Sociology, 1966, 31, 131-143.

- Schwarzweiler, H.K., & Seggar, J.F. Kinship involvement: a factor in the adjustment of rural migrants. Journal of Marriage and the Family, 1967, 29(4), 662-671.
- Secord, P.F. & Backman, C.W. Social Psychology. New York: McGraw-Hill, 1964.
- Seeman, M. On the meaning of alienation. American Sociological Review, 1959, 24, 783-791.
- Sewell, W.H., Haller, A.O., & Portes, A. The educational and early occupational attainment process. American Sociological Review, 1969, 34(1), 82-92.
- Sindell, P.S. Some discontinuities in the enculturation of Mistassini Cree children. In N.A. Chance (Ed.) Conflict in Culture: Problems of Developmental Change among the Cree. Working Papers of the Cree Developmental Change Project, McGill University, Department of Sociology and Anthropology, 1968.
- Smelser, W.T. Adolescent and adult occupational choice as a function of family socioeconomic history. Sociometry, 1963, 26, 393-413.
- Smith, L. Educational Assessments of Maori Children. Unpublished M.A. Thesis, Auckland University College, 1956.
- Smith, P.M. Personal and social adjustment of Negro children in rural and urban areas of the South. Rural Sociology, 1961, 26, 73-77.

- Soma, K. Semantic measurement of interpersonal relationships of juvenile delinquents with some word concepts. Family Court Probation, 1962, 2, 63-70.
- Spindler, G.D. Sociocultural and Psychological Processes in Menomini Acculturation. University of California Publications in Culture and Society No. 5. University of California Press, Berkeley and Los Angeles, 1955.
- Spindler, G.D. Psychocultural adaptation. In E. Norbeck, W. McCord, & D. Price Williams (Eds.) The Study of Personality. New York: Holt Rinehart and Winston, 1967.
- Srole, L. Social integration and certain corollaries: An exploratory study. American Sociological Review, 1956, 21, 709-716.
- Sykes, G. The Society of Captives. Princetown: Princetown University Press, 1958.
- Taft, R. The role of personality traits in the social assimilation of immigrants. Australia and New Zealand Journal of Sociology, 1967, 1(3), 19-31.
- Tanaka, Y., Oyama, T., & Osgood, C.E. A cross-culture and cross-concept study of the generality of semantic space. Journal of Verbal Learning and Verbal Behaviour, 1963, 2, 392-405.
- Taylor, L.J. Alienation, anomie, and delinquency. British Journal of Social and Clinical Psychology, 1968, 7(2), 93-105.

- Triandis, H.C., & Fishbein, M. Cognitive interaction in person perception. Journal of Abnormal and Social Psychology, 1963, 67, 446-453.
- Triandis, H.C., & Osgood, C.E. A comparative factor analysis of semantic structures in monolingual Greek and American college students. Journal of Abnormal and Social Psychology, 1958, 57, 187-196.
- Vaughan, G.M. Ethnic Awareness and Attitudes in New Zealand. Victoria University of Wellington Publications in Psychology, No. 17. Victoria University of Wellington, Department of Psychology, 1964.
- Wackwitz, J.H., & Horn, J.L. On obtaining the best estimate of factor scores within an ideal simple structure. Multivariate Behavioural Research, 1971, 6(4), 389.
- Walkey, F.H. Cognitive Functioning in Delinquent and Non-delinquent Boys. Unpublished M.A. Thesis, Victoria University of Wellington, 1964.
- Walkey, F.H., & Boshier, R.W. Semantic differential response bias in psychopathic, delinquent and normal boys. Psychological Reports, 1969, 24, 91-94.
- Walters, R.H. The intelligence test performance of Maori Children: A cross cultural study. Journal of Abnormal and Social Psychology, 1958, 57, 107-114.
- Wentworth, W.C. Aboriginal identity, government and the law, in D. Tugby (Ed.) Aboriginal Identity in Contemporary Australian Society. Milton Qld: Jacaranda Press Pty Ltd., 1973.

White, R.W. Motivation reconsidered: the concept of competence.

Psychological Review, 1959, 66, 297-333.

Williams, J.S. Maori Achievement Motivation. Victoria University of Wellington Publications in Psychology, No. 13. Victoria University of Wellington, Department of Psychology, 1960.

Winer, B.J. Statistical Principles in Experimental Design.

New York: McGraw Hill, 1962.

Wintrob, R.M. Acculturation, identification and psychopathology among Cree Indian Youth. In N.A. Chance (Ed.) Conflict in Culture, Problems of Developmental Change among the Cree. Working papers of the Cree Developmental Change Project, McGill University, Department of Sociology and Anthropology, 1968.

Wolfe, R.N. Two views of anomia and the nature of normlessness.

Journal of Social Psychology, 1968, 75(1), 91-99.

Zax, M., Gardiner, D.H., & Lowy, D.G. Extreme response tendency as a function of emotional adjustment. Journal of Abnormal and Social Psychology, 1964, 69, 654-657.

APPENDIX 1

Alienation

Instructions

On the next page you will find a set of sentences set out like this:

Definitely
agree

Driving a car is good fun.

Definitely
disagree

____:____:____:____:____

If you definitely and strongly agree with this, put a cross in the end space, like this:

Definitely
agree

X ____:____:____:____:____

Definitely
disagree

If you definitely and strongly disagree, put a cross in the other end space like this:

____:____:____:____: X

If you agree or disagree with the sentence, but not very strongly, put your cross in the space in from the end, like this:

____: X ____:____:____:____

or this:

____:____:____: X ____

If you don't care very much either for or against it, put your cross in the middle space, like this:

____:____: X ____:____

You should have one cross X and only one, on each line.

APPENDIX 1 CONTD.

Questions

Definitely
agree

Definitely
disagree

1. People keep pushing me to do things.
_____ : _____ : _____ : _____ : _____
2. There is always someone to help me
when I need it.
_____ : _____ : _____ : _____ : _____
3. Things don't seem so worthwhile these
days.
_____ : _____ : _____ : _____ : _____
4. Ours is a fine country to live in.
_____ : _____ : _____ : _____ : _____
5. People don't care when I feel unhappy.
_____ : _____ : _____ : _____ : _____
6. I have made a success of my life so far.
_____ : _____ : _____ : _____ : _____
7. Nobody cares about helping anyone else
these days.
_____ : _____ : _____ : _____ : _____
8. When I try something I am usually
successful.
_____ : _____ : _____ : _____ : _____
9. I feel as though I am worse off now
than I used to be.
_____ : _____ : _____ : _____ : _____
10. My future looks very bright.
_____ : _____ : _____ : _____ : _____

APPENDIX 2

Social Adequacy

Instructions

The aim of this test is to measure what things mean to people by having them judge the things against a series of descriptive scales. As you do this test, please try to think of what these things mean to you. On each page of this booklet you will find a different idea, thing, or person to be judged, and beneath it a set of scales. You are to rate the thing on each of these scales in order.

Here is how you are to use these scales:

If you feel that the thing at the top of the page is VERY CLOSELY RELATED to one end of the scale you should put your check mark like this:

fair X : _____ : _____ : _____ : _____ unfair

or

fair _____ : _____ : _____ : _____ : X unfair

If you feel that the thing is RELATED to one or other end of the scale, BUT NOT VERY CLOSELY, you should put your check mark like this:

strong _____ : X : _____ : _____ : _____ weak

or

strong _____ : _____ : _____ : X : _____ weak

APPENDIX 2 CONTD.

If you think both sides of the scale describe the thing EQUALLY or if you feel the scale could not possibly describe the thing given you should put your check mark in the middle space like this:

safe _____ : _____ : X : _____ : _____ dangerous

IMPORTANT:

Place your check marks IN THE MIDDLE OF THE SPACES BETWEEN THE DOTS like this:

_____ : _____ : X : _____ : _____

Be sure you check every scale on every page.

DO NOT LEAVE ANY OUT.

Never put more than ONE check mark on a single scale.

Sometimes you may feel as though you've had the same item before on the test. This will not be the case, so do not look backwards and forwards from page to page. Do not try to remember how you checked similar items in the test. YOU SHOULD MAKE EACH JUDGEMENT WITHOUT REGARD TO ANY OTHER JUDGEMENT YOU HAVE MADE. Work at a fairly high speed through the test. Do not worry or puzzle over any of the items. It is your first thoughts and feelings about these things that we want. On the other hand, please do not be careless, because we want your true ideas.

APPENDIX 2 CONTD.

Page Layout and Adjective Pairs

SOMEONE SAD

strong	_____ : _____ : _____ : _____ : _____	weak
kind	_____ : _____ : _____ : _____ : _____	cruel
hot	_____ : _____ : _____ : _____ : _____	cold
soft	_____ : _____ : _____ : _____ : _____	hard
sweet	_____ : _____ : _____ : _____ : _____	sour
blunt	_____ : _____ : _____ : _____ : _____	sharp
large	_____ : _____ : _____ : _____ : _____	small
bad	_____ : _____ : _____ : _____ : _____	good
young	_____ : _____ : _____ : _____ : _____	old
light	_____ : _____ : _____ : _____ : _____	heavy
unfair	_____ : _____ : _____ : _____ : _____	fair
slow	_____ : _____ : _____ : _____ : _____	fast

APPENDIX 2 CONTD.

Concepts

My mother

A very poor person

Telling the truth

My father

Someone sad

Telling lies

My teacher

A sick person

Leaving home

My friends

A kind person

Earning a living

Myself

A man looking for work

Home

A man who likes his job

APPENDIX 3

Interpersonal Congruence

Instructions

On the following pages you are going to have to use your imagination. You are going to be asked to describe the way you feel in a number of different situations, such as "talking to your teacher".

You will be told what the situation is and will then be given a list of describing words. You have to decide which of these words describe the way you feel in the situation and which ones do not describe the way you feel.

You put a tick in the boxes beside the words which do say how you feel in this situation, and a cross in the boxes beside the words which do not describe the way you feel.

Like this:

big	☒
small	☐
fast	☒
slow	☐

You should have a tick or a cross in every box.

When you get to the bottom of the page turn over and go straight on with the next page.

APPENDIX 3 CONTD.

Referent Situations

Tick the words which describe the way you feel when you are talking to your mother, and put a cross beside the ones which do not describe the way you feel.

Tick the words which describe the way you feel when you are talking to your head-teacher, and put a cross beside the ones which do not describe the way you feel.

Tick the words which describe the way you feel when you are talking to a girl you like, and put a cross beside the words which do not describe the way you feel.

Tick the words which describe the way you feel when you are talking to your father, and put a cross beside the words which do not describe the way you feel.

Tick the words which describe the way you feel when you are talking to your best friend, and put a cross beside the words which do not describe the way you feel.

APPENDIX 3 CONTD.

Tick the words which describe what your head-teacher thinks you are like, and put a cross beside the words which do not describe what he thinks you are like.

Tick the words which describe what your mother thinks you are like, and put a cross beside the words which do not describe what she thinks you are like.

Tick the words which describe the way a girl you like thinks you are, and put a cross beside the words which do not describe the way she thinks you are.

Tick the words which describe what your father thinks you are like and put a cross beside the words which do not describe what he thinks you are like.

Tick the words which describe what your best friend thinks you are like and put a cross beside the words which do not describe what he thinks you are like.

APPENDIX 3 CONTD.

Adjectives

Serious

Manly

Careful

Tidy

Quiet

Lonely

Slow

Awkward

Happy

Goodlooking

Helpful

Cold

Small

Uneasy

Selfish

APPENDIX 4

Psychosocial Health

Instructions

Read each of the following statements carefully.

If you agree with the statement put a tick ✓ in the box
at the end of the line.

If you disagree put a cross X in the box.

When you have finished the page each of the boxes should
have either a tick or a cross in it.

APPENDIX 4 CONTD.

Questions

1. If you are keen to get something, you should be willing to wait for it.
2. In a group of people it is better to say nothing than to risk saying the wrong thing and feeling foolish.
3. When it comes to working, I never do more than I have to.
4. If it is going to take a long while to get something I want, I just forget it.
5. I like to try to do things which are hard because I feel good when I have finished them.
6. I wish I were better built so that I could do sports and things better.
7. There is no point in trying to save for the future.
8. I don't seem to get along with people of my own age.
9. Things usually turn out very well in the end.
10. Getting out with one's friends adds a great deal of pleasure to life.
11. I have no wish to be anyone but myself.
12. The only important thing in a job is the money it brings.
13. It does not really matter if you lose in a game.
14. Working in the holidays is good fun.

APPENDIX 5

Identity Achievement

1. Do you want to leave school at 15?
2. Do your parents want you to?
3. Are you going to do so?
4. What are you going to do after you leave school?
5. What is this occupation like?
6. Whose idea was this?
7. Are you keen on this idea?
8. How long have you been intending to do this?
9. Have you ever considered anything else?
10. What do you want out of life?
11. How many choices of occupation did you consider before deciding on this one?
12. How would you like the prospect, if it were put to you, of leaving home and going to stay with strangers in another town?
13. Have you sometimes decided to do something that your parents would not want you to do?
14. Have you ever wondered whether the ideas of your parents on what a fellow should or should not do are completely right themselves?
15. Have you thought at all about problems of what is right and what is wrong?
16. Have you decided what you yourself think about these problems?

APPENDIX 6

Interview Questions

(Education, Occupation and Migration)*

1. Name your best friends.
2. How old are they?
3. What do they do? (school or occupation)
4. What will they do when they leave school?
5. Will you keep in touch with them when you leave school?
6. Will you live at home when you leave school?
7. Have any of your older friends moved away to other parts of New Zealand to work?
8. Have any of your friends your own age moved away to another district with their families?
9. If you were to leave home where would you like to go to live and work?
10. Do you like school?
11. What is your best subject?
12. What is your worst subject?
13. Are you satisfied with your school progress?

* Other information in this section of the study was obtained from educational records as described in the text, and also (occupational aspiration) from the identity achievement questions in Appendix 5.

APPENDIX 7

Maoriness*

1. What is the name you are usually known by (2 or 0)?
2. Are you a full Maori, $3/4$ or more (2), $1/2$ or more, $1/4$ or more (1), less than $1/4$ (0)?
3. Would you say the way you speak Maori is:
very good, good (2), fair, very little (1), or nil (0)?
4. Is Maori spoken in your home:
always, often (2), half and half, sometimes (1), or never (0)?
5. How many times have you been at the Marae in the last year
(9+ = 2, 3-8 = 1, 0-2 = 0)?
6. Name your canoe (2 or 0).
7. Name your tribe (2 or 0).^a
8. What is the traditional name for your Meeting House (2 or 0)?
9. Is your home in a pa (2 or 0)?
10. Do you know a tohunga or a Maori faith healer (2 or 0)?^b

* Scores for responses are noted in parenthesis with the questions.

a. Modified from:

Name your iwi; name your hapu; name your whanau.

b. Modified from:

Would you use the services of a tohunga, Maori faith healer or other Maori health practitioner?