Development of a Test of Maori Knowledge*

David R. Thomas
Department of Psychology, University of Waikato

Previous research comparing Maori and Pakeha (European) in New Zealand, frequently confuses the concepts of ethnicity, culture and race. The present paper makes a distinction between ethnicity (e.g., self-categorization) and culture (familiar with and competent in a particular lifestyle) and argues that much previous research has used ethnic or racial categorization as the basis for making cultural comparisons. Cultural interpretations of differences based on comparisons of ethnic groups leads to the risk of making erroneous assumptions, unless culture is assessed independently of ethnicity. A 40-item questionnaire, which assessed knowledge of Maori language and cultural practices, was constructed and administered to school children and university students. The test had satisfactory item-total correlations and internal consistency. It also differentiated among ethnic Maori and ethnic Pakeha having varying degrees of exposure to Maori language and culture.

Comparisons of Maori and Pakeha (Europeans) in New Zealand are commonplace, both in social science research and official statistics. Also commonplace is confusion as to what exactly is being compared when these two labels are used. Recently, there has been increasing awareness among social scientists that comparisons among ethnic, racial, and cultural groups are often based on questionable assumptions about the nature of the characteristics being compared, and the procedures used to categorize people into various groups. For example, McDonald (1975) pointed out that:

The trouble with so much of the research into the education of Maoris is that it rests on a totally inadequate research model, one which views culture as consisting of discrete units... or values... such that samples drawn from different ethnic groups can be equated and compared with regard to these units. (p.82)

Researchers frequently use blood, race or ethnicity definitions of who is Maori or Pakeha and then go on to contrast the differences in culture or lifestyle characteristics which are assumed to be closely related to racial or ethnic differences. For example, Lovegrove (1966) differentiated Maori from Pakeha children by using teacher judgements about which children perceived themselves as being Maori (ethnicity). He then commented that:

...typical Maori homes are less visually and verbally complex and less consciously organized to provide a variety of experiences which will broaden and enrich the intellectual understandings of their children.
(Lovegrove, 1966, p.34)

While gross stereotyping of this type may be becoming less frequent among researchers, lack of clear conception about the differences between ethnicity, culture, and race are still evident in some research reports and other literature concerned with differences between Maori and Pakeha groups (e.g. Fergusson, Horwood, & Shannon, 1982). Confusion about these concepts is also evident in media reports using ethnic or racial labels. The purpose of the present paper is: (1) to elaborate the meaning attached to these concepts in recent social science literature, and (2) to illustrate specific techniques of assessing eth-

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nicity and culture which reduce the ambiguity in the use of these concepts in social science research.

**Ethnicity, culture and race**

One of the clear influences that social science research has had on bureaucracies, has been the substitution of the term *ethnicity* or *ethnic group* for the term *race* in official statistics (Brown, 1984; Sedwick, 1982). However examination of procedures by which official ethnic categorizations are made, and the ways in which they are interpreted, indicates that there is not always a clear understanding about the differences in meaning between these two terms (cf. Brown, 1984).

The term *ethnicity* is widely used to refer to the criteria by which people often label themselves or others. Such labelling is assumed to reflect perceived membership in, individual identification with, and sense of belonging to, the group to which the ethnic label refers (cf. Barth, 1969, p.13). The criteria used for making judgements about ethnicity may include one or more of the following attributes: *Ethnic self-identity* — the label a person prefers; *Ascribed ethnic identity* — the label others give to a person; *Cultural identity* — the degree to which a person is familiar with and prefers a particular lifestyle; *Racial identity* — based on physical appearance (e.g., skin colour); and *Nationality* — based on place of birth or country of citizenship.

Given the number of different ways in which ethnicity may be established, it is clear that *cultural differences* cannot be assumed to exist among different ethnic groups, unless such cultural differences are established independently of ethnicity.

One of the most widely discussed concepts in anthropology has been the meaning of *culture*. Although whole books have been written about this concept (e.g., Bernardi, 1977), there is no single definition which is accepted by all social scientists. However, as Hall (1977) has indicated:

... anthropologists do agree on three characteristics of culture: it is not innate, but learned; the various facets of culture are interrelated — you touch culture in one place and everything else is affected; it is shared and in effect defines the boundaries of different groups. (p.16)

Harris (1983) has defined culture as:

... the learned, socially acquired traditions and lifestyles of the members of a society, including their patterned, repetitive ways of thinking, feeling, and acting ... (p.5).

*Culture* is generally taken to mean the characteristic patterns of social interaction of people who share a number of characteristics such as language, dialect or accent, beliefs, values, and dress. Definitions of culture have no reference to biological characteristics such as skin colour or “race”, because “culture” refers to learned patterns of behaviours.

The concept of culture needs to be used carefully because of frequent confusion concerning its meanings. It has at least three limitations. Firstly there is no generally agreed list of the behaviours or material products that can be taken to constitute the culture of a particular group of people. Secondly, the specific characteristics that can be taken to signify a particular culture (such as language, social customs, belief systems) do not completely distinguish different cultural groups; there is always overlap on some of these characteristics between groups. Thirdly, the usual ways in which the term culture is used cannot easily deal with issues such as biculturalism and cultural change where there may be overlapping membership among cultural groups, and changing patterns of behaviour within the same group over time. For these reasons the use of the term culture is relatively unambiguous only where it is possible to specify the particular characteristics of a cultural group which are of interest to the researcher. In such a situation, the collection of attributes taken to illustrate culture will necessarily be incomplete, because of the large number of lifestyle attributes which could potentially be used.

The term *race* has generally been used as a way of categorizing people into groups based on their physical appearance and sometimes other biological characteristics. In recent years most physical anthropologists have ceased using the term *race* as a way of categorizing human groups because it is seen as having no scientific validity or use (Littlefield, Lieberman, &
Reynolds, 1982). The problems with the concept of race as a scientific categorization arise because the individual biological characteristics thought by some people to be associated with distinct racial groups (such as skin colour, hair texture, facial features, and body shape) do not consistently distinguish the human groups referred to as races.

In New Zealand, people of Maori descent who have Polynesian physical features, are usually categorized as Maori by others. This label is generally taken by Pakeha to mean that the people labelled as Maori are both racially and culturally Maori (cf., McDonald, 1976, p.44). However, people classified as Maori on the basis of their physical appearance, often have little or no knowledge of Maori language and culture. Racial categorizations frequently lead to erroneous assumptions about the cultural determinants of social problems (e.g., crime, educational underachievement) in comparisons between people labelled as Maori and Pakeha.

Establishing ethnicity

In New Zealand, it is common to use self-categorization procedures, such as some version of the following question to establish ethnicity:

Are you?
Maori _ Pakeha _ Other ethnic group _

This procedure restricts choices by presupposing that each person will fit into a single category. Such restrictive options are consistent with the view expressed by Schwimmer, that:

every New Zealander knows that there are two distinctive major population groups in the country; the Maori and the Pakeha; and you belong to either one or the other. (1966, p.100)

This view is common among Pakeha who make assumptions concerning “racial,” “blood” or descent differences between people categorized as Maori or Pakeha. It has two undesirable features. It ignores the reality that people can have dual ethnicity or be of mixed descent, and it forces people to use ethnic categories which may not include their preferred self-description. As McDonald (1976, p.44) pointed out, Maori people are more likely to see ethnic labels as referring to one’s preferred affiliation(s), rather than arithmetical degrees of descent or blood.

In contrast to the restricted options for ethnic categorization outlined above, the following categories could be used:

Are you?
___ Maori
___ Mostly Maori, part Pakeha
___ Both Maori and Pakeha
___ Mostly Pakeha, part Maori
___ Pakeha
___ Other ethnic group (specify) ___

The question above recognizes that people may be bicultural or have dual identity, and may change their ethnic identity depending on the context or setting. The two ways of establishing ethnic categories, outlined above, produce very different patterns of responses (cf., McDonald, 1976). Thus any interpretations made about ethnic differences must recognize limitations imposed by the procedures used to assess ethnicity. Where only two categories are used (Maori, Pakeha), individuals who are bicultural, or who have dual ethnicity will not be evident because of the artificial restrictions imposed by the limited response options.

Determining cultural background

A wide range of social science research in New Zealand has illustrated the characteristic cultural differences in patterns of behaviours among Maori and Pakeha groups in New Zealand (e.g., Metge, 1976; Ritchie, 1963; Ritchie & Ritchie, 1970; Thomas, Graves, & Graves, 1985). The research of Beaglehole and Ritchie (1958) led to the development of an index of Maori cultural traits. Similarly, Harker (1970) constructed a “Group Index of Maoriness.” These indices have been criticized on methodological and conceptual grounds (Fitzgerald, 1972; McDonald, 1976; Metge & Campbell, 1958).

A common criticism of “cultural” indices, which contrast Maori and Pakeha cultural patterns, is the assumption of a bipolar dimension, representing Maori culture at one end and Pakeha or Anglo culture at the other (Fitzgerald, 1972, p.46). Clearly some New Zealanders are bicultural and/or bilingual and com-
petently assume social roles in both Anglo and Maori communities.

In 1971 the Archers reported the construction of a "Test of Maori Knowledge" (Archer & Archer, 1971; Archer et al., 1971). The 10-item test, which focused on information about aspects of Maori culture, included items assessing knowledge of cultural practices and language. The authors reported that it discriminated significantly between urban Maori and Pakeha, and between urban and rural Maori. Rural Maoris scored more highly than the other samples. However, there were a number of shortcomings with this test. It consisted of only 10 items, and the psychometric characteristics (internal consistency, item-total correlations) were not reported.

An important purpose in developing an index of the degree of knowledge of a particular culture is to establish the extent to which individuals are knowledgeable about a culture, independently of their ethnicity. As mentioned earlier, literature put out by Government or other official sources often confuses the characteristics of ethnicity, culture and race (cf., Harker, 1981, p.19) and frequently makes erroneous assumptions about the "cultural" causes of educational disadvantage.

The purpose of the present research was to develop a brief questionnaire which could give an indication of the extent to which a person has knowledge of Maori language and cultural practices. A short pencil and paper test cannot hope to assess the full complexity of familiarity with, and knowledge about, the wide range of cultural practices which demonstrate competence in Maori culture. Also a person may be knowledgeable about a culture without having the skills and/or motivation to engage in culturally appropriate behaviours. In some research, however, an approximate indicator of cultural knowledge, which is able to be administered within a short space of time, can be useful in allowing culture to be assessed independently of ethnicity. Such a measure may also help to clarify some of the erroneous assumptions made about the "cultural" causes of minority group behaviour (e.g., Thomas, 1986).

A further limitation about the develop-
Ngaruawahia). The rural samples were from two small primary schools (Eastern Bay of Plenty), in which all the students were Maori. In that area, Maori language is still used in homes to some extent (Benton, 1979). Both the small town and rural schools were close to Maori pa. In addition the test was administered to 47 students taking a first-year class in Maori language at the University of Waikato.

Procedure

After obtaining approval from the school principals and teachers involved, the test was administered to each class during school time, by Pakeha testers. It was introduced as a “Test of Maori Knowledge.” Each test item, and the four alternative responses, were read out to the class and the students were instructed to choose the answer they thought most likely to be correct. The 82-item test generally took about 40 minutes to administer. An additional set of questions was attached to the end of the test. These questions were concerned with attendance at marae activities, membership in a Maori culture club, and attendance at Maori language or culture courses. Three response options were provided for each of these questions, ranging from current involvement to no involvement. Information about each respondent’s age and form in school were also collected.

Results

Data Analyses

Students who categorized themselves as “Both Maori and Pakeha,” “Mostly Maori, part Pakeha” and “Maori” were categorized as Maori for the purposes of the data analyses. Students who categorized themselves as “Mostly Pakeha, part Maori,” “Pakeha” and “Other” were included in the category of Pakeha.

Item analyses were carried out independently for the schools and the university samples. The number of Maori and Pakeha students in the schools samples are shown in Table 1.

The item analyses for each sample were carried out using corrected item-total correlations. Items having an item-total correlation of .30 or higher in the schools sample were selected for inclusion in the revised test. This procedure identified 33 items. A further seven items having correlations between .20 and .29 were selected, where the item-total correlation for the university sample was above .30. The 40 items included in the revised test and the item-total correlations from the schools sample (N=214) are shown in the Appendix. The alpha reliability coefficient for the 40-item scale was .88, indicating a satisfactory level of internal consistency.

Mean scores on the 40-item test for each of the sub-samples are shown in Table 1. With four response options, it would be expected that one could get at least 10 answers right, by chance, if 40 items were answered. A mean score of about 12 out of 40 indicates “real” knowledge of about two items. The University sample had a mean score of 29.69 (SD=6.50).

Within the Maori group, the urban and small town mean scores differed significantly, t(122)=7.95, p<.001, as did the small town and rural samples t(106)=5.91, p<.001, with the more urban samples having lower scores in each comparison. The difference between the urban Maori and urban Pakeha means was not significant. However, the difference between the small town Maori and small town Pakeha means scores was significant, t(124)=4.32, p<.001, with the Maori sample having the higher scores.

Total scores from the 40-item test were correlated with responses to the questions concerning contact with Maori organizations and settings. These correlations are shown in Table 2.

Table 2: Correlations of Maori Knowledge with other variables (N=214)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture contact variables</td>
<td>.39**</td>
</tr>
<tr>
<td>Regularly attend marae activities</td>
<td></td>
</tr>
<tr>
<td>Taken course in Maori language/culture</td>
<td>.23*</td>
</tr>
<tr>
<td>Member of Maori culture club</td>
<td>.41**</td>
</tr>
<tr>
<td>Other variables</td>
<td></td>
</tr>
<tr>
<td>Ethnicity — self</td>
<td>.37**</td>
</tr>
<tr>
<td>Ethnicity — mother</td>
<td>.28**</td>
</tr>
<tr>
<td>Ethnicity — father</td>
<td>.28**</td>
</tr>
<tr>
<td>Form in school</td>
<td>.11</td>
</tr>
<tr>
<td>Age</td>
<td>.14</td>
</tr>
<tr>
<td>Urban/rural</td>
<td>.60**</td>
</tr>
</tbody>
</table>

*p<.05. **p<.01.
The three culture contact variables all had significant correlations with Maori knowledge test scores. These results support the view that the test is measuring knowledge which is to some extent related to exposure to Maori cultural settings. The correlations of Maori knowledge with form in school and age were not significant. Thus Maori knowledge does not appear to increase very much within the age range (11-16 years) of the samples selected. It is likely that exposure to Maori cultural settings, such as living close to a pa, overshadows the increase of knowledge one would expect to be associated with age. The high correlation of Maori knowledge with urban-rural residence ($r = .60$) and the markedly higher test scores of the rural students, shown in Table 1, indicates this effect. In this case “rural” residence is clearly associated with exposure to, and participation in, Maori settings.

The correlation between self-categorized ethnicity and cultural knowledge ($r = .37$) although significant, is clearly not high enough to support the view that these two dimensions can be regarded as identical. It is clear from the mean scores in Table 1 that both urban Pakeha and urban Maori students had relatively little knowledge of Maori language and culture. One interesting result was the higher scores of Pakeha students living in small towns, compared to urban Pakeha students, $t(65) = 2.69$, $p < .01$. Some Pakeha students, attending schools with a predominantly Maori population, are likely to have picked up knowledge of Maori language and culture through contact with Maori settings and events, both inside and outside school.

**Discussion**

The results reported for the Test of Maori Knowledge indicate that it had acceptable psychometric properties and that correlations with other indicators of contact with Maori culture were in the expected direction. Although any measure of culture will have limitations, the test may be used to give an indication of the extent to which people have knowledge of Maori culture. Knowledge of Maori language has been used as an indication of the store of "cultural capital" (e.g., Winiata, 1982). Benton’s (1979) comprehensive survey of fluency in Maori language in various parts of New Zealand has provided a clear indication of the areas of high and low fluency, and the dramatic decline in fluency among younger age groups. However while language fluency may at times be a suitable indicator of knowledge of Maori culture, there are occasions where its use may have limitations. For example, some people become reasonably fluent in Maori language without learning very much about cultural values and practices. Another limitation is that measures of language fluency need to be administered by people who are fluent in Maori language. Such people are not always available.

Limitations with the test of Maori knowledge are also evident. It is clear that a pencil and paper test cannot hope to assess the full complexity of cultural knowledge. Some people who are very competent in Maori settings would not do well on a written test. This limitation can be reduced to some extent by providing an oral presentation of the test items to accompany (or replace) the written presentation. A more serious limitation of the test is that it cannot assess the social and oral skills which are a central part of competence in Maori cultural practices. For these reasons test scores need to be interpreted with caution.

Possible uses for the test include further investigation of the relationship between cultural knowledge and school achievement. Recent research (Thomas, 1986) has contradicted the myth, previously espoused by some educationalists (Department of Education, 1971), that there is a direct causal relationship between being culturally Maori and being disadvantaged in educational settings. It is more likely that Maori ethnic status by itself is a disadvantage in education settings where informal discrimination against Maoris is likely (Simon, 1986; Thomas, 1985). Similarly, it may be justifiable to assume that, for Maori people especially, participation in Maori cultural patterns may provide linkages to social support networks and social constraints which reduce the likelihood of criminal offences and other types of negatively sanctioned behaviour. These are issues which require further research.
References

Appendix

Forty-Item Version of the Test of Maori Knowledge

Instructions
For each question there are four choices, of which only one is right. Put a circle around the choice (a, b, c, d) that you think is the right answer. If you are not sure you can guess. The first question has been answered to show you how to do it.
Which of the following is not a fruit?
(a) peach
(b) apple
(c) grass
(d) lemon

1. A person would wear a:
(a) kite
(b) moe
(c) piupiu
(d) tama

2. The greeting "tena koe" refers to a greeting to:
(a) two people
(b) three people
(c) one person
(d) a group of elders

3. A kuia is:
(a) an old woman
(b) a young woman
(c) an old man
(d) a young man
4. The name of the Ariki Nui of Waikato is:
(a) Dame Te Ata-I-Rangi-Kaahu
(b) Paraone Reweti
(c) Matiu Rata
(d) Dame Kiri Te Kanawa

5. After each speech on the marae:
(a) the men clap the speaker
(b) the women clap the speaker
(c) everyone sings a song
(d) the speaker is supported with a song

6. What usually happens to the body after a tangi?
(a) buried
(b) cremated then ashes scattered over the sea
(c) taken to the house of the nearest relative
(d) cremated then ashes scattered over tribal land

7. The legendary origin of the Maori people, before they discovered Aotearoa, is usually said to be:
(a) Kupe
(b) Kainga
(c) Hawaiki
(d) Samoa

8. “Hongi” is an event which involves:
(a) an oven
(b) touching noses together
(c) a meeting of chiefs
(d) shaking hands

9. Tukutuku refers to:
(a) a garment
(b) a plant
(c) woven panelling
(d) mats

10. One of the canoes, said to have travelled to New Zealand, was:
(a) Waka nene
(b) Te Kooti
(c) Rata
(d) Arawa

11. Which one of the following words is different from the other three?
(a) haere
(b) oma
(c) peke
(d) ataahua

12. People acting as hosts for visitors on a marae are usually known as:
(a) papa kainga
(b) tangi
(c) tangata whenua
(d) whanau

13. What is a waka?
(a) bird
(b) horse
(c) storm
(d) canoe

14. Which one of these words is different from the other three?
(a) puha
(b) piki
(c) tuna
(d) kina

15. The words “whai korero” refer to:
(a) old ladies
(b) a song
(c) visitors
(d) speech-making

16. Traditionally, when should the manuhiri arrive at a marae?
(a) early morning
(b) during the day
(c) just after sunset
(d) at night

17. When moving on to a marae, the arrangement of the manuhiri should generally be:
(a) in a group, women in front, men behind
(b) in a group, men in front, women behind
(c) single file, women in front, men behind
(d) single file, men in front, women behind

18. The word for bird is:
(a) manu
(b) poi
(c) tangi
(d) kite

19. When you leave a cemetery, what should you do first?
(a) wash your clothes
(b) tell jokes
(c) sing a song
(d) wash your hands

20. One of the sons of Rangi and Papa was:
(a) Tane
(b) Maui
(c) Kupe
(d) Hongi Hika

21. The opposite of enemy is:
(a) manu
(b) hoa
(c) toru
(d) marae

22. A koha is:
(a) a fruit
(b) a vegetable
(c) a gift
(d) a weapon

23. The manuhiri are generally called on to the marae with a:
(a) korero
(b) waiata
(c) karanga
(d) whakapapa
24. The North Island of New Zealand is said to have been fished up by Maui. The name for the North Island is:
(a) Kapiti  
(b) Te-Ika-a-Maui  
(c) Waipounamu  
(d) Manganui
25. You should always take your shoes off before entering a:
(a) whare nui  
(b) marae atea  
(c) whare kai  
(d) whare paku
26. Which one of the following words is different from the others?
(a) Tainui  
(b) Arawa  
(c) Taranaki  
(d) Mataatua
27. To show sorrow and emotion is:
(a) kata  
(b) korero  
(c) tangi  
(d) wahine
28. What does "whakahihi" mean?
(a) to laugh  
(b) to cry  
(c) to talk  
(d) to skite
29. Tumutatauenga is the:
(a) God of war  
(b) God of agriculture  
(c) God of the sea  
(d) God of peace
30. The customs or ceremonies of a marae are often referred to as:
(a) kiwa  
(b) kai  
(c) kaha  
(d) kawa
31. A person involved in the discovery of New Zealand is said (by some tribes) to be:
(a) Kupe  
(b) Nga Puhi  
(c) Te Rangi Hiroa  
(d) Hone Heke
32. Maui was destroyed by the laughter of the:
(a) tom-tit  
(b) kiwi  
(c) laughing owl  
(d) fantail
33. In the stories of creation, Ranginui and Papatuanuku were separated by:
(a) all of their sons  
(b) Maui  
(c) Tane Mahuta  
(d) Tawhirimatea
34. The meeting house is known as:
(a) whare nui  
(b) whare kai  
(c) whare paku  
(d) whare moe
35. What does this proverb mean? "Kia u, kia mau ki to Maoritanga"
(a) Hold on to your Maoritanga  
(b) Eating is the heart of Maoritanga  
(c) The Maoritanga and the birds are of one wing  
(d) The Maoritanga of old is not new
36. What is a haurangi?
(a) a speaker for his people  
(b) a man of great mana  
(c) a drunk  
(d) a farmer
37. "Hura kohatu" refers to:
(a) close relatives of a dead person  
(b) burial of a body  
(c) erecting a tombstone  
(d) unveiling a tombstone
38. In the meeting house, the hosts (tangata whenua) of most tribal groups usually sit:
(a) wherever they please  
(b) along the back wall  
(c) to the left after going in the door  
(d) to the right after going in the door
39. A person’s head is always seen as:
(a) aue  
(b) toi  
(c) tapu  
(d) moe
40. In Maori mythology “Papa” refers to:
(a) the sky father  
(b) the God of darkness  
(c) the earth mother  
(d) the God of birds

Answers and item-total correlations
1.  c .35   11.  d .42   21.  b .43   31.  a .44
2.  b .37   12.  c .36   22.  b .49   32.  d .45
3.  a .43   13.  d .47   23.  c .52   33.  c .43
4.  a .37   14.  a .51   24.  b .49   34.  a .44
5.  d .24   15.  d .48   25.  a .63   35.  a .43
6.  a .49   16.  b .24   26.  c .34   36.  c .49
7.  c .29   17.  a .26   27.  c .37   37.  d .41
8.  b .48   18.  a .53   28.  d .56   38.  c .27
9.  c .41   19.  d .40   29.  a .50   39.  a .25
10.  d .49   20.  a .58   30.  d .22   40.  c .40